KERN COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT

Board of Supervisors

STAFF REPORT

Date: October 30, 2012

FILE: Appeal #2, Map #152
S.D.: #2 - Scrivner

TITLE: Appeal Case No. 2, Map No. 152

PROPOSAL: An appeal to the decision of the Planning Commission (Resolution 71-12; approved September 27, 2012) approving Conditional Use Permit No. 11, Map No. 152 to allow for the construction and operation of a 250 megawatts solar electrical generating facility (Section 19.12.030.G and Section 19.14.030.G) within the A (Exclusive Agriculture), A GH (Exclusive Agriculture - Geologic Hazard Combining), A GH FPS (Exclusive Agriculture - Geologic Hazard Combining - Floodplain Secondary Combining), and A-1 (Limited Agriculture) Districts

APPELLANT: Gideon Kracov on behalf of LIUNA, Local No. 220 (original applicant - Beacon Photovoltaic project by Beacon Solar, LLC (NextEra Energy Resources)) (PP12213)

PROJECT SIZE: 2,298 acres

LOCATION: Four miles from California City, 15 miles north of the unincorporated town of Mojave, and less than one mile southwest of the unincorporated town of Cantil/Rancho Seco; in southeastern Kern County

GENERAL PLAN DESIGNATION: 5.6 (Residential - Minimum 2.5 Gross Acres/Unit) (Cantil Interim Community Plan); 1.1 (State and Federal Land); 5.8 (Residential - Minimum 20 Gross Acres/Unit); 8.2/2.1 (Resource Reserve - Seismic Hazard); 8.5 (Resource Management); 8.5/2.1 (Resource Management - Seismic Hazard); and 8.5/2.5 (Resource Management - Flood Hazard)

SURROUNDING LAND USE/ZONING: North - Undeveloped land/E (2 1/2) RS (Estate - 2 1/2 acres - Residential Suburban Combining), E (20) RS (Estate - 20 acres - Residential Suburban Combining), A, A-1; East - Undeveloped land/A, A-1, A-1 MH (Limited Agriculture - Mobilehome Combining), A WE (Exclusive Agriculture - Wind Energy); South - Undeveloped land/A, A FPS (Exclusive Agriculture - Floodplain Secondary Combining); West - Undeveloped farmland, residences/PL RS GH (Platted Lands - Residential Suburban Combining - Geologic Hazard Combining) and A

PROJECT ANALYSIS: The matter before your Board today is an appeal of the decision by the Planning Commission on September 27, 2012, to approve a conditional use permit for the Beacon Photovoltaic project by Beacon Solar, LLC (NextEra Energy Resources). This conditional use permit would allow for the construction and operation of a photovoltaic (PV) power generation facility on 38 contiguous parcels that would produce 250 megawatts (MW) of renewable electrical energy and includes the installation of approximately 972,000 PV panels (Conditional Use Permit 11, Map 152, Resolution 71-12). The project would consist of a 2,298-acre PV solar facility and a transmission line to connect the solar facility with the nearby Los Angeles Department of Water and Power (LADWP) Barren Ridge Substation. The total project area is
2,301 acres – 2,298 acres for the solar facility and 3.3 acres for the transmission line footprint. Table 1 indicates the parcels included in project site.

<table>
<thead>
<tr>
<th>Table 1 Project Assessor Parcel Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>469-021-01</td>
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<tr>
<td>469-021-02</td>
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<tr>
<td>469-021-03</td>
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<tr>
<td>469-021-04</td>
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<td>469-021-05</td>
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<tr>
<td>469-021-06</td>
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<tr>
<td>469-021-07</td>
</tr>
<tr>
<td>469-021-08</td>
</tr>
</tbody>
</table>

The project area (the solar facility and associated transmission lines), is located within Sections 4, 7, 8, and 9, T31S, R37E, MDB&M. The site is less than one mile southwest of the unincorporated town of Cantil/Rancho Seco, four miles from the northern boundary of California City, 15 miles north from the town of Mojave, and 24 miles northeast of the city of Tehachapi. The site consists of undeveloped and previously disturbed land, formerly used for agricultural activities. The project site has not been in agricultural production since the 1980s. The majority of the project site is located within the Kern County General Plan area and the northernmost portion of the site is located within the Cantil Interim Community Plan (Cantil ICP) area. The project site has Kern County General Plan Map Code designations of 8.1 (Intensive Agriculture), 8.5 (Resource Management), 8.1/2.1 (Intensive Agriculture - Seismic Hazard), 8.5/2.1 (Resource Management - Seismic Hazard), and 8.5/2.5 (Resource Management - Flood Hazard). The Cantil ICP land use designation in the northern part of the site is 5.6 (Residential - Minimum 2.5 Gross Acres/Unit).

The project site has zoning classifications that include A GH (Exclusive Agriculture - Geologic Hazard Combining), A GH FPS (Exclusive Agriculture - Geologic Hazard Combining - Floodplain Secondary Combining), and PL RS GH (Platted Lands - Residential Suburban Combining - Geologic Hazard Combining). The portion of the property that is zoned as Platted Lands would only be used for the transmission line; no solar panels will be installed on this property. The majority of the site is zoned A (Exclusive Agriculture) or A-1 (Limited Agriculture), which allows for the operation of a solar facility with approval of a conditional use permit.

**Overview of Project**

The proposed project being considered by your Board is a revised version of a project that had been previously approved through the California Energy Commission’s (CEC) CEQA-equivalent process known as an Application for Certification (AFC). Previously known as the Beacon Solar Energy Project (BESP) located on the same site, the project involved a parabolic through solar thermal technology to produce electrical power (250 MW) using a steam turbine generator fed from a solar steam generator. Power plants using solar thermal technology over generating 50 MW are under the exclusive jurisdiction of the California Energy Commission. This technology proposed different construction, solar technology, and operational effects than those being evaluated in this EIR. Most notably is the amount of water consumption necessary to operate the facility as a solar thermal project compared to a photovoltaic project.

The AFC process was conducted over multiple years and included environmental analysis, agency coordination, public outreach, and stakeholder input. The CEC approved (certified) the BESP in August 2010; no challenges were filed against this approval. Sub sequent to this approval, the project proponent determined that another technology (solar photovoltaic) would be more efficient and cost effective than the solar thermal technology proposed in the AFC.
Although spot legislation allowed this project along with five other solar thermal projects in other counties changing to solar PV projects to be processed by the California Energy Commission, which otherwise is preempted from processing PV projects, the project proponent chose to honor the local government jurisdiction over solar photovoltaic generation. In 2011, an application was filed with the Kern County Planning and Community Development Department proposing a revised project utilizing photovoltaic (PV) panel technology on the site. This conditional use permit considers the proposed project (PV panels) at the site. While some materials prepared during the CEC process were utilized and referenced as background information, the Environmental Impact Report and supporting technical documentation processed by the County is focused specifically to this PV project.

**Surrounding Area:**
The Desert Tortoise Natural Area is located about five miles to the east and three miles north of the Western Rand Mountain Area of Critical Environmental Concern. Red Rock Canyon State Park is located four miles to the north of the site, and Koehn Lake is located five miles to the east-northeast. The Jawbone Canyon off-highway vehicle (OHV) open use area is located one-mile north of the project site on the west side of State Route 14, and the Pacific Crest Trail is located about 12 miles to the west. The project site and the surrounding areas are primarily undeveloped disturbed lands, formerly used for agricultural activities. State Route 14 runs along a portion of the western border of the project site, and an existing Union Pacific rail line runs through the project site; the project proposes to take access via State Route 14. An existing LADWP electrical transmission line runs roughly in parallel to State Route 14 about one mile further to the west, and the existing LADWP Barren Ridge substation is located one-mile to the southwest. The Honda Proving Ground, an automotive test track, is located roughly 3/4-mile east of the project site.

**Project Characteristics**
The proposed project includes the development of a 250 MW PV solar energy generating facility and associated infrastructure, including an estimated 972,000 PV solar panels, an operation and maintenance (O&M) building, and a generation tie-line in the southwestern portion of the site to connect into the Barren Ridge Substation, which is operated by Los Angeles Department of Water and Power (LADWP).

- 230 kilovolt (kv) overhead transmission line one mile off-site, to connect the solar facility to the existing LADWP Barren Ridge Substation.
- A one-story 5,000-square-foot O&M building, parking lot, office, and associated septic system.
- Solar meteorological station.
- Connection to on-site Southern California Edison (SCE) electric distribution line, to provide power to the facility during construction and operation.
- Reactivation of on-site water supply wells.
- On-site access roads.
- Perimeter security fencing that meets California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) requirements.
- Temporary construction staging/laydown area.
- Potential solar tracking system consisting of drive motors, drive arms, and possibly organic hydraulic systems that allow for rotation of solar panels from east to west, tracking the sun's position over the course of the day.
Transmission

The project substation would be the termination point of the 34.5 kV collection system. An open air substation would be constructed near the middle of the solar field as shown in the proposed site layout (Figure 3-3a), and the switching equipment would be mounted on a concrete pad. An existing LADWP electrical transmission line runs roughly in parallel to State Route 14 about a mile further to the west, and the existing LADWP Barren Ridge substation is located about a mile to the southwest.

The project would require a total of two miles of overhead 230 kV transmission line to connect with the LADWP Barren Ridge substation. The generation tie-line would be installed on steel or concrete monopole structures. The power poles would be an average of 79 feet in height with a maximum of 110 feet, with a span of length averaging roughly 500 feet. The generation tie-line would cross State Route 14, which would require increased conductor ground clearance above the highway surface that would be achieved either by an increase in pole height or by an increase in line tension.

Final Environmental Impact Report

The EIR prepared for this project was in accordance with CEQA Guidelines. As required by CEQA, the EIR includes appropriate review, analysis, and mitigation measures for the environmental impacts of the proposed project. This Final EIR could be utilized by other permitting agencies in their capacity as Responsible and Trustee agencies under CEQA.

A Notice of Preparation/Initial Study (State Clearinghouse No 2012011029) was circulated for a 30-day public review period beginning on January 13, 2012, and ending on February 13, 2012. A scoping meeting was noticed and held on February 10, 2012. No verbal comments regarding the proposed project were received at the scoping meeting; however, ten comment letters were received. These comments were used in the preparation of the Draft EIR.

Based on the analysis contained in the Initial Study and comments received in response to the Notice of Preparation, a Draft EIR was prepared and circulated for a 45-day public review period beginning on July 10, 2012, and ending on August 24, 2012. One hundred thirty nine (139) copies of the Draft EIR were distributed, in addition to 386 Notices of Availability. The Draft EIR was also available on the Department’s webpage. Fourteen (14) written comments from interested parties or organizations were received on the Draft EIR during this public review period. As required by Section 15088 of the State CEQA Guidelines, responses to these comments were prepared and provided to the agencies and interested parties that submitted return addresses, ten days before the Planning Commission hearing. As required by Departmental procedures for processing of an EIR, an indemnification agreement has been executed by the applicant.

In accordance with State CEQA Guidelines, a Final EIR has been completed comprised of three documents:

- Volume 1 Draft Environmental Impact Report – (Chapters 1 through 10) (July 2012)
- Volume 3 Chapter 7 – Response to Comments to the Draft EIR (September 2012)

These documents have been provided to your Board for your review and consideration.
Effects Found to Have No Impact

Based on the findings of the Initial Study/Notice of Preparation and the results of scoping process, the proposed project was determined to have no impact with regard to the following impact thresholds, and were, therefore, not analyzed in the EIR prepared for the project:

- Agriculture and Forest Resources,
- Population and Housing, and
- Recreation

Less than Significant Impacts (Including Significant Impacts That Can Be Mitigated, Avoided, or Substantially Lessened)

The EIR prepared addresses all potentially significant environmental impacts that Kern County identified during the Notice of Preparation and scoping process. After further study and environmental review in the EIR, the following environmental impact areas were determined to be significant unless mitigation was incorporated into specific proposed projects:

- Aesthetics,
- Air Quality,
- Biological Resources,
- Cultural Resources,
- Geology and Soils,
- Greenhouse Gas Emissions,
- Hazards and Hazardous Materials,
- Hydrology and Water Quality,
- Land Use and Planning,
- Noise,
- Public Service,
- Transportation and Traffic,
- Utilities and Service Systems, and
- Mineral Resource

The Final EIR contains 67 mitigation measures. A Mitigation Measure Monitoring Program has been included for your review and consideration as Exhibit C of this report.

Significant and Unavoidable Impacts

Significant and Unavoidable Project Impacts

Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to less than significant. The following impact(s) were determined to be significant and unavoidable after the project complies with all regulatory, statutory, and feasible and reasonable mitigation measures:

- Aesthetics

Significant and Unavoidable Cumulative Impacts

According to Section 15355 of the State CEQA Guidelines, the term cumulative impacts "...refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Individual effects that may
contribute to a cumulative impact may be from a single project or a number of separate projects. Individually, the impacts of a project may be relatively minor, however, when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively significant. A list of projects used in the cumulative analysis is included in Chapter 3, Project Description, and a full discussion of all cumulative impacts for each impact is contained in Chapter 4. The EIR determined that the following impacts on the projects as a whole were determined to have a significant and unavoidable cumulative impact that cannot be avoided after all regulatory, statutory, and feasible and reasonable mitigation measures are complied with:

- Aesthetics
- Air Quality
- Biological Resources

### Table 1. Summary of Significant and Unavoidable Impacts of the Proposed Project

<table>
<thead>
<tr>
<th>Resource</th>
<th>Project Impacts</th>
<th>Cumulative Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td>The project would substantially degrade the existing visual character or quality of the site and its surroundings. Even after implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7, impacts are considered <strong>significant and unavoidable</strong>.</td>
<td>The project would have significant and unavoidable impacts related to aesthetics after implementation of mitigation. The conversion of thousands of acres collectively in a presently rural area to solar energy production uses cannot be mitigated and is considered <strong>significant and unavoidable</strong> impact.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Short-term construction activities on the project site with mitigation would not result in the emission that exceeds established thresholds. Mitigation Measures MM 4.2-1 through MM 4.2-5 would reduce project-level impacts to <strong>less-than-significant</strong> levels.</td>
<td>Construction and operation of the proposed project in combination with other cumulative projects would result in a net increase of criteria pollutants for which the project region is nonattainment under applicable federal or state ambient air quality standards (including releasing emissions that exceed quantitative thresholds for ozone precursors). This is considered a <strong>significant and unavoidable</strong> impact.</td>
</tr>
<tr>
<td>Biological Resources</td>
<td>The project would result in impacts to a variety of protected wildlife and plant species. Implementation of Mitigation Measures MM 4.4-1 through 4.3-23 would reduce project-level impacts to <strong>less-than-significant</strong> levels.</td>
<td>Within the regional context and when considered with other past, present, and reasonably foreseeable future projects that encompasses the Antelope Valley and the Fremont Valley in the western Mojave Desert as well as part of the Tehachapi Range to the west, the project would have an incremental contribution to a cumulative loss of low-quality foraging habitat for golden eagles and other special-status raptors, as well as the loss of existing and potential transient wildlife habitat and foraging opportunities for species that currently utilize the project area that cannot be mitigated. This is considered a <strong>significant and unavoidable</strong> impact.</td>
</tr>
</tbody>
</table>

### Aesthetics

Implementation of the proposed project would substantially degrade the existing visual character or quality of the site and its surroundings because the site itself is located in an area characterized as predominately vacant desert landscape. There are no criteria in either State or County regulations for measuring aesthetic impacts. This issue is viewed differently by various members of the community. Some citizens would describe the visual loss of open space to development as
a significant impact. Others may view well designed landscaped development as aesthetically pleasing comparable to the qualities of open space. The proposed project would represent a change in visual character of the project site from an undeveloped, natural state to one with human development, and would result in a significant and unavoidable impact on the existing visual character of the project site and its surroundings because it would introduce an industrial element into a predominantly rural open landscape. Impacts of the proposed projects would have the potential to combine with impacts from past, present, and reasonably foreseeable projects within the Kern County viewshed in a way that increases the utilitarian character of the viewshed by introducing additional utility-grade infrastructure, thereby changing the area from a rural, agricultural, open space character to a more industrial character. MM 4.1-1 through MM 4.1-4 requires the use of drought-tolerant plants for landscaping, debris removal, shielded lighting, fence slats, as well as the use of low-glare lighting and underground, on-site electrical collection systems to help minimize the aesthetic effect of the project. However, even with these mitigation measures, the effects of the project cannot be mitigated to the point where the existing open space landscape character is preserved, while at the same time developing the proposed projects. Therefore, impacts on the visual character of the project sites and area would be significant and unavoidable.

As noted in Chapter 3, Project Description, there are a number of other proposed solar projects in the desert region of Kern County. Therefore, the construction impacts of the proposed project would potentially combine with the impacts of past, present, or reasonably foreseeable projects. There is no additional feasible mitigation available to reduce the project or cumulative impacts to less than significant. Thus, the project and cumulative aesthetic impacts would be considered significant and unavoidable.

Air Quality

The project sites are located in the Mojave Desert Air Basin (MDAB) and are under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD). In accordance with Kern County’s Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (2006), geographic scope for cumulative air quality impacts includes projects within one and six mile radius of the project site and other like projects within the Kern County portion of the MDAB.

Table 2 Annual Proposed Project Construction Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>VOC</th>
<th>NOX</th>
<th>CO</th>
<th>SOX</th>
<th>PM10</th>
<th>PM2.5</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0.32</td>
<td>1.82</td>
<td>2.55</td>
<td>0.00</td>
<td>7.48</td>
<td>1.62</td>
<td>2.45</td>
<td>0.57</td>
</tr>
<tr>
<td>2013</td>
<td>2.12</td>
<td>10.59</td>
<td>17.83</td>
<td>0.02</td>
<td>18.91</td>
<td>4.32</td>
<td>6.47</td>
<td>1.73</td>
</tr>
<tr>
<td>2014</td>
<td>0.68</td>
<td>2.95</td>
<td>6.11</td>
<td>0.01</td>
<td>5.55</td>
<td>1.27</td>
<td>1.90</td>
<td>0.51</td>
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<tr>
<td>Maximum</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Annual Emissions</td>
<td>2.12</td>
<td>10.59</td>
<td>17.83</td>
<td>0.02</td>
<td>18.91</td>
<td>4.32</td>
<td>6.47</td>
<td>1.73</td>
</tr>
<tr>
<td>EKAPCD CEQA Threshold Exceed Threshold?</td>
<td>25</td>
<td>25</td>
<td>--</td>
<td>27</td>
<td>15</td>
<td>--</td>
<td>15</td>
<td>--</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>N/A</td>
<td>No</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Short-term construction of the proposed project would result in emissions of the air pollutants ROG, NOX, CO, PM10, PM2.5, and SOX. Emissions from construction would result from fuel combustion and exhaust from construction equipment as well as vehicle traffic, grading, and the use of toxic materials (e.g., paints and lubricants). Emissions estimates were based on a worst-
case scenario, using assumptions in the air quality impact analyses for the project as whole, including the off-site transmission line route. It was assumed that the site would be constructed over a 22 month period. As shown in Table 2, temporary, maximum, mitigated emissions during construction for the entire 2,301-acre project footprint would be 6.47 tons/year of PM\textsubscript{10} emissions, 1.73 ton/year for PM\textsubscript{2.5}, and unmitigated emissions of 10.59 ton/year for NO\textsubscript{x}, and less the 0.02 ton/year for SO\textsubscript{x}. All other criteria pollutant emissions are also well below the established EKAPCD thresholds.

Once operational, emissions would be limited to maintenance activities and a small number of employee vehicle trips. Operational emissions were estimated at less than 0.11 ton/year for NO\textsubscript{x}, and 0.03 tons/year of VOCs and 0.00 for SO\textsubscript{x}; emissions of PM\textsubscript{2.5} would be negligible at 0.39 tons/year as would PM\textsubscript{10} at 3.82 tons/year, and all emissions are well below EKAPCD thresholds adopted by Kern County.

However, as noted in Table 3, significant cumulative impacts from the proposed project, when considered with nearby, reasonably foreseeable planned solar projects could occur only during short-term project construction emissions of VOC, SO\textsubscript{x} and PM\textsubscript{10}.

<table>
<thead>
<tr>
<th>Proposed Project</th>
<th>VOC</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>SO\textsubscript{x}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Emissions (all desert solar projects)</td>
<td>2.12</td>
<td>10.59</td>
<td>17.83</td>
<td>0.02</td>
<td>6.47</td>
<td>1.73</td>
</tr>
<tr>
<td>EKAPCD CEQA Threshold</td>
<td>32.75</td>
<td>206.28</td>
<td>199.61</td>
<td>1.17</td>
<td>234.15</td>
<td>43.16</td>
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<tr>
<td>Significant CEQA Impact? (Yes/No)</td>
<td>25</td>
<td>25</td>
<td>---</td>
<td>27</td>
<td>15</td>
<td>---</td>
</tr>
</tbody>
</table>

Once constructed, there would be minimal emissions and insignificant cumulative impacts during operation of the proposed projects. Based on the estimated cumulative-level analysis, an exceedance of the thresholds of significance is expected for PM\textsubscript{10}, VOCs and NO\textsubscript{x}, when considering all solar projects potentially under construction at that time.

In summary, on the project-level, with the implementation of proposed mitigation measures MM 4.2-1 through MM 4.2-5, which requires that the proposed project be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District and implement fugitive dust control measures where they are applicable and feasible, short-term construction-related air quality impacts are anticipated to be less than significant. However, significant cumulative impacts from the proposed project as a whole when considered with nearby, reasonably foreseeable planned projects would potentially occur only during facility construction, as the majority of the proposed project emissions would occur during a similar timeframe. Minimal emissions and less than significant cumulative impacts would occur during operation of the proposed projects’ facilities. However, despite the reduction in impacts to air quality achievable through implementation of the proposed mitigation measures, the cumulative temporary construction impacts to air quality, as described and evaluated against the background of the serious existing conditions of the air basin, would remain significant and unavoidable.

**Biological Resources**

The 2,298-acre solar facility site and the surrounding areas are primarily undeveloped lands, formerly used for agricultural activities. The area east of State Route 14 identified as the transmission line corridor is undeveloped land that has portions of relatively undisturbed habitat. The site is substantially disturbed from past agricultural activities that occurred up to the mid-1980s. The survey area for biological resources and potentially jurisdictional waters
encompassed the solar facility site east of State Route 14 and the transmission line alignment, as well as appropriate species buffers around the project site.

**Special Status Plant Species:**

The DEIR described the impacts on biological resources that would result from implementation of the proposed project and identified mitigation measures that would reduce these impacts. Special status plant species occurring in the northwestern Mojave were evaluated for potential to occur at the project site. As noted in the rare plant survey included in the DEIR, one special status plant species, Charlotte's phacelia, was considered to have a moderate to high potential for occurrence within the project site and gen-tie route. Two other special status plant species, Alkali mariposa lily and Creamy blazing star had a potential occurrence along the transmission route, which had suitable habitat characteristics.

As noted in the rare plant surveys included in the DEIR, it is unlikely that special-status plants would occur in the highly disturbed project site east of State Route 14, however, the Mojave Creosote Bush Scrub habitat west of State Route 14 along the transmission line alignment may support Charlotte's phacelia (*Phacelia nashiana*), which is considered to have a moderate potential to occur. Therefore, impacts would be avoided or reduced to less-than-significant through implementation of Mitigation Measures MM 4.3-3 through MM 4.3-11 which include a Construction Worker Environmental Awareness Training program, preconstruction rare plant survey(s) during the appropriate blooming period, and the development of a Habitat Mitigation Plan to ensure adequate knowledge, management, and conservation of botanical resources, control weed infestations, and limit worker access to habitat outside designated work areas.

**Special-Status Wildlife Species**

The DEIR noted that four special status wildlife species, desert tortoise, Western burrowing owl, Le Conte's thrasher, and Loggerhead shrike were observed on site, however, Mohave ground squirrel, American badger, and Desert kit fox had a moderate potential to occur on the project site due to suitable habitat. Habitat quality for special status wildlife species is low over the majority of the project area. Most of the species discussed are only expected to occur on the solar facility site east of State Route 14 on a transient basis, if at all. However, the entire project area supports rodents and small birds that provide a prey base for raptors and other wildlife and habitat quality is higher along the transmission line alignment west of State Route 14. Golden eagles and other protect raptors were documented within a radius of 10 miles from the project site, during raptor nest inventories and aerial surveys prepared for the project. In addition, several special-status birds, including LeConte's thrasher and loggerhead shrike (California Species of Special Concern) were noted in and around the solar facility site and may use habitat there for breeding and foraging, even though it is of generally low quality.

As noted in the technical studies prepared for this project, desert tortoise were identified as occurring in the project area west of State Route 14 and have the potential to occur in and around the project site and, therefore, the potential exists for adverse effects to the species. Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9, MM 4.3-12 through MM 4.13-14, and MM 4.3-17, includes having a qualified biologist on site during all ground disturbance and construction activities, the installation and long-term maintenance of permanent tortoise exclusionary fencing, avoidance and minimization procedures, and the implementation of a common raven management plan, potential impacts on desert tortoise would be reduced to less-than-significant levels.

The common raven poses a serious threat to many desert species and the species’ population growth is directly attributed to human development and the subsidies it creates that support this
adaptable species. However, this significant impact would be reduced to less-than-significant levels by implementation of Mitigation Measure MM 4.3-20 that requires the project operator to prepare a Raven Management Plan in consultation with the USFWS and CDFG.

Suitable Mohave ground squirrel habitat was noted in a habitat assessment prepared for the project. It was noted that the project area east of State Route 14 was unsuitable as Mohave ground squirrel habitat but that suitable habitat for Mohave ground squirrel exists west of State Route 14 in the vicinity of the proposed transmission line alignment. Mohave ground squirrel (MGS) are, therefore, presumed present in Mojave Creosote Bush Scrub habitat along the proposed transmission line corridor. Although no habitat exists east of State Route 14 that will support resident MGS, it is not possible to rule out the occasional presence of transient individuals. Potential direct and indirect impacts to Mohave ground squirrel are generally the same as those for desert tortoise. However, implementation of MM 4.3-17 would require the project operator to purchase at a ratio of 3:1, a minimum of 9.9 acres of suitable habitat to compensate for the loss of Mohave ground squirrel habitat. Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9 and MM 4.3-12 through MM 4.13-14 as well as MM 4.3-17 as previously noted, would reduce potential impacts to Mohave ground squirrel resulting from the proposed project to less than significant levels.

Potential direct and indirect impacts on western burrowing owl are similar to those that could affect desert tortoise and Mohave ground squirrel. In addition, project construction, operations, and decommissioning could affect western burrowing owl reproductive success within the project site, along the transmission lines. Potentially significant impacts on western burrowing owl can be reduced to less-than-significant levels through the implementation of Mitigation Measures MM 4.3-15 and MM 4.3-16, which includes a specific burrowing owl survey conducted by a qualified biologist prior to construction activities.

A raptor nest inventory and aerial surveys were conducted within a ten-mile radius of the project site in June, 2011 and an additional study was conducted in May and June 2012, to document nest locations and nesting status of golden eagles, which are known to nest in the region, and to document nest locations of other raptor species as well. Nesting golden eagles, red-tailed hawk, and presumed prairie falcon nests were located within the survey area. Red-tailed hawk was also observed during project site surveys. Although habitat is suboptimal over the majority of the project site, the site still supports prey species in the form of rodents and birds, and habitat west of State Route 14, along the proposed transmission route supports higher quality habitat for black-tailed jackrabbits, desert cottontail rabbits, and other smaller rodents, as well as passerine birds.

Potential direct impacts on golden eagle and other protected raptors include construction of the transmission line, which would provide perching structures and as such, the risk of electrocution for large birds. This potentially significant impact would be mitigated to less-than-significant levels through the implementation of Mitigation Measure MM 4.3-23, which requires all power transmission lines to be constructed following the 2006 Avian Power Line Interaction Committee Guidelines specifications.

Loggerhead shrike and Le Conte's thrasher, both California bird Species of Special Concern, were observed on the project site and adjacent habitat during surveys conducted in 2007, 2008, and 2011. California horned lark, on the CDFG Watch List, was also observed within the project site and is expected to occur in habitat along the transmission line alignment as well. Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9 in addition to implementation of Mitigation Measure MM 4.3-18, would reduce potential project-related impacts on special-status and otherwise protected birds to less-than-significant levels.
Additionally, with implementation of Mitigation Measures MM 4.1-4, project lighting is not expected to adversely impact wildlife in adjacent habitat outside the project area.

Based on the information available, the DEIR concludes that the project-specific impacts of the proposed project would be less than significant with implementation of the proposed Mitigation Measures MM 4.3-1 through 4.3-23.

**Cumulative Impacts**

As described in Chapter 3, *Project Description*, multiple projects, including other utility-scale solar and wind energy production facilities are proposed throughout Kern County. There are a number of utility-scale solar energy projects on a minimum of 20,300 acres are presently under, or proposed for, development within a 30-mile radius of the project site. The implementation of the proposed solar project in addition to the other renewable energy projects proposed in the desert region of the County would impact transient wildlife species that currently forage or move through in search of additional foraging opportunities.

As noted earlier, habitat quality is low over the majority of the project area. Most of the species discussed are only expected to occur on the solar facility site east of State Route 14 on a transient basis, if at all. However, the entire project area supports rodents and small birds that provide a prey base for raptors and other wildlife and habitat quality is higher along the transmission line alignment west of State Route 14.

Within the regional context and when considered with other past, present, and reasonably foreseeable future projects, the project would have an incremental contribution to a cumulative loss of low-quality foraging habitat for golden eagles and other special-status raptors, as well as the loss of existing and potential transient wildlife habitat and foraging opportunities for species that currently utilize the project area, even with the implementation of mitigation measures including avoidance, minimization, and compensation. Therefore, the proposed project, coupled with other development proposed in the area, would result in a significant and unavoidable contribution to cumulative loss of habitat for primarily transient species that may utilize habitat at the project area.

No additional feasible mitigation measures have been identified to reduce this incremental, cumulative significant impact. Therefore, it is concluded that significant and unavoidable impacts on biological resources would occur because of the cumulative effects of the proposed renewable energy projects in the eastern regions of Kern County.

**Applicant’s Project Objectives**

The project operator has identified the following objectives for the proposed project: The project proponent has identified the following primary objectives for the proposed solar facility:

- Develop a solar power generating facility that would provide clean, renewable, solar-powered electricity to the citizens of California.
- Develop a site with an excellent solar resource.
- Develop a previously disturbed site with close proximity to transmission infrastructure in order to minimize environmental impacts.
- Interconnect directly to the LADWP electrical transmission system.
- Use proven and established PV technology.
- Create 385 temporary construction jobs and 5-10 permanent operations jobs.
• Provide an investment in California and Kern County that would create jobs and other economic benefits.
• Assist California utilities in meeting their obligations under California’s Renewable Portfolio Standard (RPS) Program. In April 2011, Governor Brown signed into law Senate Bill XI-2, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewable by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirements being met by the end of 2020.
• Assist an off-taker in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.
• Address local mandates that California’s electric utilities have adopted for the provision of renewable energy. Substantial State legislation has been passed related to renewable energy that is relevant to the project.

Alternatives

CEQA requires an EIR to assess a reasonable range of project alternatives that would achieve the project objectives with less environmental impact than the proposed project. The alternatives to be considered should include those that offer substantial environmental advantages over the proposed project and that may feasibly be accomplished considering the various economic, environmental, social, technological, and legal factors.

The Final EIR, Volume 1 – Chapter 6 discusses five analyzed alternatives to the project.

• Alternative A: No-Project/No-Build Alternative;
• Alternative B: General Plan Buildout Alternative
• Alternative C: No Utility-scale Solar Development Alternative—Distributed Commercial and Industrial Rooftop Solar Only;
• Alternative D: Reduced Project Alternative; and
• Alternative E: Flood and Seismic Hazard Avoidance Alternative

The discussion in the Final EIR presents a description of each alternative and focuses on the degree to which the identified alternative might accomplish the project objectives and would reduce one or more of the identified significant impacts to aesthetics, air quality, and biological resources, as well as other impacts.

Environmentally Superior Alternative

An EIR must identify the environmentally superior alternative to the proposed project. Alternative A, the No-Project/No-Build Alternative, would be environmentally superior to the proposed project on the basis of its minimization or avoidance of physical environmental impacts. Section 15126.6(e)(2) of the State CEQA Guidelines states that if the No-Project Alternative is found to be environmentally superior, “the EIR shall also identify an environmentally superior alternative among the other alternatives.” Alternative C, Utility-Scale Solar Development Alternative—Distributed Commercial and Industrial Rooftop Solar Only, would avoid all significant and unavoidable impacts that would occur under the proposed project. This alternative would also result in fewer impacts to aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, public services, traffic and transportation of the proposed project. Impacts to land use and planning, and utilities and service system would be similar to those of the proposed project.
Therefore, Alternative C, Utility-Scale Solar Development Alternative—Distributed Commercial and Industrial Rooftop Solar Only, is deemed to be the environmentally superior alternative. Impacts to aesthetics, air quality and biological resources would be less severe under this alternative. However, this alternative would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatts to 1 MW) within existing developed properties, on the rooftops of commercial and industrial facilities throughout Kern County. Under this alternative, no undeveloped land would be altered. Depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 22,298 acres of total rooftop area) may be required to attain the project operator’s project objective of 250 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. This objective would enable the generation of 250 MW of electricity but it would be for on-site use only and would not assist the regulated utilities in meeting their Renewable Portfolio Standard goals. Given the size of the proposed project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe.

**Findings (Exhibit A and B)**

Written findings and a brief explanation of the rationales for each finding in accordance with Section 15091 of the CEQA Guidelines have been included for each significant and insignificant impact as identified in the Final EIR. The occurrence of significant environmental effects that cannot be avoided after all reasonable and feasible mitigation have been adopted for aesthetics, air quality and biological resources are included in the Statement of Overriding Considerations. The Statement of Overriding Considerations in compliance with State CEQA Guidelines Section 15093 includes a discussion of the benefits of the project that provides a basis for the recommended approval of the project despite the adverse environmental effects that could and/or will occur.

- Implementation of the project would produce 250 megawatts of electricity from a renewable source for delivery to the regional power grid in accordance with the California Renewables Portfolio Standard goals;
- 250 MW of clean electricity would supply the energy needs of about 100,000 residences;
- The proposed project would generate electricity that emits minimal amount of criteria air pollutants in the Eastern Kern Air Pollution Control District;
- The proposed project will reduce the amount of electricity generated using fossil fuels, and, therefore, result in an offset of an estimated 213,020 MTCO2e annually, which results in a net reduction of 212,740 MTCO2e of GHGs per year;
- The proposed project would generate approximately 385 construction jobs and up to ten full-time staff from the local area, and provide increased business for local contractors and vendors;
- The project proponent estimates the construction labor (construction manager, electricians, engineers, metal workers, and other skilled labor) would earn an average wage of $23.30 (excluding benefits); and the full-time employees for the life operation of the project would earn $28.25;
- The proposed project would result in the contribution of money calculated on a per acre basis in accordance with the Public Facilities Mitigation Program to support public safety and protection services of approximately $603,252 over a 25-year period, which is about $24,130 per year.
The project proponent will obtain a local street address within the unincorporated portion of Kern County for acquisition, purchasing, and billing purposes, and register this address with the State Board of Equalization in order to capture sale tax revenue for the County;

The proposed project would minimize environmental effects by:
- Using existing electrical distribution facilities, rights-of-way, roads, and other existing infrastructure, where practicable;
- Minimizing impacts to threatened species and/or endangered species, and other sensitive biological resources;
- Locating the project facilities in an area with compatible zoning and land uses to the extent possible;
- Minimizing water use;
- Reducing greenhouse gas emissions; and,
- Using technology that is available, proven, efficient, easily maintained, recyclable, and environmentally sound.

The project proposes to reuse undeveloped, idle land that has not been put to a productive use for the past nearly 30 years.

Implementation of the proposed project would be consistent with the stated goals and policies of Section 5.4.5 Solar Energy Development, as outlined in the Energy Element of the Kern County General Plan.

A Mitigation Measure Monitoring Program has also been prepared and is attached for your review and consideration as Exhibit C.

Public Comments on the Draft EIR – Response to Comments

Staff received 16 written comments on the Draft EIR from federal, State, and local agencies, and from interested parties. These comments and responses have been provided to your Board as Volume 3 Chapter 7 Response to Comments (RTC), of the Final EIR. A complete list of names of each commenter is provided on pages ii of the Final EIR and each of the commenter’s concerns are addressed individually in the Response to Comments. Below is a summary of the comments/concerns that led to the revisions and clarifications to the Final EIR. These proposed changes are considered minor and do not change any conclusions identified in the analysis.

California Department of Fish and Game (CDFG) and US Fish and Wildlife Service (USFWS)

The wildlife agencies recommended that the Draft EIR describe and evaluate the specific project features and activities that could result in desert tortoise, Mojave ground squirrel, burrowing owl mortality, golden eagle and other raptors, as well as potential indirect impacts that may affect these species. CDFG recommended modifications in the DEIR language as well as proposed mitigation measures to be consistent with recent changes in wildlife agency recommendations. Staff concurred and has revised the Draft EIR text and several mitigation measures for clarity, as indicated in Section 7.2, Revisions to the Draft EIR. Staff notes that these clarifications do not change the significance determinations in the Draft EIR. The project impacts to biological resource remains less than significant with the implementation of Mitigation Measures MM 4.4-1 through 4.4-23.

USFWS recommended that the project operator mitigate for loss of foraging habitat for migratory birds and golden eagles, even though they acknowledge the fact that the site does not currently offer golden eagle foraging habitat and implementation of the project would be unlikely to adversely affect these birds. As noted above, an additional golden eagle survey was conducted in May and June 2012, and further confirms that the project site is currently disturbed by past
farming practices and disking activities, and is considered of poor quality habitat and foraging for these species. Therefore, the available evidence supports the DEIR’s conclusion that any loss of foraging habitat as a result of the construction and operation of the proposed project will not have a significant impact on golden eagles and, therefore, does not require mitigation under CEQA.

Gideon Kracov, Attorney at Law

The commenter submitted a comment letter that raised a number of concerns that generally fell into several themes, including the proposed project’s a) inconsistency with the Kern County General Plan and its Elements; b) inadequate analysis of appropriate alternatives; c) the lack of an analysis and mitigation regarding socioeconomic issues; d) inadequate analysis and mitigation regarding the project’s potential impacts to agricultural, biological resources, air quality, hydrology and water quality, and hazardous materials. The commenter asserted that the document was not adequate and, therefore, should be revised and recirculated.

Consistency with the General Plan: The DEIR assessed the project’s consistency with the Kern County General Plan, the Kern County Zoning Ordinance, the Airport Land Use Compatibility Plan (ALUCP), and other appropriate regulations in Section 4-9, Land Use and Planning. The project site is within the A (Exclusive Agriculture) and A-1 (Limited Agriculture) Districts, which allow for the construction and operation of a solar facility with approval of a conditional use permit. It should be further noted that the Kern County General Plan has an adopted Energy Element (Chapter 5 of the Kern County General Plan). Within this element there are numerous goals and policies related to energy development including Section 5.4.5 of the General Plan which is specifically dedicated to solar energy development, and which encourages safe and orderly commercial solar development. Further, Policy 16 of Section 1.9, states that “The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission. Impacts related to on- and off-site flooding are discussed in DEIR Section 4.8, Hydrology and Water Quality pages 4.8-1 – 4.8-20), and Section 4.5, Geology and Soils, evaluated seismic impacts. As noted in the DEIR, with compliance with all State and local regulations as well as implementation of the proposed mitigation measures, impacts are expected to be less than significant.

Based on the information presented, it is Staff’s opinion that the DEIR adequately analyzes and documents potential impacts of the project, related to land use, hydrology, and water quality. The DEIR also evaluated the applicable established land use policies and regulations of the Kern County General Plan, the Kern County Zoning Ordinance, and ALUCP to the proposed project and determined the project to be generally consistent with those goals and policies. The commenter does not provide evidence to contradict the conclusions of the DEIR, and Kern County, as Lead Agency, has adequately addressed this issue under CEQA.

Alternatives: Staff notes that an EIR must contain a reasonable range of feasible alternatives to the project, or to the location of the project, which can attain most of the project’s objectives and would avoid or substantially lessen any of the project’s significant effects. However, the DEIR is not obligated to consider alternatives that do not avoid or substantially lessen the project’s significant environmental impacts. The commenter suggested that the DEIR consider a reduced scale alternative, an alternative that avoids seismic and flood hazards, and an alternative that avoids cadmium telluride panels. Although there is no legal requirement that these alternatives be analyzed, for informational purposes only, Staff added an analysis of these alternatives to the Final EIR (see pages 7-9 through 7-23 of Chapter 7- Response To Comments). The analysis in the Final EIR demonstrates that these alternatives will not substantially reduce any of the project’s four significant environmental impacts: visual impacts (both project-specific and
cumulative), cumulative air quality impacts during construction, and cumulative biological impacts.

**Socioeconomic issues:** The commenter asserts that the DEIR must analyze a project’s potential to cause urban decay on both a cumulative and project level. However urban decay, as the concept has been developed by case law, has been limited to retail center development projects (so-called "supercenters") that could draw business away from existing retail businesses. Urban decay impacts from a solar energy project on vacant land in a rural area are too remote and do not require analysis under CEQA as the concerns are speculative and not supported by existing case law. Additionally, the commenter cites no cases, and the Lead Agency is unaware of any, in which a court has held that urban decay analysis is applicable to a non-retail project, and certainly not to a commercial photovoltaic solar project proposed in a rural area. Furthermore, there is no substantial evidence presented in the DEIR that the Beacon Photovoltaic Project would cause urban decay. The project site is located in a rural area and will not result in vacancies in downtown business areas or otherwise adversely affect the livelihood of people in Kern County.

The commenter also states that the proposed project is not an efficient use of the land. Staff notes that CEQA does not require a specific standard for project efficiency to be associated with a proposed land use development. Additionally, he asserts that the project would adversely affect employment due to the low workers per acre associated with a solar project. The project site is currently vacant and has not been used for agricultural purposes since the mid-1980s. The project site and a large area of land surrounding the project site, currently employs zero (0) workers per acre. Consequently, the construction and operation of a solar power plant on this property would cause an increase in the workers per acre and could potentially induce other businesses to develop in the area, further increasing the worker population.

The commenter alleges that the DEIR fails to adequately analyze and mitigate for risks of widespread abandonment of solar projects. The proposed project is required to have a decommissioning plan backed by financial assurances, as stipulated in the proposed Mitigation Measure MM 4.9-1. The requirement of having a County-approved decommissioning plan and financial assurances are tied to the conditional use permit, an entitlement that is attached to the land, not the property owner. As such, even if the project is sold, each owner would be required to adhere to the same decommissioning plan and financial assurance requirements. The financial assurance options are adequate and are routinely used for other projects such as mining operations by Kern County.

The commenter also asserts that the DEIR should consider how the proposed project will impact ratepayers. The CEQA environmental review process is intended to evaluate a project’s environmental impacts and inform the appropriate decision-makers and the public about those impacts. The potential effect of a solar electrical generation facility to ratepayers is speculative at best, and is not considered an environmental impact and is, therefore, beyond the scope of a CEQA EIR document. The California Public Utilities Commission is the appropriate regulatory body and forum to discuss potential impacts to ratepayers, not a CEQA document. Furthermore, the proposed project is being developed with private funding and not by the ratepayers; no public funds were used to finance this project. If approved, the project would employ an estimated 385 construction workers for approximately 22 months, and maintain a staff of between five and ten permanent employees for long-term operations and maintenance activities, project is anticipated to contribute approximately $18 million in property, sales and use taxes over the expected 30-year lifetime of the project.

**Environmental Impacts:** The commenter contends that the DEIR fails to adequately analyze and recommend mitigation regarding potential impacts to agricultural, biological resources, air
quality, hydrology and water quality, and hazardous materials. Based on the information presented in the DEIR and FEIR, the Lead Agency is of the opinion that environmental impacts have been fully disclosed, adequately analyzed and appropriately mitigated to the extent feasible under CEQA. Therefore, no further analysis or revisions are required except for clarification as noted in the FEIR.

Based on the information presented above, the FEIR adequately analyzes and documents potential impacts of the project, including impacts related to land use, hydrology, and water quality, and concludes that with the implementation of the proposed mitigation measures, these impacts are less than significant. The DEIR also evaluated the applicable established land use policies and regulations of the Kern County General Plan, the Kern County Zoning Ordinance, and ALUCP to the proposed project and determined the project to be generally consistent with those goals and policies. The commenter does not provide evidence to contradict the conclusions of the DEIR, and Kern County, as Lead Agency, has adequately addressed this issue under CEQA.

Interested Parties

Five neighboring property owners submitted letters in opposition to the project. They raised similar issues related to potential impacts of the proposed project on the use and enjoyment of their property, traffic, air quality, water quality and flood issues, traffic impacts, impacts from hazardous materials, incompatibility with surrounding land uses, and the loss of property values.

The proposed project boundaries are limited to those parcels identified in Table 1, above. The commenters’ parcels are anywhere from about 500 feet to over 1/2 mile or more away from the project boundaries, and are not proposed for development as part of this project. Therefore, no direct impact or changes to their property would occur, and there are no expected changes in the ability of the land owner to enjoy their property.

Regarding the value of their property, the FEIR noted that loss of property value and potential effects can only be tested through data from parcel sales. A 2009 study (Attachment 4 of the FEIR) found wind power projects had no statistically significant negative effect on home sales prices in the areas surrounding them. There are a number of factors that have the potential to affect property values; as a result, it is not possible to identify exactly how the proposed solar project would potentially affect private property values. Property-specific factors such as neighborhood features, square footage, size of lot, and irrigation potential are substantially more likely than the presence of energy infrastructure to be major determinants of the sales price of property. The Lead Agency is of the opinion that there is no evidence presented to Staff that would conclude that the installation of a solar facility would lead to a decrease in neighboring property values.

Additionally, the CEQA Guidelines provide that “economic and social effects of a project shall not be treated as significant effects on the environment” (Section 15131(a)). CEQA is concerned only with a project’s economic impacts where there is the potential for such impacts to result in an indirect physical impact to the environment. Accordingly, CEQA Guidelines Section 15131(a) provides that “intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effects. The focus of the analysis shall be on the physical changes.” As part of the overall environmental analysis, the Lead Agency has incorporated all reasonable and feasible mitigation measures to reduce potential physical impacts to the environment as a result of this project.

The FEIR noted that in particular, construction of the proposed project could result in indirect impacts to immediately adjacent areas, such as visual impacts, increased air quality impacts (i.e.,
dust generation), noise, and increased traffic, which are addressed in Section 4.1, *Aesthetics*, Section 4.2, *Air Quality*, Section 4.11, *Noise*, and Section 4.13, *Traffic*, of the DEIR, respectively. Project-level and cumulative impacts to aesthetics are thoroughly discussed, and it was determined that even with implementation of proposed Mitigation Measures 4.1-1 through 4.1-6, impacts would be considered significant and unavoidable.

As noted above, impacts to air quality with the implementation of proposed Mitigation Measures MM 4.2-1 through MM 4.2-5, would result in short-term construction-related air quality impacts that are anticipated to be less than significant. However, significant cumulative impacts from the proposed project when considered with nearby, reasonably foreseeable planned projects would potentially occur only during short-term facility construction, as the majority of the proposed project construction could possibly occur during a similar timeframe. As noted in the DEIR, noise, traffic, water quality and hydrology impacts from the project are anticipated to be less than significant with the implementation of the proposed mitigation measures.

DEIR Section 4.7, *Hazards and Hazardous Materials*, discussed a variety of potential hazards, including Electromagnetic fields (EMFs), an increase in ambient temperature, high winds, and hazardous materials, including pesticides and cadmium telluride (CdTe). The DEIR presented data and evidence indicating that these potential impacts were considered to be less than significant with implementation of Mitigation Measures MM 4.7-1 through MM 4.7-3, which requires the project operator to submit a hazardous materials business plan to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval, use wildlife agency approved herbicides applied by qualified personnel, and to implement the appropriate procedures in the event asbestos-containing materials are uncovered during project construction. Impacts related specifically to the use of cadmium telluride (CdTe) panels as discussed in DEIR Section 4.7, *Hazards and Hazardous Materials*, page 4.7-17, demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. CdTe releases are unlikely to occur during accidental breakage of the PV panels. An additional study was also presented in the Final EIR (see Attachment 5 of the FEIR), which further substantiates the appropriate less than significant impact determination of the DEIR. The study states that cadmium telluride (CdTe) thin film photovoltaic (PV) modules have the lowest life cycle carbon footprint and fastest energy payback time of current PV technologies. Additionally, the study indicates that under normal operation, CdTe PV modules do not pose a threat to human health or the environment due to their construction.

Staff notes that the Kern County Environmental Health Services Division, Kern County Waste Department, CalRecycle or any other responsible agency did not comment on the DEIR. Based on the information presented above, the Lead Agency is of the opinion that project impacts related to hazards and hazardous waste, have been fully disclosed, adequately analyzed, and appropriately mitigated to the extent feasible under CEQA.

Therefore, the Lead Agency is of the opinion that the DEIR has adequately analyzed and discussed these potential environmental impacts and proposed sufficient mitigation measures to reduce impacts to hydrology and water quality to less than significant levels.
Memorandum of Understanding

Section 53091 of the California State Government Code provides an exemption from local building and zoning ordinances for a city or county project that includes the location or construction of facilities for the production or generation of electrical energy, among other uses. In addition, utility companies regulated by the California Public Utilities Commission have specific exemptions for transmission lines and other generating facilities. Mandates for renewable energy projects have made commercial solar and wind projects an attractive investment for utilities, cities, and counties. To ensure conformance to the land use regulations adopted and implemented by this County, past projects such as the Pine Tree Wind project (Los Angeles Department of Water and Power), Alta-Oak Creek Wind project, Antelope Valley Water Bank (Semi-Tropic Water Banking Authority), and the Lost Hills Solar project have included a Memorandum of Understanding/Agreement that binds any buyer or operator to agree to be bound by the Kern County Zoning Ordinance, including Kern County building permit requirements, the conditions of the conditional use permit, and the Mitigation Measure Monitoring Program regardless of any exemption they may have under Section 53091. Additionally, Mitigation Measure MM 4.12-1 requires the project proponent to provide the County written verification of ownership by April 15 of each calendar year. If the project is sold to a city, county, or utility company that pays assessed taxes that equal less than $1,000 per MW per year, then that entity shall pay those taxes plus an amount necessary to equal the equivalent of $1,000 per MW. The amount shall be paid for all years of operation. These mechanisms provide sufficient assurances that all provisions of the recommended approval will be implemented for the life of the project. Condition of Approval (4)(a) requires an MOU to be executed by your Board prior to the issuance of grading or building permits. A signed copy of the Agreement is attached for your review.

Planning Commission Consideration

On September 27, 2012, a public hearing was held by the Planning Commission to consider a conditional use permit to allow the development of the proposed 250 MW solar facility. Staff presented an overview of the project and the EIR prepared for the project.

The Planning Commission then heard testimony and a PowerPoint slide presentation by the applicant’s representative, Brandon Stankiewicz. Mr. Stankiewicz provided an overview of the project, and emphasized its positive benefits, including:

- The creation of up to 385 construction jobs for approximately 22 months
- Eight to ten full-time jobs during plant operations
- Clean power for up to 100,000 California homes
- Estimated $18 million in property, sales and use taxes over the project’s lifetime
- Facility payroll and additional contracted maintenance
- Increased purchases of local goods and services
- Contributions to County Capital Improvement Plan
- Conversion of un-used property to productive use

A copy of this presentation is included for your Board’s consideration. Additionally, Mr. Stankiewicz pointed out that the project is located on a site that has not been utilized in almost 30 years. The design of the photovoltaic panels allows the applicant to micro-site panels, thereby avoiding biological and culturally sensitive areas, as indicated on the site plan. The proposed project would also use significantly less water than the original solar thermal project. He also mentioned that the company was committed to hiring local residents and would continue to support the County in this way.
Mr. Mitchell Tsai, a representative of the appellant, Gideon Kracov, Attorney at Law, who represents the Laborers International Union of North America (LIUNA) Local #220; LIUNA has an office in Bakersfield and over 1,400 members who live and work in Kern County. Mr. Tsai submitted two letters, “Reply to Comments: Draft Environmental Impact Report of Beacon Photovoltaic Project” by Michael Kavanaugh, dated September 21, 2012, and “Comments on the Final Environmental Impact Report and Response to Comments for the Beacon Photovoltaic Project, Kern County,” by Matt Hagemann, dated September 25, 2012 to the Planning Commissioners. Staff would like to point out that although one letter was dated September 21, 2012, and indicated that it was emailed to Staff on that date; Staff did not receive the email or letter. Mr. Tsai later confirmed that in fact, the letter was never mailed nor emailed prior to the hearing date. A copy of these letters is attached for your Board’s review.

Mr. Tsai also stated that while the County had provided very good, quality responses to Mr Kracov’s original letter in Chapter 7- Response to Comments (see FEIR Response Letter 7), the EIR should be revised and recirculated to address specific issues, specifically the potential environmental impacts of damaged solar panels during flood events, and cadmium telluride leakage if the solar panels were damaged. He also noted that the Air Quality analysis of the EIR inaccurately quantified PM10 and other criteria pollutant emissions. He also raised concerns regarding the financial assurances from NextEra (the parent company of Beacon Solar, LLC) and whether these assurances were appropriate and adequate.

Commissioner Edwards asked for clarification that the issue was worker safety regarding the potential release of CdTe or other emissions from the construction of the project. Mr Tsai stated that the EIR should be circulated to address these concerns and more research needed to be completed prior to approval.

Kern County Planning and Community Development Department Director Oviatt clarified that NextEra had not provided the County with financial assurances and was not required to do so until the project was approved. If approved, at that time, the developer who owned or moved forward with the project would be required to provide that financial assurance to the County as outlined in the mitigation measure. Regarding cadmium exposure, Ms. Oviatt pointed out that this issue was extensively discussed in Chapter 7- Response to Comments, Response 7-N. She also noted that the City of Los Angeles had placed on their agenda the proposed purchase of the Beacon Photovoltaic project. The $18 million in taxes mentioned by the applicant would be reduced. However, due to the signing of the MOU (which requires the project owner to abide with the approved conditions of approval and mitigation measures placed on the project), if the project is sold to a city, county, or utility company that pays assessed taxes that equal less than $1,000 per megawatt per year, then they will pay those taxes plus an amount necessary to equal the equivalent of $1,000 per megawatt.MW, in addition to public services fees. Although exempted from paying sale taxes on panels and equipment, the City of Los Angeles would pay approximately $8 million to the County over the life of the project, as well as any indirect taxes generated by local workers.

Division Chief Craig Murphy responded to the assertions made about the Air Quality and Hydrology sections of the EIR. He stated that the Hydrology and Hydraulics Study (see EIR Appendix H) and EIR Section 4.8- Hydrology was reviewed by the Kern County Engineering, Surveying and Permit Services Department/Floodplain Management Section and the Floodplain Manager. The language incorporated in Mitigation Measure MM 4.8-2 was requested to include preparation of a drainage plan that is designed to minimize runoff and surface water pollution and includes their recommendations to minimize the potential for impeding or redirecting 100-year flood flows, thereby minimizing the potential impacts from flooding. In addition, an Air Quality study prepared for the project and EIR Section 4.3- Air Quality was reviewed by technical experts.
as well as the Eastern Kern Air Pollution Control District (EKAPCD). The air quality study analyzed both construction and operations emissions generated by the project; those emissions are expected to exceed established thresholds during temporary construction activities. EKAPCD did not raise any concerns regarding the inadequacy of the study, the assumptions used in the analysis, or the proposed mitigation measures.

Mr. Randy Howard, Director of Power Systems Planning and Development at Los Angeles Department of Water and Power (LADWP), reiterated that their Board had approved the purchase of the solar project, pending final details and the approval of the conditional use permit. He stated that LADWP operated several other nearby renewable energy projects in the County, including the PineTree Wind project, various transmission lines and aqueducts, and had a local headquarters in Mojave and staff already in the County, indicating the City’s commitment to working with the County. LADPW was comfortable with the MOU and the recommended mitigation measures and conditions of approval placed upon the project.

No other members of the public addressed the Commission, and the public hearing was closed by Chairman Martin.

Commissioner Bellomini discussed the project and noted that it was well-sited on disturbed former agricultural land that had not been farmed for a number of years. The land provides little economic revenue from agricultural production or manufacturing. Commissioner Bellomini also noted that the project is not near heavily urbanized or populated areas.

Commissioner Edwards reiterated the position that this was a well-sited project. He was impressed that the project would comply with the proposed mitigation measures to protect biological and other resources while still meeting their business goals. Mr Edwards stated he was satisfied that workers and the public would be adequately protected.

Chairman Martin agreed that this proposal was the highest and best use of this land. He agreed with Staff that he can make the appropriate findings and overrides for significant and unavoidable impacts of the project.

Commissioner Bellomini made a motion to recommend approval of the project, which was seconded by Commissioner Edwards. A vote count was called, and the project was unanimously approved by the three presiding Commissioners.

Appeal

The Planning Commission approved the project on September 27, 2012, by a vote of three to zero. On October 9, 2012, an appeal was filed by Gideon Kracov on behalf of the Laborers International Union of North American, Local #220 (LIUNA). Mr. Kracov stated that the reason for the appeal was due to violations of CEQA and the Kern County General Plan. Attached to the appeal form is a letter from Mr. Kracov dated August 23, 2012, which includes the original letters by Dr. Michael Kavanaugh and Matt Hagemann, P.G., C.Hg (Exhibits 1and 2, respectively). Staff notes that this material is identical to what was submitted to Staff and responded to in Chapter 7-Response to Comments (see above for a summary of those remarks). In addition to the appeal material, the supplemental letters from Dr. Kavanaugh and Mr. Hagemann (with co-author Uma Bhandaram) that were submitted at the Planning Commission, along with a copy of the appeal form, are included for your Board’s review.

Staff responded in detail to the original August 23, 2012, letter in the FEIR and Planning Commission staff report, of which your Board has received copies. However, Staff has now
included a more in-depth analysis and response to the original comments, as well as supplementary information, and additional substantiation by expert testimony prepared by Dr. Mark Berkman of the Brattle Group regarding socioeconomic issues, and Dr Steven Heisler, QEP, regarding air quality issues is presented below. These documents are also included as Attachment 1 and 2, respectively, for your Board’s consideration.

Mr. Kracov reiterated a number of concerns that generally fall into several themes, including the proposed project’s (a) fatal inconsistency with the Kern County General Plan and its Elements; (b) inadequate analysis of appropriate alternatives; (c) the lack of an analysis and mitigation regarding socioeconomic issues; (d) inadequate analysis and mitigation regarding the project’s potential impacts to agriculture, biological resources, air quality, hydrology and water quality, and hazardous materials. The commenter reasserted that the document was not adequate and therefore, should be revised and recirculated. Additionally the DEIR should be revised because it fails to analyze inconsistencies, identify appropriate mitigations, or set the foundation for a finding of overriding considerations.

The new Kavanaugh letter again raises several environmental concerns that should be analyzed in the EIR, including physical and structural deterioration and future abandonment of the project site, as well as the possible displacement of workers, lack of adequate financial assurances, and the efficiency of the proposed Beacon photovoltaic project based on megawatts versus acres. The new Hagemann letter reiterated that the FEIR inadequately addressed the previous comments and failed to disclose and evaluate issues associated with air quality, hydrology, hazards and hazardous materials. Mr. Hagemann restated that the County should disclose and mitigate these issues in a recirculated FEIR.

The observations of the three commenters are specifically addressed below.

**Consistency with the General Plan:** The commenter asserts that the project is fatally inconsistent with the County’s General Plan, violating CEQA and land use law. The commenter goes on to state that the County must treat its analysis of conflicts with the General Plan seriously and land use decisions must be consistent with the plan, as noted in CEQA Guidelines. In response, Staff notes that the Draft EIR assessed the project’s consistency with the Kern County General Plan, the Kern County Zoning Ordinance, the Airport Land Use Compatibility Plan (ALUCP) and other appropriate regulations, which are thoroughly discussed in Section 4-9, *Land Use and Planning* and properly found the project to be consistent with these requirements. The General Plan is a set of long-term goals and policies that the County uses to guide development decisions. Development projects are required to be consistent with the goals and objectives of the General Plan. “An action, program or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment.” Governor’s Office of Planning and Research, General Plan Guidelines, page 164; see also *Corona-Norco Unified School Dist. v. City of Corona* (1993) 17 Cal.App.4th 985, 994. It is the County’s responsibility to determine whether a proposed project is consistent with the General Plan. This is a legislative decision and within the discretion of the agency, unless it acts arbitrarily, capriciously or without evidentiary support. Furthermore, a project need not be in conformity with each and every General Plan policy. It must merely be “in harmony” with the General Plan. *Sequoyah Hills Homeowners Ass’n v. City of Oakland* (1993) 23 Cal.App.4th 704, 717-718. Your Board should note that there is no requirement under CEQA to assess a project’s consistency with the zoning regulations, just “applicable plans,” and thus the EIR provides information above and beyond the requirements of the statute. The commenter does not provide evidence to contradict the conclusions of the DEIR, and as such, the document has adequately addressed this issue under CEQA.
The commenter first contends that the DEIR fails to achieve “an overarching goal” of the section on Seismic Hazards, namely “to strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas that are not hazardous.” The DEIR in fact includes this overarching goal at page 4.9-4 of the EIR and indicates on page 4.9-15 that the project is “largely consistent with applicable land use plans.” No evidence has been submitted that siting the project in the proposed location would lead to loss of life, personal injuries, or property damage. The development contemplated by the project does not involve structures capable of occupancy. Moreover, the structures are engineered to withstand seismic and flooding hazards as discussed in more detail below.

The commenter also mentions Policy 1 and states that the project is not consistent with Policy 1 because it would be located in an area with potential seismic and flood hazards. Policy 1 states “Kern County will ensure that new development is not sited on land that is physically or environmentally constrained . . . to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.” Policy 1 is analyzed in Section 4.5, Geology and Soils, pages 4.5-8 and 4.5-9, and Section 4.8, Hydrology and Water Quality, pages 4.8-8 and 4.8-9, of the DEIR. As discussed in Section 4.5, Geology and Soils, the proposed on-site building would incorporate the 2010 California Building Code (CBC) earthquake design requirements. In addition, Mitigation Measure MM 4.5-1 requires that a geotechnical engineer design project facilities to withstand seismically induced ground shaking on the site. With incorporation of the mandatory CBC requirements and Mitigation Measure MM 4.5-1, significant impacts related to seismic hazards would not occur and the project would be consistent with Policy 1. Furthermore, no office or other human occupied structures would be constructed in the seismic hazard zone.

The discussion of site drainage patterns also shows that the project will be consistent with Policy 1. As discussed in Impacts 4.8-4 and 4.8-5 (page 4.8-10 of the DEIR), the proposed project would alter site drainage patterns as compared to existing conditions. Concrete pads, the operation and maintenance building, PV panel posts, etc., would introduce new impervious surfaces that could potentially increase the rate or amount of runoff. However, the total amount of new impervious surfaces for the site would be eight acres, which represents 0.4 percent of the total site. Site drainage and grading plans would be required to comply with specific guidelines related to flood control, erosion, and on-site drainage flow requirements. Proposed grading would elevate access roads and also act to detain flows from flooding off-site. Therefore, with implementation of MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2, the alterations to the existing drainage patterns and impacts to runoff and flooding at the project site would be less than significant. In addition, the project has been designed to avoid the area designated as a shallow flood zone. Therefore, with compliance with all State and local regulations as well as the proposed mitigation measures, there would be no project impacts resulting from flooding, again showing consistency with Policy 1.

The commenter asserts that the DEIR includes an inadequate discussion of Policy 2 because it does not include an explanation of the ordinances and programs that would be implemented to mitigate potential hazards. Policy 2 states: “In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria, and standards for the approval of development in hazard areas.” In particular, the commenter says that the EIR does not contain the conditions, criteria, and standards that would allow development to take place in the proposed location. Staff is of the opinion that the commenter is wrong. The conditions, criteria, and standards adopted by the County to assure that projects will not be inappropriately sited in hazardous areas include but are not limited to: Kern County CEQA
Implementing Ordinance, Kern County Zoning Code section setting forth the standards and criteria for issuance of a conditional use permit (including the appropriateness of the location for the proposed development), the Kern County Development Standards, which establish specific guidelines as to flood control, as well as requiring adherence to the Kern County Code of Building Regulations. Additional development standards and building requirements that address seismic and flood hazards are discussed in the DEIR, as are project-specific mitigation measures. The commenter alleges that the DEIR does not include mitigation measures to reduce impacts to flood hazards, as required by Policy 10. This is also not correct. Policy 10 states: “The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.” EIR Section 4.8, Hydrology and Water Quality, extensively discusses potential impacts related to flood hazards and provides specific, appropriate mitigation measures that reduce impacts related to flooding to a less than significant level, including a requirement to submit a Stormwater Pollution Prevention Plan (SWPPP) (Mitigation Measure MM-4.8-1) and a drainage plan (MM 4.8-2), which would minimize potential surface water pollution of waters that could ultimately enter the groundwater basin.

The commenter contends that the project would result in the loss of valuable agricultural land and, therefore, conflicts with Section 1.9, Resource, of the General Plan. Section 1.9 states “conflicts over the use of agricultural land frequently occur. As is the case for other urbanizing regions, the loss of valuable agricultural lands to urban development is a prime concern.” Policy 2 calls for the County to “protect areas of important . . . agricultural resource potential for future use.” As recognized by the General Plan, conversion of agricultural land to other uses “frequently occurs.” The use of some agricultural land for non-agricultural use is thus anticipated by the General Plan. If these policies were evidence of a fatal General Plan inconsistency for all developments sited or to be sited on land zoned for agricultural, hundreds of existing and future development projects in Kern County would be subject to the same alleged fatal inconsistency. The County does not interpret these policies as a prohibition on the development of urban or industrial projects on agricultural land nor would it be reasonable to do so. Rather, the County may balance these policies against policies in the Land Use and Conservation Element and Energy Element encouraging and promoting the development of renewable energy projects. For example, Policy 6 in Section 1.9, Resource, which contains the policies discouraging premature conversion of agricultural land, states that it is the policy of the County to “encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.” Policy 6 clearly allows the County to balance the goal of promoting solar energy against the goal of protecting agricultural land and to balance these policies in favor of solar energy on a case by case basis. Given the need for sufficient land area for utility scale solar projects, the most frequent place such projects are proposed for development is away from existing urban centers on land designated for agriculture. The County prefers that solar and other such projects are sited on less valuable agricultural land than prime agricultural land. The proposed project site is designated as grazing land, the least valuable of all types of lands designated for agricultural. Moreover, the site has not been used for any type of agricultural use for approximately 30 years.

The commenter points out that solar generating facilities are not explicitly listed as permitted land uses in the descriptions of “Intensive Agricultural” and “Resource Management” land use designations (Section 1.9 of the General Plan). However, the commenter fails to note that the uses cited in the General Plan for lands designated Intensive Agriculture and Resource Management “include, but are not limited to” the expressly enumerated uses (emphasis added). As such, solar energy facilities are not inconsistent with the uses allowed by the General Plan even if not expressly enumerated. Moreover, “public utility uses” are an expressly enumerated
use that may be reasonably interpreted to include solar energy developments that are connected to the public utility transmission system. That is the case here. Given that the site was previously used as farmland, but has been out of agricultural use for approximately 30 years, and the fact that the EIR does not identify any significant public health and safety hazards that cannot be mitigated to less than significant levels, development of a solar facility at this site would be consistent with the adopted General Plan.

The commenter states that the project is inconsistent with Policy 3 because solar is not compatible with agricultural land uses. Policy 3 states, “The County will support programs and policies that provide tax and economic incentives to ensure the long-term retention of agriculture, timber, and other resource lands.” Policy 3 encourages support for programs such as the Williamson Act, which provide tax and economic incentives to maintain land in agricultural production. The project is consistent with this policy because the land in question is not subject to a Williamson Act contract and does not preclude the County from supporting tax and economic incentives to ensure the long-term retention of agriculture, timber, and other resource lands. Note that the County does not consider cancellation of Williamson Act contracts to necessarily conflict with this policy either, but no cancellation is proposed here in any event. Policy 16 of Section 1.9, states that “The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.” As previously discussed, while the site contains fallow agricultural land, it has not been actively farmed since the 1980s, is not recognized as important farmland by the California Department of Conservation Farmland Mapping and Monitoring Program, and is not subject to a Williamson Act contract. However, approved solar projects play a significant role in meeting your Board’s adopted goal to promote the development of 10,000 MW of renewable energy within the County by year 2015. Approved solar projects would create over 8,000 construction jobs, 1,500 operational jobs, and up to $25 billion of investment in the County, and as such, are consistent with the policies laid out in the General Plan.

Socioeconomic issues: The comments have been subdivided into four aspects.

Urban Decay:
The commenter states his interpretation of CEQA, the CEQA Guidelines, and CEQA case law pertaining to the identification and mitigation of potentially significant environmental impacts, and cites several CEQA cases for the proposition that an EIR must analyze a project’s potential to cause urban decay on both a cumulative and project level. However, it is Staff’s determination that the CEQA Guidelines and case law do not require an urban decay analysis under these conditions. The commenter does not offer any facts or evidence that suggest that the project may result in urban decay impacts on either a project or cumulative level – just speculation and unsupported arguments. Staff is unaware of any facts or evidence in which a court has held that urban decay analysis is applicable to a nonretail project, and specifically not to a commercial photovoltaic solar project proposed in a rural area.

Furthermore, there is no substantial evidence presented in the FEIR or by comment that the Beacon Photovoltaic Project would cause urban decay. Substantial evidence is defined as “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions may also be reached.” 14. Cal. Code Regs. Section 15384(a); Laurel Heights Improvement Association versus Regents of University of California (1988) 47 Cal. 3d 376, 393, 409. Substantial evidence includes facts, reasonable assumptions predicated on facts, and expert opinion supported by facts. Pub. Res. Code Section 21080(c)(1); Section 21082.2(c). Substantial evidence does not include
argument, speculation, or unsubstantiated opinion. Section 21080(e)(2); Section 21082.2(c). The substantiality of evidence must be made “in light of the whole record.” Section 21080.2(a).

The commenter does not present facts, reasonable assumptions predicated on facts or expert opinion supported by facts that the project would cause urban decay on a project or cumulative level. Instead, the commenter relies on an expert opinion that it itself is based on argument, speculation, and unsubstantiated opinion based only on tenuous connections posing as causality. Neither commenter nor its expert cite, and Staff is unaware of any, studies or other evidence showing that a solar project or group of solar projects have the potential to cause urban decay in either urban areas or rural areas. The commenter does not identify what types of structures or what areas of the County may be subject to urban decay as a result of solar projects. Instead, the commenter suggests that all types of structures in all areas of the County are subject to urban decay as a result of PV solar projects. This sweeping, County-wide, doomsday prediction of urban decay is in stark contrast to the specific, retail-based urban decay in downtown areas recognized by certain California courts to be a potential physical impact of approving retail supercenters on the edge of cities and towns. In that case, the argument is that large scale retail malls and general merchandise and grocery retailers such as Walmart and Target will take customers from smaller specialty stores such as hardware, clothing, and corner markets. The loss of these customers would then result in such businesses failing and the storefronts being left empty. Such empty storefronts can then abandoned and left to “decay” with lack of maintenance and graffiti removal leading to “urban blight.” Furthermore, the project site is vacant, previously disturbed land, and the construction of the project will not displace any existing businesses, residences, or workers. Thus, the central concern of the urban decay line of cases – that existing business would be displaced – is not present. Instead of displacing existing business, the evidence supports the conclusion that the project will create new jobs that do not exist today, both during construction and project operation.

While the commenter speculates that the conversion of agricultural land will lead to urban decay, the commenter provides no substantial evidence to support this assertion. The commenter’s argument that the project may cause urban decay appears to be founded on the theory of “disinvestment,” and centered on the following causal chain: converting land to a solar PV use has the potential to put downward pressure on local employment and wages, which could result in a reduction in spending and draw downs in savings, which could result in reduced building maintenance and increases in mortgage delinquencies (no indication is given where these events might occur), which could lead to deterioration of residential and commercial properties (no indication is provided that this deterioration would result in "blight"), which could ultimately result in adverse physical changes to the environment. Further, CEQA is site specific and this project site has not been farmed in at least 28 years when it was used for growing alfalfa and the spreading of out-of-county sewage sludge. There is no evidence submitted by the commenter or known to Staff that ties the lack of agricultural use of this property to reduced property values and mortgage defaults in the Cantil rural community, Mojave, or California City.

The commenter does not provide any evidence or facts to support this chain of tenuous assumptions; the claim is unsupported and has no basis in fact. Assuming that the project causes “economic change,” and assuming that this economic change is negative (which there is no evidence to support because the project would be creating jobs that didn’t exist before and not displacing any jobs), economic change alone is not sufficient to show that urban decay will follow. The commenter must show why economic change would cause people to abandon structures with facts and reasonable assumptions supported by facts. The commenter has provided none.
The commenter does not provide any evidence that the project or other solar projects in Kern County would generally drive down earnings. A letter dated October 16, 2012, from Dr. Mark Berkman of the Brattle Group further refutes the commenter’s assertions (see Attachment 1). Dr. Berkman notes that because the project would not be constructed on land that is used for agricultural uses, there would be no displacement of agricultural uses. Furthermore, there is no evidence that approval of PV solar projects throughout Kern County is putting farming operations out of business or that farm workers are being laid off as a result. The commenter also presents no evidence to connect his theorized downward pressure on earnings with deterioration of residential and commercial facilities. Dr. Berkman explains that for there to be such a link, the commenter would need to show that the downward pressure on wages was significant enough to cause workers to neglect their homes and business as opposed to cutting back on other expenditures. The commenter has not provided any evidence showing such a link.

Certain categories of agricultural workers are commonly known to be some of the lowest paid of all workers, and the project and other solar projects in Kern County may increase the average earnings of workers in Kern County by creating new and better paying jobs. The commenters provide no statistics or facts on this point. Furthermore, the commenter has provided no evidence that approval of PV solar projects throughout the County is putting farming operations out of business or that farm workers are being laid off as a result.

The commenter also does not explain why the “disinvestment” theory is applicable to the project in the first instance or any other PV solar projects that are proposed or have been approved in Kern County. While the commenter notes that “disinvestment” has been observed in urban areas during the decline and depopulation of Rust Belt cities, without citing any supporting evidence, the commenter provides no explanation of why the theory should be applied in Kern County in the context of the development of the renewable energy projects. The decline and depopulation of the Rust Belt presumably occurred because of abandonment of the area by the manufacturing industry and corresponding loss of jobs, not because the rise of new industry that created jobs where none formerly existed. As Dr. Berkman notes, even in the Rust Belt cities, land that becomes unattractive for one use often becomes attractive for a different use resulting in improvements, not deterioration. Dr. Berkman concludes that re-use of the project site after 30 years of no productive use is significantly more likely to lead to economic improvement rather than economic deterioration, and has the added benefit of generating revenue for the County.

In short, the commenter’s urban decay arguments are unsubstantiated, purely speculative, and are not supported by any facts or substantial evidence. CEQA does not require the County to engage in speculation or to analyze impacts that are unlikely to occur. The potential for project specific or cumulative urban decay impact is too remote to require analysis in the EIR for this proposed project.

Finally, to the extent there is existing “urban decay” in the rural or urban areas of Kern County, the urban decay may be the result of the national economic downturn and recession, which has greatly decreased property values and hastened the decline of the job market in the region. The development of the project, along with solar projects, is likely to contribute to the reversal of that trend by providing new jobs and new skill sets to a new industry, both during construction and project operation.

**Project Inefficiency Based on Acres to MW Ratio**

The commenter states that the proposed project is not an efficient use of the land since it would have a high acre to megawatt (MW) ratio compared to other proposed solar projects in Kern County. As an initial matter, the relative “efficiency” of the project’s use of land is not a separate
issue requiring analysis under CEQA and is instead a policy matter for the County to take into consideration in deciding whether to approve, conditionally approve, or disapprove the project. Even if the commenter is correct that project is “less efficient” in its use of land than other solar projects, the commenter fails to provide facts, reasonable assumptions supported by facts, or expert opinion supported by facts that project the project’s land use “efficiency” would lead to or contribute to structural deterioration or abandonment in the County.

Furthermore, Dr. Berkman points out the additional land that the project would use relative to the land use efficiency of other solar projects is approximately 443 acres, which would represent a trivial loss in agriculture employment even if that acreage were placed back into agricultural production instead of developed with the project – approximately two jobs. Yet, the commenter has offered no evidence that the project site would be used for agricultural purposes again during the life of the solar project. Furthermore, Dr. Berkman concludes that the megawatt to acre (MW/acre) comparison is seriously flawed in measuring project performance in any event because the fact that the project may have a MW/acre ratio that is higher compared to other projects reveals nothing about the project’s economic efficiency.

**Low Workers per Acre**

The commenter maintains that the project would adversely affect employment in the area due to the low workers per acre associated with a solar project compared to the number of workers per acre associated with other land uses. The commenter does not provide any statistic, facts, or figures from any sources indicating what the average “worker per acre” is for either agricultural uses of land or for PV solar uses of land in Kern County or anywhere else in the world. Based on changes in technology, agriculture employs far fewer workers per acre than it has historically employed, therefore, it is not clear that a PV solar use of the land would employ fewer employees than an agricultural use of the land. For example, as discussed by Dr. Berkman, because of technological advances, agricultural uses of land do not generate many direct local jobs, and almonds, the most common crop in Kern County, generate only 0.00477 jobs per acre because of technological advances.

Nevertheless, assuming that as a general matter, PV solar projects employ fewer workers than agricultural projects, in the case of the project, the project site is currently vacant and has not been used for agricultural purposes since the mid-1980s. The project site and a large area of land surrounding the project site, currently employs zero (0) workers per acre. Consequently, the construction and operation of a solar power plant on this property would cause an increase in the workers per acre and could potentially induce other businesses to develop in the area, further increasing the worker population. Furthermore, the commenter does not distinguish or discuss the quality of jobs associated with agriculture uses of the land and PV solar uses of the land. Even if PV solar projects as a general matter result in fewer jobs per acre than agricultural uses, PV solar projects may provide “better” jobs in the sense of providing better pay and benefits. Furthermore, many agricultural jobs are seasonal in nature (e.g., workers are hired at harvest time) and are filled by migrant workers.

**Abandonment of Solar Projects and Decommissioning**

The commenter alleges that the DEIR fails to adequately analyze and mitigate for risks of widespread abandonment of solar projects. The commenter offers no evidence that solar facilities as opposed to any other development project are more likely to be abandoned if they failed or become obsolete. Because solar facilities are composed of materials with salvage value (e.g., Tellerium and Indium),and are the subject of a Power Purchase Agreement with a public or investor owned utility providing electricity for all of California, it is less likely that the facilities
would be simply abandoned if the project failed or became obsolete and it is more likely that the project would be obtained by the utility, bought by another investor, or be decommissioned and removed for the purpose of realizing the salvage value of the equipment.

The commenter notes that decommission plan and financial assurance mitigation measure (MM 4.9-1), only apply to the project and not to other solar projects in Kern County. This is incorrect. Mitigation measures related to the decommissioning of utility-sized solar facilities are incorporated as a requirement of all proposed solar projects in Kern County, not just this project, in order to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. (see, e.g., Antelope Valley Solar, Catalina Renewable Energy, RE Distributed Solar, FRV Valley Solar, Lost Hills Solar, Maricopa Sun Solar Complex, RE Old River One and RE Old River Two Solar, the Valley Solar Project, and the Rosamond Solar Project ). The County has determined that with implementation of the proposed mitigation, cumulative land use impacts related to abandonment would be considered less than significant, both for this project and other solar projects in Kern County.

The commenter states that the County appears to have no ability to require compliance with the mitigation measure once the building permits are issued; however, this statement is incorrect. The project would be authorized to operate pursuant to a conditional use permit. As with any project operating with approval of a conditional use permit, the project operator is obligated to comply with all mitigation measures and conditions of approval as approved by the decision-making body (i.e., the Planning Commission and/or the Board of Supervisors). Pursuant to Kern County Zoning Ordinance Article V. Discretionary Permit Decisions by the Board of Supervisors, Chapter 19.102.020, any permit, conditional use permit, variance, or zone modification issued pursuant to this chapter may be modified or revoked by the official or decision-making body that originally approved the permit by the same procedure under which the permit was issued for any of the following causes:

A. That any term or condition of the permit, conditional use permit, variance, or zone modification has not been complied with.
B. That the property or portion thereof subject to the permit, conditional use permit, variance, or zone modification is used or maintained in violation of any statute, ordinance, law, or regulation.
C. That the use for which the permit, conditional use permit, variance, or zone modification was granted has been so exercised as to be detrimental to the public health or safety or as to constitute a nuisance.
D. That changes in technology or in the type or amount of development in the vicinity of the use or other good cause warrants modification of the conditions of operation or imposition of additional conditions of operation to assure that the use remains compatible with existing and potential uses of other property within the general area in which the use is located.

Thus, in the event that the solar operator or a successor owner of the solar project is not complying with the terms of the project approvals, including any requirements regarding decommissioning or financial assurances, then the County has the authority to revoke the condition use permit. Such an action would put the utility as well on notice that the power being received from the facility under contract was in jeopardy and provide an additional point of leverage for compliance.

The commenter provides his opinions regarding what constitute an adequate financial assurance in connection with Mitigation Measure MM 4.9-1. The commenter states that a financial assurance must be able to withstand bankruptcy and attach to all future owners of the site.
Because the mitigation measure would be a condition attached to the approval of the conditional use permit for the project, the financial assurance requirement would be binding on successor owners of the project.

MM 4.9-1 also addresses the commenter’s bankruptcy concerns. Contrary to the argument made by the commenter, the bankruptcy of the solar operator or any successor owner of the project would not cause the financial assurance required by MM 4.9-1 to become meaningless. As the commenter notes, the bankruptcy of the solar operator would have no effect on a letter of credit that a financial institution issues for the benefit of the County to meet the financial assurance requirement. While the commenter suggests that a surety bond for the benefit of the County could be subject to the claims of creditors in the event of a bankruptcy proceeding, the commenter cites no law or facts in support of this claim. The very purpose of requiring a letter of credit, surety bond, or other acceptable form of financial assurance is to protect the County in the event that solar operator fails to perform its decommissioning obligation, which is most likely to result from the bankruptcy of the solar operator.

The commenter questions the efficacy of Mitigation Measure MM 4.9-1 because of a perceived “mismatch” between the time for appeal a compulsory decommissioning after a project has been deemed abandoned and the length of time that a financial assurance would be in force. The financial assurance would remain in force through the full decommissioning of the project. Therefore, there is no mismatch. Even if the County extended the period for decommissioning from 24 months to 48 months, the maximum amount allowed by the mitigation measure, the financial assurance would remain in force because the financial assurance would not terminate or expire until the full decommissioning of the project. As previously noted, if the solar operator went bankrupt during this period it would not affect the County’s ability to call upon the financial assurance if required. For example, in the case of a letter of credit, if the financial institution notified the County that it would not be renewing the letter of credit because the solar operator was in bankruptcy or had otherwise ceased to operate, the County would call upon financial assurance, receive the funds, and hold the funds until they are needed and expended for decommissioning.

Furthermore, the use of financial assurance mitigation is a policy decision, not a requirement of CEQA, per se. Your Board has determined that such financial assurance options are appropriate and adequate, and they are routinely used for other projects such as mining operations and wind projects by Kern County. The commenter states that the surety bond may be impractical, and that surety bonds have proved to be not effective to assure coal mine reclamation. However, the commenter does not provide any facts, studies, or other evidence in support of these claims, including any facts regarding why a surety bond would be “impracticable” in the solar context. Furthermore, the abandonment concerns raised by solar projects are different from the abandonment concerns raised by mining projects. With mining projects, the land has been disturbed and all valuable mineral resources removed, and the mining operator has no financial incentive to reclaim the land. With solar projects, the solar facilities have salvage value as analyzed by Dr. Berkman and, therefore, the solar operator has a financial incentive to decommission the facilities after operation. Thus, even though the County requires a decommissioning plan and financial assurances, the evidence supports the conclusion that the risk of abandonment of solar facilities is low. In addition, as Dr. Berkman explains, the decommissioning of a solar facility is unlike the decommissioning of a nuclear site or industrial site, and because PV plants do not contain large amounts of toxic substances, there is no reason to expect that the County would be responsible for the clean-up of a highly contaminated site in the event that the solar operator failed to perform its decommissioning obligations.
The commenter has not provided substantial evidence that Mitigation Measure MM 4.9-1 is inadequate or would otherwise fail to reduce cumulative impacts associated with abandonment to a less than significant impact.

Response To Supplemental Comment Letter from Michael Kavanaugh

The commenter responds that his original letter regarding the project’s impacts of physical deterioration of structures are not based on speculation, and instead on “theory” and “historical events,” however, the commenter again does not explain why his “disinvestment” theory is applicable to solar PV projects and does not provide evidence that a solar PV project or any other type of energy project could cause urban decay impacts. The commenter notes that the Beacon Photovoltaic Solar Project Cultural Resources states that there are several abandoned structures in the area near the site access point. The commenter cites this as evidence of the area’s vulnerability to vacancy, structural deterioration, and abandonment. It is not clear why a few abandoned structures in the vicinity of the project site prove that the area is generally vulnerable to abandonment without any regard to social or economic factors nevertheless, the project proponent removed these abandoned structures prior to the EIR process, and thus already improved the value of the property. Furthermore, as discussed by Dr. Berkman, it is not surprising to find abandoned buildings in an area that has long fallen into disuse such as the project site, which has not been used productively for almost 30 years. Dr. Berkman explains that this is not evidence that the area is susceptible to further deterioration (especially if the land is put back to use as would be the case with the project) or that the proposed project will cause such deterioration. The commenter appears to believe that CEQA establishes a rebuttal presumption that all development projects of any nature require an analysis of urban decay. This is not the law. To require an analysis of urban decay, there must be actual evidence that the approval of the use will lead to physical deterioration of structures, not pure conjecture.

The commenter also states that the project needs no workers. This comment is incorrect. The project will require hundreds of workers during the construction phase and will employ several permanent workers during the operations phase. These will be jobs that did not exist in Kern County before the project was developed. The commenter does not explain how the creation of new jobs that did not exist before and which do not displace existing jobs will lead to a continuing or increased threat of “structural deterioration” or “abandonment.”

The commenter also revisits his previous argument that the project is less “efficient” when compared to other solar PV projects in terms of land use and, therefore, the project is more likely to lead to structural deterioration. As previously noted, the land “efficiency” of the project relative to other projects is not a potential environmental impact requiring analysis under CEQA. Furthermore, the commenter does not provide any facts, evidence, or studies suggesting a less efficient project would be more likely to lead to structural deterioration or abandonment. The commenter concludes that “inefficient land use may lead to other problems.” The commenter does not identify which other problems, or how likely they are, or how the project would lead to them. CEQA does not require Lead Agencies to engage in this type of far-reaching game of speculation, particularly one played without reference to facts or reason.

The commenter also restates its previous argument that the financial assurances described in Mitigation Measure MM 4.9-1 are inadequate. As discussed above, the financial assurances required by Mitigation Measure MM 4.9-1 are adequate and will protect the County if the project is abandoned. As previously noted, the decommissioning plan and financial assurance requirements are both mitigation measures and conditions of approval attached to the conditional use permit and, therefore, run with the land and will be binding on successor owners of the project. The commenter suggests that the financial assurance make all parties jointly liable but
fails to indicate which parties should be involved or why having a single responsible party is inadequate. In the case of a letter of credit or surety bond, the County would be able to call on the instrument whenever the solar project has failed to comply with its decommissioning obligations, regardless of how many parties are liable. The commenter also says that the financial assurance should be assured by an entity at arm’s length from the site owner. A letter of credit would be issued by a financial institution, and a surety bond would be issued by a surety company, therefore, the entity providing the financial assurance would be at arm’s length. The mitigation measure does not permit the owner or its affiliates to provide the financial assurance. The commenter states that the financial assurance must also be able to withstand bankruptcy. As previously noted, the bankruptcy of the solar operator or a successor owner would not impact the County’s ability to call on the financial assurance. The commenter states that the financial assurance should clearly state what signals the start of restoration. MM 4.9-1 provides that the solar project will be deemed abandoned after 24 consecutive months, and must be removed with 60 days of written notice to the owner and operator. The trigger for calling the financial assurance is tied to the time when the project has ceased to be operational. The commenter also states that the financial assurance should be payable to an entity capable of managing the restoration. The commenter provides no evidence on why this should be a requirement. In any event, the County would be the beneficiary of the financial assurance and would use any funds called upon to either remove the solar facilities itself or hire an independent contractor to remove the facilities. Finally, the commenter states that the financial assurance should provide in cash the purchasing power needed to restore the site. The mitigation measure requires that as part of the development of the decommissioning plan, an estimate be prepared for the cost of decommissioning the project, which would serve as the basis for the value of the financial assurance. Furthermore, the mitigation measure requires that the financial assurance be reviewed annually by the County to confirm that adequate funds are available. Through these provisions, the mitigation measure ensures that adequate funds will be available at the time of decommissioning. In sum, even by the commenter’s own standards, the financial assurances required by Mitigation Measure MM 4.9-1 are adequate, and the commenter’s assertion that the project would not provide cash to future generation for decommission is unsupported by evidence.

Finally, the commenter restates its opinion that the project is permanent in nature and states that the EIR is vague about the timing of restoration. See previous response on this topic.

The commenter contends that the EIR fails to adequately address impacts to golden eagles and wildlife movement corridors; improperly defers mitigation for permanent impacts to western burrowing owls; improperly defers mitigation for impacts to desert tortoise, western burrowing owl, and Mohave ground squirrel; fails to adequately mitigate cumulative impacts to biological resources; and fails to provide monitoring of avian collision fatalities. These comments are addressed below.

The DEIR Fully Analyzes Potential Project Impacts to Golden Eagles

The commenter alleges that the EIR fails to adequately assess impacts to golden eagles because its conclusions regarding the potential for the project site to provide foraging habitat for nesting golden eagles are unsupported. The commenter also alleges that the concept of transient use of the project site by golden eagles should be rejected. As noted in the EIR, Section 4.3 Biological Resources, the analyses were based on a number of scientific studies prepared by qualified biologists specifically for this project. The EIR’s conclusions regarding potential project impacts to golden eagles are fully supported in the analysis provided in Section 4.3 Biological Resources, page 4.3-17; the Biological Technical Report (BTR) (EIR Appendix D) cited therein; and the surveys conducted for golden eagles in the project vicinity in 2011 and 2012.
The 2012 Survey Report notes that terrestrial wildlife movement is impaired across the project site because (1) the site is fenced, deterring potential wildlife movement across the site; (2) Pine Tree Creek wash, which is located west of the site, is unvegetated and rarely holds water, thereby reducing its value as a movement corridor because it provides no cover; and (3) State Route 14 is located west of the site, forming another wildlife movement barrier. (See, 2012 Survey Report at page 4 [Attachment 3 of the FEIR].) These factors further reduce the likelihood that any substantial golden eagle prey base exists on the project site. While the EIR acknowledges that raptors, including golden eagles, may conduct some foraging on the project site, there is no evidence that if converted to a solar facility, impacts on golden eagles would be significant due to the fact that golden eagles have not been seen foraging on site, currently are not using the project site for foraging, and the golden eagle foraging habitat on the project site is of low quality. As described in the EIR, if any golden eagles were to forage on the site, that foraging would be only on a transient, or limited basis because of the low quality foraging habitat on the site. The concept of transient use reflects the fact that any golden eagles passing through may conduct some limited foraging on the site, but that golden eagles likely would not use the site for foraging on any level sufficient to establish long-term use because of the site location and low quality habitat on the site. There is substantial evidence in the record to support this conclusion. California Native Plant Society v. City of Rancho Cordova, 172 Cal. App. 4th at 626.

The DEIR Fully Analyzes Potential Project Impacts to Terrestrial Wildlife Movement Corridors

The commenter contends that the EIR’s conclusion that the project will not impact terrestrial wildlife movement corridors is faulty because the commenter disagrees with the factual evidence in the record upon which that conclusion relies, and the citation to the California Wilderness Coalition for the fact that the project site has not been identified as lying within a major terrestrial wildlife movement corridor. The burden is on the commenter to show that there is no substantial evidence in the record to support the County’s conclusions, or that the evidence in the record could not reasonably support the findings. California Native Plant Society v. City of Rancho Cordova, 172 Cal. App. 4th at 626. Under CEQA, substantial evidence “means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.” CEQA Guideline 15384(a). The EIR and the BTR [Appendix D to the EIR] fully analyze the potential for wildlife to use corridors across the project site for wildlife movement and concludes that the project site does not have features that would be used as wildlife corridors (EIR Section 4.3 Biological Resources, pages 4.3-20 and 4.3-52 to 4.3-53; BTR, pages 47 to 48). Finally, open space will remain to the east and south of the project site, thereby facilitating wildlife movement around the solar facility site, as noted in the DEIR, page 4.3-53. The California Wilderness Commission report cited in the EIR (Missing Linkages) was prepared in coordination with the Biological Resource Division of the U.S. Geological Survey, the California State Parks, and other similar institutions and organizations. The report includes maps that indicate the project site is not located within a major terrestrial wildlife movement corridor. This material provide substantial evidence to support the EIR’s conclusion that the project will not impact wildlife movement corridors.

The DEIR Provides Appropriate Mitigation for Permanent Impacts to Western Burrowing Owls

The commenter contends that the EIR improperly defers mitigation for western burrowing owls by failing to identify suitable land parcels as potential compensation land. There is nothing in CEQA that requires identification of specific parcels of compensation land in an EIR. CEQA Guideline 15126.4(a)(1)(B) provides that “formulation of mitigation measures should not be
deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.” Cal. Code Regs., tit. 14, Section 15126.4. EIR Section 4.3, Biological Resources Mitigation Measure MM 4.3-16 states that “if burrowing owls are found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented onsite or off-site in accordance with burrowing owl Staff Report guidance and consultation with California Department of Fish and Game.” The Staff Report is published by CDFG and is readily available to the public. This mitigation measure further describes specific requirements the compensation lands must meet, in addition to compliance with the Staff Report, and requires development and implementation of a mitigation land management plan in accordance with Staff Report guidelines. Additional specific requirements for the land management plan also are included in MM 4.3-16. As the Court noted in California Native Plant Society v. City of Rancho Cordova, “when a public agency has evaluated the potentially significant impacts of a project and has identified measures that will mitigate those impacts, the agency does not have to commit to any particular mitigation measure in the EIR, as long as it commits to mitigating the significant impacts of the project. Moreover, . . . the details of exactly how mitigation will be achieved under the identified measures can be deferred pending completion of a future study.” (172 Cal. App. 4th at 621.) “If the agency has identified one or more mitigation measures and has committed to mitigating the impact those measures address, then the principles forbidding deferral of mitigation are not implicated.” (Id. at 623.) The EIR, therefore, fully complies with CEQA requirements for fully describing required mitigation for western burrowing owls, and does not improperly defer mitigation with respect to western burrowing owls.

The DEIR Provides Appropriate Mitigation for Impacts to Desert Tortoise, Western Burrowing Owl, and Mohave Ground Squirrel

The commenter also contends that the EIR improperly defers mitigation for desert tortoise, western burrowing owl, and Mohave ground squirrel in Mitigation Measure 4.3-17 by failing to require that a Habitat Mitigation and Monitoring Plan for these species be prepared that sets forth specific details related to the project’s compensatory mitigation prior to certification of the EIR. CEQA does not require a Lead Agency to specify at this time the details of exactly how mitigation will be achieved. California Native Plant Society v. City of Rancho Cordova, 172 Cal.App.4th 603 (2009). For example, as discussed above, CEQA does not require identification of specific parcels of compensation lands in the EIR. Rather, it requires only that the specific characteristics of that land, or performance standards, be included in proposed mitigation measures. MM 4.3-17(a) fully describes the performance standards that must be met for lands to be considered adequate compensation lands, and MM 4.3-17(b) includes four specific performance standards that must be met in the Habitat Mitigation and Monitoring Plan. The measure states that the lands must be similar or better quality than habitat lost and preferably located in the vicinity of the site; must be permanently preserved through a conservation easement; shall be managed to ensure continued existence of the species, and shall be funded for long-term management of the lands. Mitigation Measure MM 4.3-17(b). All of the compensation lands must be suitable habitat for the species for which they are providing compensation for impacts, and compliance must be verified by the Kern County Planning and Community Development Department. Mitigation Measure 4.3-17(a). As discussed above with respect to western burrowing owls and Mitigation Measure 4.3-16, there is no improper deferral of mitigation for desert tortoise, western burrowing owls or Mohave ground squirrels.

The DEIR Provides Adequate Mitigation for Cumulative Impacts to Biological Resources.

The commenter contends that the County must require that land area equal to the project area must be purchased and managed in perpetuity as habitat for special status species to compensate
for cumulative impacts to biological resources. As discussed above, where substantial evidence in the record supports a conclusion, the burden is on the person challenging that conclusion to demonstrate that the evidence could not reasonably support the conclusion. The DEIR includes adequate mitigation for cumulative impacts to biological resources. Those measures include MM 4.1-4, MM 4.3-1 through MM 4.3-23, MM 4.5-2, MM 4.7-1, MM 4.8-1, MM 4.8-2 and MM 4.8-3, and require the acquisition of 109.9 acres of compensation lands for impacts to biological resources (MM 4.3-17). There is nothing in CEQA that mandates that the Lead Agency require this project to mitigate those impacts in the manner proposed by the commenter. This is especially so where, as here, the impacts to sensitive species are small and the amount of habitat actually being used by those species is even smaller. CEQA requires that the project be adequately analyzed and that environmental and health impacts of the project are mitigated to the fullest extent feasible. The proposed mitigation measures satisfy CEQA and also satisfy the Kern County General Plan Policy 9 by providing mitigation for the cumulative impacts to biological resources.

There is no Evidence To Suggest That Monitoring of Avian Collision Fatalities Is Necessary

The commenter has failed to provide any scientific or biological basis for its assertion that avian collision fatalities with photovoltaic panels are likely to occur or are significant and, therefore, post-construction fatality monitoring should be required. The citations provided by the commenter are not relevant to a photovoltaic solar project, but instead address (1) potential impacts to avian species from solar mirrors mounted on towers that rise 86 meters in height (McCrary, et al. 1986); and (2) wind turbine projects (Smallwood (2007, 2009) and Smallwood and Karas (2009)). Staff is not aware of any information suggesting that photovoltaic panels designed in the manner proposed for this project pose a collision risk for avian species and notes that the California Department of Fish and Game did not raise this concern (see Response 4). Therefore, Staff does not believe that there is any justification based on available scientific evidence, for the commenter’s assertion that post-construction monitoring is necessary to determine whether avian collisions are occurring.

Air Quality Issues

The commenter states that the DEIR and its supporting documents fail to provide any documentation to substantiate the 66 percent reduction in the project’s PM_{10} emissions during the construction phase. In addition, the commenter states that no rationale is provided in the DEIR on why estimates of NOx emissions from project construction are lower than other comparably sized solar projects, and that the DEIR fails to adequately analyze air quality impacts of the project, particularly PM_{10} and NOx. The commenter also claims that the EIR does not include the methodology, modeling, or assumptions used to determine NOx emissions.

With respect to this project’s construction NOx emissions, the methodology on how the emission calculations were performed is discussed on pages 4.2-26 and 4.2-27 of DEIR Section 4.2 Air Quality. In addition, a more detailed and thorough discussion of the methodology, including the disclosure of all assumptions used in the emissions calculations, along with the computer model inputs and outputs are included in Appendix C.2 of the EIR.

The commenter identifies no specific problem with the calculations to substantiate the basis for the claim that NOx air quality impacts are not adequately addressed in the EIR. There are a number of factors that may affect estimated air quality emissions of a proposed project. The commenter does not identify any specific evidence that there are errors in the calculation in the EIR or Appendix C.2.
However, Staff notes that as a substantiation of his assertions, the commenter compares this project with two other Kern County solar projects and three Imperial County solar projects. Your Board should be aware that Imperial County is east of San Diego and borders Mexico. It is not within the Mojave Desert Air Basin and, therefore, has different CEQA Thresholds, a different criteria pollutant attainment status, and does not use the Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports adopted by your Board for Kern County. It should be noted that CEQA does not require acceptance or use of an air quality analysis prepared in a different jurisdiction. Furthermore, each project has differing parameters, including the amount of grading that must be completed (this project is proposing very little grading), the number of construction staff and the type of equipment to be used, as well as the length of the construction schedule. A compressed construction timeframe would show increased amounts of NOx from heavy equipment and vehicles since there would be more construction workers and equipment on site at one time. When spread over 22 months, projects such as Beacon Photovoltaic would logically show reduced levels of emissions due to the smaller number of on-site staff and equipment. CEQA does not require a comparison between different projects; the studies utilized in an EIR are prepared specifically for that project, using the appropriate assumptions, protocols, and regulations as required by the Lead Agency and regulatory agencies. Staff utilizes air quality experts familiar with Kern County protocols and the Air Pollution Control Districts’ requirements to review all air quality studies prepared for use in EIRs. Copies of the environmental documents are also distributed to the pertinent Air District for review and comment. As noted previously, the Eastern Kern Air Pollution Control District reviewed the EIR Section 4.3 Air Quality, and did not raise concerns regarding the air quality study, its assumptions, analysis, or the results presented in the EIR.

Staff notes that a detailed Air Quality and Greenhouse Gas Report was prepared by qualified air quality experts for this project (see Appendix C.2 of the EIR). In the follow-up memorandum to the Air Quality and Greenhouse Gas Report prepared for the project (see Appendix C.1 of the EIR), it is indicated that the 68 percent control efficiency is consistent with existing standards. Notably, even though the project’s PM10 emissions exceed the threshold by 26 percent during construction, compliance with Rule 402 would result in a 68 percent control efficiency.

Under CEQA, when projects are subject to specific performance criteria imposed by an environmental regulation, such as Rule 402, it is reasonable to expect that the environmental regulation will be followed. Oakland Heritage Alliance v. City of Oakland (2011) 195 Cal.App.4th 884, 910.

Furthermore, it should be noted that while compliance with EKAPCD Rule 402 alone would result in less-than-significant PM10 emissions during construction, the project would nonetheless also implement Mitigation Measures MM 4.2-1 through MM 4.2-4, which are listed on pages 4.2-29 through 4.2-32 of the EIR, to further reduce the less-than-significant PM10 emissions of the project during construction and operation. These mitigation measures would reduce the project’s construction and operation PM10 emissions beyond what is required under EKAPCD Rule 402 as well as Rule 419, which insures that PM10 emissions are below the level required to protect people, including children and the elderly, from harm.

Response To Supplemental Comment Letter from Matt Hagemann

The commenter notes that Eastern Kern Air Pollution Control District’s (EKAPCD) Rule 402 does not provide control efficiencies for the dust control measures required by Rule 402. The commenter then alleges that the control efficiencies in the Western Regional Air Partnership’s (WRAP) Fugitive Dust Handbook do not substantiate the 68 percent control efficiency that was determined through implementation of fugitive dust mitigation measures and compliance with
EKAPCD’s Rule 402. The commenter suggests that the mitigation measures to reduce fugitive dust should be modeled or calculated to show that the 68 percent control efficiency can be achieved.

Although the commenter is correct that control efficiencies for dust control measures are not provided by the EKAPCD, Dr. Heisler, an air quality expert, explains in his comment letter dated October 16, 2012 (see Attachment 2), that WRAP’s control efficiencies, which are commonly used by air districts in California, such as the South Coast Air Quality Management District (SCAQMD), are substantial evidence of the types of efficiencies that can be expected for each required dust control measure. The efficiencies apply equally to dust control in EKAPCD as to dust control in basins regulated by other air districts. As Dr. Heisler notes, the air quality memorandum contained in Appendix C.1 of the EIR prepared for this project correctly states that the 68 percent control efficiency applied to this project is similar to the dust control efficiencies cited in other Kern County Planning and Community Development Department CEQA documents, e.g., Rosamond Solar Project Draft Environmental Impact Report (July 2010).

Additionally, Dr. Heisler cites to the tables of fugitive dust mitigation measures and their estimated control efficiencies compiled by SCAQMD, which is based primarily on the WRAP Fugitive Dust Handbook, to support his opinion that the application of a 68 percent control efficiency is appropriate. As shown in the SCAQMD tables, estimated dust control efficiencies from the measures required for dust control range from 57 percent to 90 percent. Therefore, the 68 percent control efficiency used in the air quality analysis for this project is reasonable. As noted by Dr. Heisler, even if the overall control efficiency were the lowest value shown in the table (57 percent), the maximum uncontrolled PM_{10} emissions shown in Table 4.2-5 of the Draft EIR (18.91 tons per year) would be reduced to 8.13 tons per year, which is substantially lower than the EKAPCD CEQA significance threshold of 15 tons per year.

Regarding the health effects caused by particulate matter emissions, the commenter notes that his previously submitted comments included a discussion of those potential health effects that were not addressed. The commenter then lists several health effects that are known to be linked to particulate emissions and states that several residences are located within a half mile of the site and an elementary school is located three miles north of the site. The commenter requests that the Final EIR address potential health effects to sensitive receptors as a result of dust emissions during project construction and that a dust control plan pursuant to EKAPCD’s Rule 402 be prepared and included in the EIR.

The information requested by the commenter regarding health effects from particulate matter emissions is already provided in the Draft EIR and in the Responses to Comments section of the Final EIR. Specifically, Section 4.2, Air Quality, of the EIR, and Response 7-M (above) of Chapter 7, Responses to Comments, in the Final EIR, explain that particulate matter emissions during construction and operation would not exceed the County’s thresholds. Impacts to sensitive receptors are adequately discussed under Impact 4.2-4 in Section 4.2, Air Quality, of the Draft EIR, and Draft EIR’s conclusion that the proposed project would have a less-than-significant impact related to exposure of sensitive receptors to substantial pollutant concentrations is supported by substantial evidence. See, e.g., Appendix C.1 and Appendix C.2 of the EIR.

In Dr. Heisler’s opinion, the Beacon project may reduce fugitive dust in the region. A solar energy project must keep dust to a minimum through the use of dust control measures, as dust on PV panels reduces their efficiency for energy production. The mandatory dust control measures, along with water from the panel washing that runs off the panels and onto the ground and compaction of the driving surface over time, would reduce the amount of dust in the air compared to current conditions. For these reasons, it can be expected that implementation of the project
would result in an overall incremental decrease in particulate matter emissions and associated potential adverse health effects in the region.

The commenter correctly notes that the project falls into EKAPCD’s category of a “Large Operation” and a dust control plan must be prepared for the project. This is already discussed in Section 4.2, Air Quality, of the Draft EIR. Contrary to the commenter’s claim, it is not necessary for the dust control plan to be included in the Draft EIR or Final EIR. In fact, dust control plans are rarely included in EIRs because such plans are usually prepared after the land use permits are granted and the design of the project is finalized. This is also the case for other plans, such as Stormwater Pollution Control Plans. Further there is no need to include the preparation of a dust control plan as a mitigation measure because the project proponent already is required to prepare such as plan under Rule 402.

The County notes that Dr. Heisler concluded that the air quality analysis contained in the Draft EIR is technically sound and that the EIR’s impact determinations are accurate.

Potential Issues with Solar Panels Composed of Cadmium Telluride (CdTe)

The commenter asserts that the proposed project would contribute to significant cumulative impacts to toxic chemicals related to cadmium telluride (CdTe). As stated on EIR Section 4.7, Hazards and Hazardous Materials, page 4.7-4, current CdTe PV modules pass federal leaching criteria for nonhazardous waste, which means they would not pose a risk for cadmium leaching if placed in a landfill. This test represents a much more intense environment and potential for leakage than would be experienced due to accidental on-site breakage. Additionally, as discussed in DEIR Section 4.7, Hazards and Hazardous Materials, page 4.7-17, it has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. CdTe releases are unlikely to occur during accidental breakage of the PV panels, such as breakage that may occur during flooding or earthquakes. Similarly, fire damage would not result in the release of CdTe. There are no significant flammable materials in the solar field. In fact, vegetation will be kept mowed to a minimal height under the panels, further reducing the chance of any combustion. In no case will there be fuel sufficient to reach the melting point of CdTe or the melting point of the glass in which it is encased, both which exceed 1,000°C. The CdTe PV panels do not pose a threat to nearby residences. The use of CdTe PV modules at the project site would not result in human or aquatic exposure of cadmium.

As noted in the EIR Section 4.7, page 4.7-4, several peer-reviewed studies support the conclusion that the breaking of panels will not result in releases of cadmium that could harm human health. These studies include Emissions and Encapsulation of Cadmium in CdTe PV Modules During Fires (V.M. Fthenakis et. al, 2005), Health, Safety and Environmental Risks from the Operation of CdTe and CIS Thin-Film Modules (H. Steinberger, 1998), and Acute Oral and Inhalation Toxicities in Rats with Cadmium Telluride (J. Zayed and S. Philippe, 2009). Further, CEQA does not require an EIR to identify the effects on the project and its users of locating the project in a particular environmental setting. Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 474. An EIR does not need to evaluate any potentially significant impacts of locating development in areas susceptible to hazardous conditions such as flooding or earthquakes because such impacts constitute impacts on the project caused by the environment. Id. at p. 474 & fn. 9.

Staff received a comment from the Kern County Environmental Health Services Division-Certified Unified Program Agency (CUPA) regarding solar panels utilizing CdTe. A copy of this letter is included for your Board’s review. The letter states that although CdTe is a recognized toxic chemical if ingested, inhaled or improperly handled, its use in solar panels is as part of a
consumer end-product that is encased within the solar array structure. The CUPA does not require the project proponent to obtain a Hazardous Materials Business Plan for this material, pursuant to California Health & Safety Code Chapter 6.95.

Response To Supplemental Comment Letter from Matt Hagemann regarding Cadmium Issues

The commenter alleges that the draft EIR is defective because it does not adequately disclose or analyze the risk of cadmium contamination in the event that the panels break. But the commenter has presented no evidence that contradicts the DEIR’s analysis or conclusion that the risk of cadmium contamination is minuscule. See DEIR at p. 4.7-3-4 (discussing this issue of possible panel breakage and subsequent CdTe releases and concluding that risks are extremely small).

The commenter states that a “2011 study found that cadmium, from broken panels, can leach into groundwater at concentrations that exceed Environmental Screening Levels.” The study that the commenter refers to is titled Fate and Transport Evaluations of Potential Leaching Risks from Cadmium Telluride Photovoltaics and authored by Parikhit Sinha and others in 2012. As discussed in response to comment 7-N, that study supports the County’s conclusion that the risk of cadmium contamination from broken panels is less than significant. See draft EIR at 4.7-3-4 (citing studies indicating that that even when the stability of the encapsulation of the cadmium is jeopardized, by breakage and then fire, cadmium emissions are negligible). The study examined the potential health effects associated with exposures to CdTe from broken solar modules in California and concluded that under the worst case scenario, exposure point concentrations in soil, air, and groundwater were “one to six orders of magnitude below human health screening levels indicating that it is highly unlikely that exposures to these media would pose potential health risks to on-site workers or off-site residents” (Sinha, et. al. at 1672). Specifically, air concentrations were “below screening levels by five to six orders of magnitude, indicating exposure to ambient air is a de minimis exposure pathway” (id.). Soil concentrations were “over an order of magnitude below both human health screening levels and regional background levels” (id.). Under the conditions modeled in the study where all panels broke and completely released all possible cadmium, the resulting cadmium concentrations in the water were consistent with drinking water standards and impacts to publicly owned treatment works were found to be “minimal” (id. at 1673).

The commenter also cites to a study published in 2003 titled Life Cycle Impact Analysis of Cadmium in CdTe PV Production by Vasilis Fthenakis. This study supports the County’s conclusions as well. The study states that the CdTe remains stable until temperatures higher than typical fires (Fthenakis at 321). According to the study, “CdTe was captured in the molten glass [of the panels] and was not released into the environment” (id. at 322). The study concluded that “[n]o emissions of any kind can be generated when using PV modules under normal conditions and during foreseeable accidents (e.g. fires, breakage). New studies proved that CdTe in glass-glass modules would not be released during fires because Cd dissolves into the molten glass and is retained there” (id. at 331). Both studies cited by the commenter support the Draft EIR’s statement that CdTe releases into the environment (air, water, and soil) are highly unlikely to occur during accidental breakage. There is no evidence to support the commenter’s claim that the project has the potential to release CdTe at levels high enough to harm on-site workers, nearby residents, or school children.

In addition, the commenter claims that workers and people near the project site could be exposed to CdTe through inhalation of dust or ingestion of flakes and dust particles. To support this claim, the commenter cites a White Paper produced by the Silicon Valley Toxics Coalition titled Toward a Just and Sustainable Solar Energy Industry. The White Paper states that there is a potential for
toxic dust and fumes to occur during the preparation of materials used in the manufacture of CdTe solar panels. The project does not involve the manufacture of the panels, however, only the installation of the panels.

Further, contractors who install solar panels must strictly comply with California Occupational Safety and Health Administration requirements and the Hazardous Materials Business Plan to be produced in connection with the proposed project, which protects workers from hazards. The Hazardous Materials Business Plan includes procedures for proper handling, storage, transport, and disposal techniques for hazardous materials; describes methods to be used to avoid toxic releases and minimize impacts in the event of a release; and establishes public and agency notification procedures for spills and other emergencies including fires. In addition, the project applicant has committed to maintaining the panels in accordance with manufacturer recommendations, which will ensure that panels do not break or disintegrate. Accordingly, any potential impact from the accidental exposure of CdTe to workers or the public would be minimal.

**Groundwater and Wastewater Discharge**

The commenter suggests that treatment of locally sourced groundwater for panel washing is not discussed in the EIR and that treatment will require a waste discharge permit with the use of an evaporation pond.

A prior design of the project using solar thermal technology rather than the now proposed photovoltaic technology required evaporation ponds for wastewater discharge, which caused the project applicant to submit a Draft Waste Discharge to the RWQCB in 2009. The previously proposed solar thermal technology incorporated evaporation ponds to treat the wastewater stream from cooling tower blowdown. The currently proposed project uses photovoltaic (PV) solar technology, which does not generate wastewater. Therefore, evaporation ponds are not needed. Because the current design will not discharge waste on site or require evaporation ponds, no Waste Discharge Permit is required.

With regard to waste discharge requirements, as discussed on page 4.3-26 of DEIR Section 4.3, *Biology*, fill placement within jurisdictional Waters of the State, would be “required [to] obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.” In addition, as stated on page 4.8-12, any fill work necessary to construct the crossings “will comply with all pertinent regulations.” For clarification purposes, the following text change to the second paragraph on page 4.8-12 of the DEIR is made:

The total impact to jurisdictional waters of the State will be minimal from these crossings (0.03 acres) and will comply with all pertinent regulations, which may include a Notice of Applicability for coverage under the General Waste Discharge Requirements (GWDRs) for low impact (less than 0.1 acre) dredged or fill discharges to jurisdictional waters of the State obtained from the Lahontan Regional Water Quality Control Board.

The EIR evaluated four crossings, including the three identified by the commenter. The evaluated crossings included the two existing low water crossings at the southern fence line where the washes enter the site, which would be improved as part of the project, and the crossing at the northern fence line where the unnamed wash leaves the site. As discussed on page 4.8-12, these Arizona-style crossings are needed to access the eastern side of the facility and placement of perimeter fencing. As described in the EIR, the total impact to these crossings will be minimal (0.03 acre), and work in these crossings will adhere to all existing regulations regarding erosion.
and site drainage. Work associated with these crossings will comply with any waste discharge requirements.

**Baseline for Soils and Worker Safety**

The commenter contends that the DEIR fails to establish a baseline for soil conditions and assess potential pesticide and herbicide-related impacts related to construction workers and residents in the area.

As previously noted in the FEIR and Planning Commission staff report, a series of Phase I ESAs were prepared for the project plant site and transmission line corridor in 2007 to 2008 as additional parcels were purchased for the project, and these reports are included in Attachment 2 of the Final EIR. No recognized environmental conditions related to pesticide use were identified; therefore, soil sampling pursuant to a Phase II ESA is not warranted. Moreover, because the site has not been used for agriculture since the mid-1980s, evidence of hazardous pesticides would not have changed since 2007, and may be even less visible now.

**Response To Supplemental Comment Letter from Matt Hagemann regarding Soil Issues**

The commenter claims that the Phase I assessments are invalid because they are more than 180 days old is incorrect. Although the Phase I assessments may no longer be acceptable for certain transactional purposes, the information about the site’s soils and groundwater remain valid for CEQA purposes. This is especially true here where the site has not been used for any purpose that could expose the site to contaminants since prior to when the ESAs were prepared.

The commenter also claims that because the land was used for agricultural purposes, a Phase II ESA must be prepared. The preparation of a Phase II for land that was used in part for alfalfa farming in the 1970s and 1980s is not typical. Multiple Kern County projects proceed on soil that was at one time used for agriculture without obtaining a Phase II, which merely narrows the location of possible contamination sites, especially when the Phase I ESAs did not indicate the need for additional soil sampling.

Even if a Phase II were conducted, there remains a possibility that workers may unexpectedly encounter hazardous materials such as contaminated soil. This is one of the many reasons that the project applicant must submit a Hazardous Materials Business Plan to the Environmental Health Services Department that describes procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The Environmental Health Services Department is designated as the County’s Certified Unified Program Agency (CUPA) and a Local Implementing Agency under the California Environmental Protection Agency (Cal/EPA), which allows it to oversee the inspection of possible hazardous areas, oversee the removal and disposal of hazardous materials, and have authority to make cleanup and closure determinations.

In addition, workers are protected by Mitigation Measure 4.7-3, which requires that when suspect asbestos-containing materials be uncovered during project construction, work at the project site must be immediately halted and a qualified hazardous materials professional must be contacted and brought to the area to make a proper assessment of the suspect materials. The measure further requires that all potentially friable asbestos-containing materials must be removed in accordance with federal, State, and local laws and the National Emissions Standards for Hazardous Air Pollutants guidelines prior to ground disturbance that may disturb such materials. All demolition activities must be undertaken in accordance with California Occupational Safety and Health Administration standards, as contained in Title 8 of the California Code of Regulations, Section 1529, to protect workers from exposure to asbestos. Materials containing more than 1 percent asbestos shall also be subject to the applicable Air Quality Management District
regulations. The reason demolition will be performed in conformance with federal, State, and local laws and regulations is so that construction workers and/or the public avoid significant exposure to asbestos-containing materials.

**Potential Issues with Cumulative impacts Analysis in the EIR**

The commenter summarizes CEQA Guidelines Sections 15130 and 15355 which address CEQA’s requirement for an EIR to discuss cumulative impacts. The commenter also presents a summary of CEQA court cases in which courts made rulings regarding the need of cumulative impact analysis in EIRs and cases that determined the cumulative analysis for a given impact in previous EIRs from other Lead Agencies were inadequate.

With regard to the need to address cumulative impacts, cumulative impact discussions for each environmental topic area addressed in the EIR are provided at the end of each technical analysis contained within Chapter 4, under “Impacts and Mitigation Measures.” Cumulative projects addressed in the EIR for the proposed project are listed in Chapter 3, Project Description, Table 3-4 and shown on Figure 3-10.

With regard to the need to evaluate the type of lands (e.g., agricultural or residential) these cumulative projects will impact, the EIR takes into account the existing and proposed land uses associated with these lands when evaluating whether the project would result in a cumulatively considerable contribution to a significant impact. For example, in the Land Use and Planning Chapter, the Draft EIR explains that the surrounding area is still relatively rural in nature and, therefore, the project in conjunction with cumulative development in the project area would increase urbanization and result in the loss of open space within the desert region of the County. This is a sufficient discussion of cumulative loss of open space. CEQA does not require a Lead Agency to provide a detailed description of the projects considered by the agency to evaluate whether the proposed project will result in cumulative impacts. The discussion of cumulative impacts in an EIR “need not provide as great detail as is provided for the effects attributable to the project alone.” 14 Cal. Code Regs. § 15130(b); see Association of Irritated Residents v. County of Madera (2003) 107 Cal.App.4th 1383 (noting that the cumulative impacts discussion in an EIR need not be as detailed as the consideration of the proposed project itself).

With regard to the assertion that the proposed project would contribute to significant cumulative impacts to air quality, the analysis of cumulative air quality impacts presented in Section 4.2, Air Quality, (pages 4.2-40 through 4.2-44), determined and disclosed that construction emissions from the proposed project would combine with emissions from other past, present, and reasonably foreseeable projects to result in a significant and unavoidable cumulative impact with respect to VOCs, NOx, and PM10. An EIR that discloses a potentially significant and unavoidable impact fulfills its information disclosure purpose. See Federation Hillside & Canyon Associations v. City of Los Angeles (2004) 126 Cal. App. 4th 1180, 1198 (“[A] public agency is not required to favor environmental protection over other considerations, but it must disclose and carefully consider the environmental consequences of its actions” and “afford the public and other affected agencies an opportunity to participate meaningfully in the environmental review process.”).

**Alternatives:**

The commenter first alleges that Alternative B is not a reasonable alternative because it would not meet any of the project operator’s objectives. Instead of issuing a conditional use permit for solar development, Alternative B would develop the proposed site under the existing Kern County General Plan and zoning designations, which would allow agricultural operations or up to 115 residential dwelling units on the site, with reduced amount of potential agricultural production.
Contrary to the commenter’s statement that Alternative B is not a reasonable alternative, Alternative B is required to be analyzed in the EIR as the No Project Alternative under Guidelines Section 15126.6. Section 15126.6 states in relevant part: “the specific alternative of ‘no project’ shall also be evaluated along with its impact. . . . The ‘no project’ analysis shall discuss . . . what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community.” Alternative B complies with this requirement by looking at potential build out of the site under the existing General Plan and zoning, here, agricultural production or up to 115 residences. CEQA requires analysis of a no project alternative even if it does not meet any of the sponsor’s objectives.

The commenter also indicates that the Beacon Photovoltaic Project EIR should have considered a reduced scale alternative, an alternative that avoids seismic and flood hazards, and an alternative that avoids cadmium telluride panels. Although there is no legal requirement to have included these analyses in the EIR (see discussion below) an analysis of these new alternatives can be found for informational purposes as a revised Chapter 6, on pages 7-9 through 7-23 of the FEIR. The revision explains that an alternative that avoids cadmium telluride panels is not required to be analyzed because the project itself will not result in significant impacts related to cadmium telluride.

In particular, an EIR is not obligated to include an alternative that will not substantially reduce or avoid the project’s significant impacts. CEQA Guidelines Section 15126.6(f) provides “The alternatives shall be limited to ones that would avoid or substantially lessen any of significant effects of the project.” In Tracy First v. City of Tracy (2009) 177 Cal.App.4th 912, a case involving a proposed Specific Plan Amendment and conditional use permit to build a 95,900-square-foot WinCo Foods store, the petitioners argued that the project EIR’s range of alternatives was insufficient because it did not include a “reduced-store-size” alternative. The court rejected this argument as “without merit” because the record did not establish that a reduced-size alternative would substantially diminish any of the significant environmental impacts of the project.

Likewise here, no evidence exists to support the conclusion that a reduced scale alternative, an alternative that avoids seismic and flood hazards, and an alternative that avoids cadmium telluride would substantially reduce or avoid the project’s significant environmental impacts. As the informational analysis of these alternatives in the Final EIR demonstrates, neither the reduced scale alternative nor the alternative that avoids seismic and flood hazards would substantially reduce identified project impacts. Both would merely slightly or incrementally reduce project impacts but they would still themselves result in significant and unavoidable impacts. Because CEQA only requires analysis of alternatives that would “avoid” or “substantially lessen” the project’s significant impacts, there is no legal requirement that these alternatives be analyzed.

The commenter further states that the EIR fails to adequately support the conclusion that the environmentally superior alternative (Alternative C: No Utility-Solar Development – Distributed Commercial and Industrial Rooftop Solar Only) is infeasible; however, this is an incorrect conclusion reached by the commenter. First, it is not the role of an EIR to dismiss a potentially feasible alternative as ultimately feasible or infeasible. San Franciscans Upholding the Downtown Plan v. City & County of San Francisco (2002) 102 Cal. App. 4th 656. That is the role of the decision-maker in making CEQA findings on the project, including, if required, a Statement of Overriding Considerations. If the Lead Agency found that Alternative C were entirely impractical or infeasible, it would not have been provided as a viable alternative to the project, and would have been dismissed in Section 6.4, Alternatives Eliminated from Further Consideration. However, the Lead Agency considered this a potentially feasible alternative and,
therefore, conducted a full analysis of its environmental impacts, as compared to the proposed project.

The commenter asserts that the DEIR should consider how the proposed project and the alternatives will impact ratepayers and specifically rates paid for electric generation. The concern appears to focus on whether or not uneconomical renewable energy projects will be constructed and questions, based on an economic critique of the utilities’ compliance with the Renewable Portfolio Standard (RPS), whether renewable energy is a good economic “deal” for the public in comparison to fossil fuel generated electricity, such as a combined cycle natural gas power plant. The commenter refers to a report by the CPUC’s Division of Ratepayer Advocates (DRA) questioning whether the CPUC has done a good job scrutinizing the cost of renewable energy contracts because “it’s no secret that renewable electricity is in general more expensive than from fossil fuels.” The commenter also suggests that perhaps the County should not approve the project because the utilities are nearing compliance with the RPS mandate.

The CEQA environmental review process is intended to evaluate a project’s environmental impacts and inform the appropriate decision-makers and the public about those impacts. The potential effect of a solar electrical generation facility to ratepayers, whether the CPUC should approve a power purchase agreement for the electricity to be generated by this project or whether the utilities should instead purchase cheaper energy from natural gas-fired power plants, is not considered an environmental impact and is, therefore, beyond the scope of a CEQA EIR document. The California Public Utilities Commission is the appropriate regulatory body and forum to discuss potential impacts to ratepayers arising from the State’s RPS program or how well that program is functioning. This policy discussion is not appropriate or required in a CEQA document.

Based on the information presented in the EIR, Chapter 7--Response to Comments, the Planning Commission staff report and above, the EIR adequately analyzes and documents potential impacts of the project, including impacts related to land use, hydrology and water quality, biology, hazards, and soils, and concludes that these issues have been properly analyzed, discussed and mitigated, to the extent feasible, as required by CEQA. The EIR also evaluated the applicable established land use policies and regulations of the Kern County General Plan, the Kern County Zoning Ordinance, and ALUCP to the proposed project and determined the project to be generally consistent with those goals and policies. The commenter does not provide evidence to contradict the conclusions of the EIR, and Kern County, as Lead Agency, has adequately addressed this issue under CEQA

**Planning and Community Development Department Conclusions and Recommendation**

Staff notes that Kern County represents a unique opportunity for the development of a commercial solar facility on previously disturbed and unproductive land. Due to favorable climatic conditions and an abundance of open space, large scale use of solar energy represents a major potential energy resource. Solar energy is a renewable resource that can be used to reduce the need for natural gas, petroleum, and coal based power plants. This reduces the need for nonrenewable resources, as well as reducing the emissions of greenhouse gases.

Your Board has approved a Kern County Renewable Energy Goal for the production of ten gigawatts from wind and solar facilities by 2015. This goal would include projects in all Kern County jurisdictions: cities, school, and water districts; and would create an estimated 8,000 construction jobs, 1,500 operational jobs, and up to 25 billion dollars of investment in the County’s future, as well as provide power for over seven million people. Pursuing this goal sends a clear message that Kern County is committed to encouraging the private and public sector
investment needed for economic growth through the appropriate siting and construction of quality renewable energy projects. Staff notes that the proposed project would provide up to 385 construction jobs and up to ten permanent jobs if approved and constructed. Additionally the project would add 250 megawatts to the County’s renewable portfolio.

Staff believes this project is consistent with the California Renewable Portfolio Standard that requires investor-owned utilities, such as Southern California Edison to increase their sale of electricity produced by renewable energy sources to 33 percent.

Pursuant to Section 19.104.040 of the Kern County Zoning Ordinance, an application for a conditional use permit can be approved, or conditionally approved, if it can make all of the following findings:

(1) The proposed use is consistent with the goals and policies of the Kern County General Plan or Specific Plan.

(2) The proposed use is consistent with the purpose of the applicable district or districts.

(3) The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Section 19.08.030 through Section 19.08.080 of the Zoning Ordinance.

(4) The proposed use meets the minimum requirements of the Zoning Ordinance applicable to the use and complies with all other applicable laws, ordinances, and regulations of the County of Kern and State of California.

(5) The proposed use will not be detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

It is Staff’s opinion that there is adequate justification for your Board to find the implementation of the project in accordance with the proposed mitigation measures and recommended conditions of approval will not be materially detrimental to the public health, safety, or welfare or to property or residents in the vicinity. The project is generally located in an area with sparse habitation and a large amount of previous land disturbance and alterations in visual character by the existing Barren Ridge substation and related transmission lines. The recommended conditions of approval are intended to ensure that the project complies with all applicable laws, ordinances, and regulations in addition to offering the necessary assurances to area residents that it will not adversely affect their properties. Staff, therefore, concludes that the proposed conditional use permits sufficiently demonstrates compliance with the necessary findings.

Staff has reviewed the project with regard to land use compatibility and consistency with the Kern County General Plan and notes that the project is a compatible use and consistent with the General Plan Energy Element Goals and Policies.

The proposed project will reduce the amount of electricity generated using fossil fuels and, therefore, result in an offset of GHG emissions per year. Project construction would result in direct emissions of 282 MTCO₂e in 2012, 2,651 MTCO₂e in 2013, and 885 MTCO₂e in 2014. The total construction CO₂e emissions amortized over 30 years is equivalent to 127 MTCO₂e per year. Once operational, emissions associated with the proposed project would be limited to vehicle trips associated with the five to ten permanent employees. The proposed project’s operational emissions would total 153 tons of CO₂e per year. However, because the project would replace the creation of energy through other methods, the operational GHG emissions
would actually result in a reduction in GHG emissions. The sum of the project’s annual operational GHG emissions, without considering the potential reductions from displacement of gas-fired generation and amortized construction GHG emissions would be 280 MTCO$_2$e per year. When the displaced emissions from the gas-fired generation of electricity are taken into account, the proposed project would displace an estimated 213,020 MTCO$_2$e annually, which results in a net reduction of 212,740 MTCO$_2$e of GHGs per year. The project would generate 250 MW of renewable electricity, and help meet your Board’s approved Kern County Renewable Energy Goal for the production of ten gigawatts from wind and solar facilities by 2015, making Kern County a leader in renewable energy.

The project is located in close proximity to existing utility transmission and infrastructure, thereby requiring minimal off-site improvements or impacts, and has undergone a thorough and extensive environmental review process, including the preparation of an Environmental Impact Report that identifies impacts and incorporates 67 mitigation measures in the form of complying with the goals, policies, as well as implementation measures of the Kern County General Plan, conditional use permit requirements, or other adopted regulations.

For operations, the proposed project is estimated to use about 15 acre-feet of water per year. The proposed project would use minimal water and free up water for the recharge of the Koehn subbasin, and use by other property owners in the vicinity by using far less water than typical agricultural operations.

The project is consistent with the Public Services Goals and Policies. MM 4.12-1 requires the project proponent shall pay for impacts on Countywide public protection, sheriff’s patrol and investigative services, and fire services at a rate of $28.84 per 1,000 square feet of panel-covered ground, divided by the number of years of operation and paid on a yearly basis. This equates to approximately $1,289/acre of panel-covered ground. Using a conservative estimate of 468 acres of panel coverage (based on the site plan and proposed solar technology to be used). Staff estimates that the project proponent would pay a total of approximately $603,252 over a 25 year period, which is $24,130 per year.

Staff believes that the proposed PV solar facilities are compatible with other nearby activities and is consistent with the agriculturally-zoned district. The Zoning Ordinance allows for construction of solar energy electrical facilities within the A District with the approval of a conditional use permit. The project is compatible with the policies and programs of the Kern County General Plan and does not appear to be in conflict with any adopted land use plan or policy. Staff also notes that any changes or expansions of the proposed project would require the proponent to obtain a modification to this conditional use permit or a discretionary approval of a new conditional use permit, which may include additional environmental review. Conditions of approval have been added which would ensure future impact is less than significant.

Staff has reviewed the project with regard to compatibility with renewable energy, land use compatibility, and environmental concerns. It is Staff’s opinion that the Final EIR prepared for this project is a comprehensive document with the best available information at this time which details the environmental effects of the project on surrounding land use. The Final EIR includes 67 mitigation measures that provide for the protection of the environment and provide funding for impacts to public services. CEQA requires that all feasible and reasonable mitigation be imposed on projects to reduce the impacts on the environment. Staff also concludes the Final EIR fully complies with CEQA, and these clarifications and modifications do not meet any of the conditions of CEQA Section 15088.5. No new information has been provided or feasible project mitigation rejected or environmental impact increased in severity that would require recirculation of the document. Changes to reflect these clarifications for the Final EIR, as appropriate, have
been made in Section 15091 Findings of Facts, Section 15093 Statement of Overriding Considerations, and the Mitigation Measure Monitoring Program for this project.

In his appeal, Staff notes that Mr. Kraco has not raised any new issues that were not considered by the Planning Commission when they voted to approve the proposed Beacon Photovoltaic project. Staff believes that the issues raised by LIUNA, a labor union, are an attempt to use CEQA in bargaining with the LADWP for jobs. This Department has carefully reviewed the project with regard to environmental concerns and land use compatibility, including all the issues raised by Mr. Kraco and is of the opinion that the Final EIR prepared for this project is a comprehensive document with the best information available at this time which details the environmental effects of the project on surrounding land use. Adherence to the proposed mitigation measures and conditions of approval will ensure that potential impacts are resolved in addition to providing the necessary assurances that implementation of the project will not be materially detrimental to the public health, safety, or welfare or to property or residents in the vicinity.

Based on the aforementioned analysis, Staff is recommending that your Board deny the appeal and uphold the decision of the Planning Commission to approve the project subject to conditions.

PUBLIC INQUIRY OR CORRESPONDENCE: Kern County Public Health Services
Department/Environmental Health Division/Hazardous Material Section

CEQA ACTION: Environmental Impact Report

DEPARTMENT RECOMMENDATION: Adopt resolution denying appeal; certify the Final Environmental Impact Report; adopt Section 15091 Findings and Section 15093 Statement of Overriding Considerations; adopt Mitigation Measure Monitoring Program; adopt resolution approving Conditional Use Permit in accordance with the recommended conditions; approve the Memorandum of Understanding/Agreement and authorize the Chairman to sign

BASIS FOR DISAPPROVAL AND RECOMMENDED FINDINGS:

(1) This Board, in denying the appeal, concludes that the concerns raised are not grounds for denying the project and were considered at the Planning Commission hearing and in their approval of the project. This Board finds that no new information has been provided which contradicts the conclusions reached in the Final Environmental Impact Report prepared for the project. Adherence to the adopted mitigation measures and conditions of approval will confirm that the necessary assurances that implementation of the project will not be materially detrimental to the public health, safety, or welfare or to property or residents in the vicinity.

LHO:JLB:jc:sc

Attachments
RECOMMENDED CONDITIONS OF APPROVAL FOR CONDITIONAL USE PERMIT #11, MAP #152:

(1) Conditional Use Permit No. 11, Map No. 152 authorizes the construction and operation of a 250 megawatts solar photovoltaic (PV) power generation facilities and accessory infrastructure on the 2,301 acres. Additional on-site development or expansion activities on any project-level parcel that are deemed to be more intensive by the Director of the Kern County Planning and Community Development Department shall be subject to review and approval and may entail further environmental review. Approval of such development or expansion activities may also require modification of these conditional use permits or the approval of a new conditional use permit at the discretion of the Director of the Kern County Planning and Community Development Department.

(2) Development shall be in substantial conformity with the approved plan, and the approved plan shall be revised to include the following conditions of approval.

(3) All necessary building permits must be obtained.

(4) Prior to the issuance of building or grading permits, the applicant shall submit documentation of the following:

(a) The project operator shall provide to the Planning and Community Development Department an executed copy of the Memorandum of Understanding/Agreement signed by the Chairman of the Kern County Board of Supervisors.

(b) The method of water supply and sewage disposal shall be as required and approved by the Kern County Public Health Services Department/Environmental Health Division.

(c) Fire flows, fire protection facilities, and access ways shall be as required and approved by the Kern County Fire Department.

(d) A plan for the disposal of drainage waters originating on-site and from adjacent road rights-of-way shall be approved by the Kern County Engineering, Surveying, and Permit Services Department/ Floodplain Management, if required. Easements or grant deeds shall be given to the County of Kern for drainage purposes or access thereto, as necessary.

(e) The project operator shall develop and implement an on-site pest management plan specifically related to rodent vectors. The plan shall be submitted to the Kern County Planning and Community Development Department for approval.

(f) The project operator shall encourage all contractors for the project to hire at least 25% of their workers from the local Kern County communities. The project operator shall provide to the contractors a list of training programs that provide skilled solar workers and shall require the contractor to advertise locally for available jobs, notify the training programs of job availability, all in conjunction with normal hiring practices of the contractor. The project operator shall submit a letter detailing the hiring efforts prior to commencement of construction.

(g) The owner/operators of permitted uses that involve equipment or activities that store, use, or generate hydrocarbons, particulate matter, toxic chemicals, nuisance
odors, or other air contaminants subject to air pollution control requirements, shall consult with, and be subject to the requirements of, the applicable Air Pollution Control District. If requested by the applicable Air Pollution Control District, the Building Official may withhold final inspection or issuance of a Certificate of Compliance for any structure on property containing a business which is in noncompliance with the requirements of that District until such time as the deficiencies are corrected.

(5) **Prior to the issuance of building permits, the applicant shall submit documentation of the following:**

(a) Solar panel support/foundation structures shall be constructed in such way as to minimize the potential to entrap animals. Detailed schematic drawings depicting the solar panel support/foundation structures to be used on site shall be submitted for approval by the Kern County Planning and Community Development Director.

(b) If an Operations and Maintenance building is proposed, the applicant shall submit a revised plot plan with the parking and maneuvering areas clearly delineated. Parking spaces shall be a minimum of 9 feet by 20 feet in size and shall function independently of one another.

(6) **Prior to final occupancy approval, the following conditions shall be verified by the building inspector and shall be continuously maintained while this permit is active:**

(a) All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, or similar obstructions, shall be removed from the ultimate road rights-of-way in accordance with Section 18.55.030 of the Land Division Ordinance. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures.

(b) A minimum of ten on-site parking spaces shall be provided. Handicap accessible parking spaces shall be provided in accordance with the requirements of Title 24 of the California Administrative Code.

(c) Parking shall be provided as illustrated on the approved plan.

(d) All access drives, parking areas, and vehicle maneuvering areas shall be surfaced with a minimum of two (2) inches of asphalitic concrete paving constructed over a minimum of three inches of compacted base material or material of higher quality. Where the project site does not have direct access to a County-maintained road, a paved access drive shall connect to the closest County-maintained road, and a paved tie-in shall be provided under encroachment permit from the Kern County Roads Department. The paved access drive shall be continuously maintained in good condition.

(e) All vehicle parking and maneuvering areas shall be treated in a manner to continuously prevent blowing dust.
Vehicle parking spaces shall be 9 feet by 20 feet or larger in size and shall be designated by white painted stripes, except as provided in Sections 19.82.030 and 19.82.040 of the Zoning Ordinance.

All signs shall be approved by the Director of the Kern County Planning and Community Development Department prior to installation.

Areas and containers shall be provided for the collection of recyclable materials consisting of plastic and aluminum beverage containers for the benefit of employees and customers. The collection site may be included in the required solid waste disposal area(s) or in a separate area meeting the enclosure requirements of Section 19.80.030.K of the Kern County Zoning Ordinance. The collection area(s) shall be maintained in good condition, and recyclable materials stored therein shall be collected regularly with a frequency that ensures that the collection site does not become a visual nuisance and does not result in the creation of health, safety, or vector problems.

The areas devoted to outside storage shall be treated with a dust binder or other dust control measure, as approved by the Director of the Kern County Planning and Community Development Department.

The property owner shall continuously comply with the following conditions of approval during implementation of this permit:

(a) The development shall comply with any requirements of the Mojave Desert Air Pollution District.

(b) All exterior lighting shall be directed away from adjacent properties and roads. When lighting will be visible from a residential district or adjacent public roads, the lighting fixtures shall be equipped with glare shields or baffles to reduce light trespass onto adjacent properties and shall not exceed 25 feet in height above grade. Light fixtures shall be maintained in sound operating.

(c) All signs shall comply with the signage regulations of the applicable base zone district and with Chapter 19.84 and Chapter 19.81.040(h) of the Zoning Ordinance.

(d) During all on-site grading and construction activities, adequate measures shall be implemented to control fugitive dust.

(e) Trash pickup shall occur a minimum of once each week. All trash and recyclable receptacles shall be enclosed within a six- (6-) foot-high, three-sided masonry enclosure with securable iron gate and shall be installed on an impervious surface at a location that is outside the required front-yard setback and convenient for refuse haulers and which does not interfere with on-site or off-site parking or circulation. For all commercial and industrial uses with five (5) or more employees, adequate space shall be provided for the collection and loading of recyclable materials.

(f) Should a conflict occur between the statistical data shown on the plan and the conditions of approval, the conditions of approval shall prevail.
(g) All used oil (as defined in Section 25250.1 of the California Health and Safety Code) shall be disposed of in accordance with all local, State, and federal regulations following consultation with the Kern County Public Health Services Department/Environmental Health Division/Hazardous Materials Section, State of California Department of Health Services, and the Environmental Protection Agency. All used oil and other wastes shall be transported by a registered waste hauler.

(8) This permit shall become null and void if the use authorized has not been activated within a five-year period of time of the approval of said permit, unless an extension of time has been granted by the decision-making authority, upon written request before expiration of the five- (5-) year period.

(9) Noncompliance with the adopted conditions of approval may cause permit revocation proceedings in accordance with Section 19.102.020 of the Ordinance Code.

(10) At the time building permits are applied for, a filing fee of $130 may be imposed to ensure that final plans are consistent with adopted conditions of approval. This fee may serve as an initial deposit for particularly complex cases, in which case a cost recovery agreement will be required and charges will be billed at $100 per hour.

*(11) All mitigation measures included in the adopted Mitigation Measure Monitoring Program for the Beacon Photovoltaic Project by Beacon Solar, LLC (Conditional Use Permit No. 11, Map No. 152, included as Exhibit C of this Resolution, are hereby incorporated as Conditions of Approval.

* DENOTES MITIGATION MEASURES

BASIS FOR APPROVAL AND RECOMMENDED FINDINGS FOR CONDITIONAL USE PERMIT #11, MAP #152:

(1) The applicable provisions of the California Environmental Quality Act, the State CEQA Guidelines, and the Kern County Guidelines have been duly observed in conjunction with said hearing in the consideration of this matter and all of the previous proceedings relating thereto.

(2) This project is recommended for approval despite the existence of certain significant environmental effects identified in said Environmental Impact Report, and this Board makes and adopts the findings with respect to each thereof set forth in Exhibit A, appended hereto and made a part hereof by reference, pursuant to Section 15091 of the State CEQA Guidelines (Title 14, Administrative Code) and Section 21081 of the Public Resources Code and declares that it considered the evidence described in connection with each such finding in Exhibit A and that such evidence is substantial and supports such finding.

This Board acknowledges that approval of this project will produce certain environmental impacts which cannot be mitigated and, in accordance with Section 15093 of the State CEQA Guidelines (Title 14, Administrative Code) hereby adopts a Statement of Overriding Considerations set forth in Exhibit B, appended hereto, and made a part hereof, which summarizes the reasons why this project, despite certain environmental impacts, has been approved.
Said Environmental Impact Report is complete and adequate in scope and has been completed in compliance with the California Environmental Quality Act and with the State CEQA Guidelines and the Kern County Guidelines for implementation thereof.

(3) The effect upon the environment of such project and the activities and improvements which may be carried out thereunder will not interfere with maintenance of a high-quality environment now or in the future. Mitigation measures have been incorporated from the Environmental Impact Report as conditions of approval, and the adopted Mitigation Measure Monitoring Program specifies the required steps to satisfy each mitigation measure.

(4) The proposed use is consistent with the goals and policies of the General Plan.

(5) The proposed use is consistent with the purpose of the applicable district or districts.

(6) The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Section 19.08.060.

(7) The proposed use meets the minimum requirements of this title applicable to the use and complies with all other applicable laws, ordinances, and regulations of the County of Kern and the State of California.

(8) The proposed use will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

(9) Approval of this request is consistent with past Commission/Board action for similar requests in the area.

(10) Approval of this project shall not be considered operative, vested, or final until such time as the required verification from the Office of the County Clerk is submitted, attesting that payment of fees for the filing of a "Notice of Determination" for the benefit of the California Department of Fish and Game, as required by AB 3158 (Section 10005 Public Resources Code) has been made.

(11) In accordance with CEQA, the Lead Agency may conclude that certain mitigation measures identified are infeasible or otherwise ineffective during public review. In those circumstances, the Lead Agency, may delete those mitigation measures and substitute for them other mitigation measures the Lead Agency finds are equivalent or more effective in mitigating significant effects so long as they do not cause potentially significant effects. It is the Lead Agency's determination that clarification to proposed mitigation are considered more effective in mitigating significant effects and are not considered new significant information requiring the recirculation of the Final EIR under CEQA and do not create new significant effects on the environment.
Maps
APPEAL #2, Map 152
SEC 4, 7, 8 & 9 T. 31S. R. 37E. M.D.B. & M.
APPEAL #2, Map 152

SEC 4, 7, 8 & 9 T. 31S. R. 37E. M.D.B. & M.
APPEAL #2, Map 152

SEC 4, 7, 8 & 9 T. 31S. R. 37E. M.D.B. & M.

June 2012
New Correspondence
INTEROFFICE MEMORANDUM

To: Jaymie Brauer  
From: Vicky Furnish, REHS CUPA Program Supervisor  
Subject: Beacon Photovoltaic Project  
Date: October 19, 2012

Kern County Environmental Health Division – Certified Unified Program Agency (CUPA) has determined, based on the information provided, the Beacon Photovoltaic facility will not require a Hazardous Materials Business Plan. They will not be required to acquire a Hazardous Materials Business Plan as long as they do not store, handle, or generate hazardous materials/waste over the total volume of 55 gallons of a liquid, or a total weight of 500 pounds of a solid, or 200 cubic feet (at standard temperature and pressure) of a compressed gas, or exceed an applicable planning threshold of an extremely hazardous substance or radioactive materials. The applicable state law governing requirements for a Hazardous Materials Business Plan and an application for permit to operate can be found in the California Health & Safety Code Chapter 6.95.

In response to the comment regarding the hazard of cadmium telluride, the CUPA program recognizes that the chemical cadmium telluride is toxic if ingested, inhaled, or improperly handled. However, in this case, the cadmium telluride in solar panels is part of a consumer end-product and encased as a semiconductor film within the solar array structures. Studies from the Brookhaven National Laboratory and the U.S. Department of Energy have found that large-scale uses of cadmium telluride photovoltaic modules do not present risks to health and the environment, and recycling the modules at the end of their use resolves environmental concerns.

However, in the event a photovoltaic panel breaks, proper disposal and cleanup should be completed to ensure no contaminant reside in the environment which could potentially cause contamination concerns. The facility shall determine the proper disposal of the material and handle the waste according to Health & Safety Code Chapter 6.5 and Title 22 Code of California Regulations Division 4.5.
Previous Correspondence From
Planning Commission Hearing
BUILDING THE NEXT ERA OF CLEAN ENERGY

Beacon Solar, LLC
Beacon Photovoltaic Project

September 27th, 2012
View from SR-14, immediately west of Project Area
Beacon Photovoltaic Project Summary Information

Key Information

• Location
  – East side of State Route 14 – approximately 4-miles north of California City -
  – Located on previously disturbed agricultural land
    -- Intensive farming through 1980s – unused and unproductive for almost 30-years

• Configuration
  – 250 MW Photovoltaic Facility – 972,000 PV panels
  – Generation-Tie Line – ~1.0 miles at 230 kV to Barren Ridge Substation
  – Access Road – connects with Route-14
  – Sited on approximately 2,301 acres of privately owned land
Beacon Photovoltaic Project – Area Map
Beacon Solar, LLC previously received CEC approval for a more impactful project

Project History

• CEC issued license for 250 MW solar thermal project in August, 2010
  – 2.5 years from application submittal until approval
  – Concluded all impacts could be mitigated to less than significant levels
  – First license issued for solar project in over 20-years

• Reconfiguration to PV further reduces likely impacts
  – Far less earthwork / grading required
  – Designed specifically to avoid major washes
  – Far less water use during construction and operations
View from BLM land west of the Project Area
View from center of Property – looking north
The Beacon Photovoltaic Project with contribute positively to the local economy

**Economic Benefits**

- **Local Employment Opportunities**
  - Up to 385 jobs during project construction (~22-month construction period)
  - 8-10 full-time jobs during plant operations

- **Other Benefits**
  - Clean power for approximately 100,000 California homes
  - Estimated $18 MM in property / sales & use taxes over project life
  - Facility payroll and additional contracted maintenance
  - Increased purchases of local goods & services
  - Contributions to County Capital Improvement Plan
  - Conversion of un-used property to productive use
Ms. Jaymie Brauer  
Kern County Planning & Community Development Department  
2700 M St., Suite 100  
Bakersfield, CA 93301-2323

Re: Beacon Photovoltaic Project – Economic Benefit Estimates

Ms. Brauer,

Below are preliminary estimates of various economic indicators Kern County can expect to realize should construction commence on the Beacon Photovoltaic Project.

Wages:

Beacon Solar, LLC ("Beacon Solar") previously contemplated applying for treatment under the "CEQA Streamlining Under the Jobs and Economic Improvement through Environmental Leadership Act (Public Resources Code Section 21178 et seq.")", commonly referred to as AB-900. Beacon Solar notified Kern County of this intent, but subsequently retracted its notification and instead chose to pursue traditional treatment under CEQA.

Within the initial notification package submitted to the County on March 14th, 2012, Beacon Solar indicated that it intended to comply with the Kern County Prevailing Wage Requirements described in PRC Section 21183(b). In summary, Beacon PV Project will create high-wage, highly skilled jobs for construction professionals including carpenters, electricians, and heavy equipment operators. Beacon will attempt to pay prevailing wages and provide jobs for Californians, helping to reduce unemployment. During construction, the average workforce is expected to be 288 construction, supervisory, support, and construction management personnel on-site during construction. The on-site construction workforce is expected to peak at up to 385 individuals. This information is also outlined in the Draft Environmental Impact Report for this project prepared by Kern County Planning and Community Development Department.

We have identified the prevailing wages for job classifications as set forth by California’s Employee Development Department (EDD) for the expected workforce. Kern County has not adopted a prevailing wage ordinance. Therefore, for categories of workers not directly found in the State's EDD, the closest match is correlated below. If there is not a reasonable substitute or related classification, the State minimum wage rate could control for positions that would not otherwise be subject to payment of a prevailing wage. To the extent that both a prevailing wage and a minimum wage apply to a particular position, the higher wage is shown below.

Below is a subset of job classifications and median wages* in Kern County from the EDD database that we expect will comprise a majority of the construction jobs created by the Project:

<table>
<thead>
<tr>
<th>Job Classification</th>
<th>Median Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Laborers</td>
<td>$15.92</td>
</tr>
<tr>
<td>Carpenters</td>
<td>$24.49</td>
</tr>
</tbody>
</table>
Reinforcing Iron and Rebar Workers $25.55
Cement Masons and Concrete Finishers $23.81
Electricians $28.27
Paving, Surfacing, and Tamping Equipment Operators $25.87
Heavy Truck Drivers $19.17
Average $23.30

* These hourly rates represent base wages (no loaders/benefits) for Kern County, based on 1Q2011

During operation of the Project, we anticipate that the Beacon PV Project will create approximately 5 to 10 permanent, full-time positions at the solar plant site during daytime working hours. Temporary personnel would be employed, as needed, during seasonal periods when panel washing is required. The plant electricians and instrumentation technicians would perform activities such as the tightening of mechanical fasteners, replacement of damaged or exposed wiring, tracker drive maintenance or fluid replenishment, or maintenance such as filter replacement, equipment testing, or minor equipment repair. Occasionally there will be a need to replace a PV panel. Below is a subset of job classifications and median wages* in Kern County from the EDD database that we expect will comprise a majority of the operation jobs created by the Project:

Electro-Mechanical Technicians $26.43
Production, Planning and Expediting Clerks $25.66
Electrical and Electronics Repairers, Commercial and Industrial Equipment $32.65
Average $28.25

* These hourly rates represent base wages (no loaders/benefits) for Kern County, based on 1Q2011 data.

**Tax Revenue:**

Additionally, the Beacon Photovoltaic Project is expected to contribute approximately $18 Million in property and sales and use taxes over the expected 30-year life of the project. Sales and use tax estimates are based on the 1.0% Kern County tax rate. Property Taxes are based on an assumed 1.1% tax-rate. Since the design and final requirements for the Beacon Photovoltaic Project are not yet completely finalized, the values outlined above are preliminary and not intended as binding commitments between the project applicant and Kern County. Rather, they are meant to serve as a conservative and preliminary estimate of the positive impact on Kern County tax revenues.
Please feel free to contact us if you have any questions or need additional information. Your primary point of contact will be Brandon Stankiewicz at (561) 304-5775 or brandon.stankiewicz@nexteraenergy.com.

Sincerely,

[Signature]

Gregory Schneck
Vice President
Beacon Solar, LLC
By e-mail

Ms. Jaymie L. Brauer
Planner 3/Advance Planning Section
Kern County Planning and Community Development Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2323

Email: brauerj@co.kern.ca.us

Reply to Comments: Draft Environmental Impact Report of Beacon Photovoltaic Project

Dear Ms. Brauer:

Thank you for responding to my comments on the Beacon Solar project (Beacon) Draft Environmental Impact Report (DEIR).¹ I read your responses and have a few comments.

First, I address your remarks in opposition to an investigation about whether this project will exacerbate the potential for physical deterioration of existing structures. Second, I address your comparison between project size measured in megawatts and land measured in acres. Third, I accept the clarification you made as to how a decommissioning plan will attach to future owners. I note that you did not address my comments on the adequacy of financial assurances. Finally, I suggest an alternative to characterizing impacts as temporary or permanent.

1. The project and physical deterioration

The Kern County Planning and Community Development Department (The Department) in opposing an investigation of Beacon’s role in the future abandonment of structures and ways to mitigate the impact says such an investigation is unsupported by case law and is speculation.

I leave it to others to comment on whether an investigation of a project’s impact on physical structures is supported by case law. I disagree with your characterization of my argument as speculation. What I argued is not guesswork. It is based on theory,

¹ The responses specific to my comments are found in the document at Sections 7-J and 7-K at pages 7-193 to 7-197.
historical events and began with an observation from a NextEra report published by The Department.

NextEra Energy Resources conducted architectural resource inventories and resource evaluations. They did this to comply with existing law and regulation. A report of their findings, The Beacon Photovoltaic Solar Project Cultural Resources Report,\(^2\) in Chapter 1 at page 1 notes that, "...there are several abandoned structures in the area ...near the site access point".

This is evidence of the area’s vulnerability to vacancy, structural deterioration and abandonment. It is a fair question to ask whether this PV project will accelerate the area’s existing vacancy, deterioration, and abandonment problem and to ask if there is a way to mitigate any aggravation. For example, should a trust fund be created by Beacon to acquire, repair or demolish abandoned buildings?

The argument that there are no workers displaced by the project is insufficient to exclude Beacon’s contribution to structural deterioration from consideration in a DEIR. What matters is that Beacon needs no workers and that is why the structures that are in the area will face a continuing threat perhaps an increased threat of becoming vacant and falling into disrepair.

I maintain my opinion that this issue should be investigated in the DEIR and its possible mitigation should be addressed.

2. Project size measured in megawatts and acres

Using publicly available data I suggested that Beacon when compared to other projects in the area is less efficient in its use of land. The consequences are: this project is more likely to contribute to structural deterioration in the local area; and, has increased vulnerability to policy or economic changes. As a possible mitigation I suggested that perhaps Beacon could be reconfigured to use less land.

The Department responded that the Beacon site has a gulch and railroad tracks and if you remove them then Beacon scores improve. This suggestion fails to recognize that all PV projects have areas unsuitable for PV panels. It is not a fair comparison to edit out the unsuitable land from Beacon, compare it with projects that have not been adjusted for their unsuitable land and then conclude that Beacon is acceptable.

My opinion is that some PV projects are going to be more efficient than others. I used a basic measure to reveal that Beacon does not rank high on its use of land. Inefficient land use may lead to other problems. This suggests that The Department might develop performance and operating standards to help anticipate problems and develop ways to mitigate them.

3. Decommissioning plans and financial assurances

I read the DEIR to say that the plan and assurances were required to get building permits and asked how the county could enforcement the requirement for keeping the plan up to date and financially assured after the building permits were issued.

\(^2\) See:
http://www.co.kern.ca.us/planning/pdfs/eirs/beacon_solar/Appx%20F1%20Cultural\_Resources%20Survey%20and%20Report.pdf
The Department explained that a decommissioning plan and adequate financial assurances are part of a conditional use permit. Accordingly, the requirements to keep the decommissioning plan up-to-date and adequately assured attaches to the property and thus to all future owners.

I also argued that the financial assurances as described in the DEIR were inadequate. These concerns are not addressed in your response and these concerns bear repeating.

An adequate financial assurance should:

- Attach to all transfers of site ownership; (The Department says that they do)
- Make all responsible parties jointly liable; (no response)
- Be assured by an entity at arms length from the site owner; (no response)
- Be able to withstand any responsible party’s bankruptcy; (no response)
- Be clear about what signals the start of restoration, (e.g., a date certain; output falls below a threshold); (no response)
- Be payable to an entity capable of managing the restoration; (no response) and,
- Provide in cash the purchasing power needed to restore the site. (no response).

In addition there is a lengthy trigger mechanism in the proposed assurance that will make the financial assurance of little or no value.

I believe the financial assurances for decommissioning as described in the DEIR are inadequate. Even though the requirement for a plan and assurances attaches to future owners, the assurances are unlikely to provide cash to future generations to remove this installation when it is no longer needed.

4. Temporary or permanent

Opinions may vary over the meaning of temporary and permanent. To astrophysicists or geologists thirty years is an inappropriately short period of time in which to conduct an analysis, economists have been cautioned that examining too long of a period of time is a misleading guide to examining human affairs. I do not think that it is useful to fence words with The Department over the difference between a permanent change and a change that lasts one or more useful lives of equipment where each life is thirty years or more.

It is, nevertheless, a tautology to say that there are no permanent impacts because the land conversion is temporary. It makes more sense to say that a project’s long-term impacts end or are reduced when the land conversions are reversed. Decision makers can then judge whether it is in the public’s interest to wait a long time for relief. The DEIR, however, is vague about the timing of restoration and, unfortunately, leaves that judgment solely to the permittee or it successor(s).

3 "... this long run is a misleading guide to examining current affairs. In the long run we are all dead, economists set themselves too easy a task, too useless a task if in the tempestuous season they can only tell us that when the storm is long past the ocean is flat again." Keynes, J.M. A Tract on Monetary Reform, 1923, p.80
I think a date certain for restoration should be set. Absent a date certain a process to determine the date should be defined and made a part of the conditional use permit.

Respectfully,

M. Kavanaugh

Michael Kavanaugh
September 25, 2012

Jaymie L. Brauer
Kern County Planning and Community Development Department
2700 M Street, Suite 100
Bakersfield, CA 93301

Subject: Comments on the Final Environmental Impact Report and Response to Comments for
the Beacon Photovoltaic Project, Kern County

Dear Ms. Brauer:

We submitted comments on the July 2012 Draft Environmental Impact Report (DEIR) for the Beacon Photovoltaic Project (“Project”). The County published a September 2012 Final Environmental Impact Report (FEIR) and Response to Comments (“Responses”). We find the FEIR and Responses to inadequately address our comments in failing to disclose and evaluate issues associated with air quality, hydrology, and hazards and hazardous materials. Prior to certification, the County should disclose and mitigate these issues as necessary in a recirculated FEIR.

AIR QUALITY

Particulate Matter Emissions

Our comments noted that the DEIR did not provide: (1) an adequate explanation of the Project’s PM10 emissions estimate; and (2) an evaluation of potential health effects of the Project’s PM10 emissions on workers, nearby residents, and schoolchildren. The FEIR does not adequately address these comments; therefore, we have the following supplemental comments.

1. Emissions Calculations:

The Responses state that the implementation of Eastern Kern Air Pollution Control District (EKAPCD) Rule 402 and its measures\(^1\) would reduce the Project’s fugitive dust, or PM10, emissions by 68%

(Responses, p. 7-200). However, this is just an assumption on the part of Applicant and they, themselves, note that “Rule 402 does not provide a control efficiency for these measures” (Appendix C1, p. 1). The Responses state that the application of the control efficiency can be substantiated by the findings in the Western Regional Air Partnership’s Fugitive Dust Handbook (Responses, p. 7-200). Our review of the Handbook does not reveal any evidence for this claim.

The Responses state that the control efficiency of 68% is reasonable for the Project’s fugitive PM10 emissions (Responses, p. 7-202). The Applicant cannot claim this reduction in fugitive PM10 emissions as reasonable without providing any modeling results or calculations. The Applicant cannot simply list the efficiency of the mitigation measures (Responses, p. 7-201) and assume a 68% reduction in emissions. Instead, the Applicant should provide calculations to specifically show how implementation of the mitigation measures will result in a 68% reduction in fugitive PM10 emissions.

2. Health Effects of Emissions:

Our comments noted the detrimental health effects of exposure to PM10. As stated, exposure to PM10 can cause and exacerbate asthma, especially in children, as well as cause bronchitis, lung tissue damage, cancer, and even death. Research identifies that dust from construction is a major contributor to PM10 and that PM10 exposure is associated with asthma. A report by Imperial County, California states that PM10 inhalation can exacerbate asthma and children are susceptible to higher risks from exposure to PM10.

Red Rock Elementary School is located three miles north of the Project site (DEIR, p. 4.7-1). Four residences are located within 0.5 miles of the Project boundary (DEIR, p. 4.2-2). Construction activities at the 3.6 square mile Project site -- including excavation, filling, and grading -- will result in dust generation. Dust, or PM10, generated from these activities can be transported by wind toward adjacent residences and the school. The Project site is already a “large source of windblown dust” (Fact Sheet, p. 5). The Project’s emissions of PM10, in conjunction with the area’s existing windblown dust, are likely to result in significant health effects to workers, residents, and schoolchildren -- an impact not evaluated in the FEIR.

The FEIR should be revised and recirculated to acknowledge the adverse health effects and potentially significant impacts from exposure to dust and PM10 generated from Project construction. The Applicant should also prepare a dust control plan, routinely provided as mitigation for fugitive dust impacts in other Kern County EIRs. For example, the DEIR prepared for the North Sky Wind Energy project in Kern County states that “the project proponents shall develop a Fugitive Dust Control Plan in compliance with

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2 http://scerpfiles.org/cont_mgt/doc_files/EH-01-2.pdf
3 http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20documen nt.pdf
4 http://www.epa.gov/airtrends/aqtrnd95/pm10.html and http://www.arb.ca.gov/html/brochure.pm10.htm
5 http://scerpfiles.org/cont_mgt/doc_files/EH-01-2.pdf, p. 1
6 http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20documen nt.pdf, p. 1-2
7 http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Body/Tables/Table%20ES-6.pdf, p. 1
East Kern County Air Pollution District Rule 402 to reduce PM10 and PM2.5 emissions during construction.\(^8\)

The FEIR does include dust control measures as mitigation (MM 4.2-1 and MM 4.2-4). However, a dust control plan, in accordance with EKAPCD Rule 402’s “Special Requirement for Large Operations”\(^9\) must also be prepared.

The Applicant should prepare a Rule 402-compliant dust control plan to ensure that dust exposure and the potential health effects to workers, nearby residents, and schoolchildren are minimized to the maximum extent feasible. The plan should be included in a recirculated FEIR.

**HYDROLOGY**

PV panels containing cadmium telluride (CdTe) are being considered as a possible technology for the Project (DEIR, p. 4.9-6). Our original comments noted that the DEIR does not consider the potentially significant impacts to humans and the environment from panel breakage and subsequent release of CdTe. Catastrophic breakage of some of the 972,000 panels was not considered in the Responses. Breakage of and CdTe release from the panels on a large scale may result from earthquake shaking, flooding, or fire damage.

1. Impacts to the environment

   We previously cited a study\(^10\) that found that cadmium, from broken panels, can leach into the groundwater at concentrations exceeding Environmental Screening Levels (ESLs).\(^11\) The Responses states that these concentrations are below human health screening levels and that health effects to on-site workers or off-site residents are highly unlikely (Responses, p. 7-203). As our comment focuses on environmental impacts to groundwater and surface water from cadmium leachate, comparison to human health screening levels is non-responsive and irrelevant. The FEIR should be revised to address and respond to our intended comment on the impacts to groundwater and surface water from cadmium leachate releases from broken panels.

   The FEIR also does not address or respond to our comments on the potential for panel breakage due to flooding or earthquakes. Our original comments cited the flooding that occurred in the Genesis Solar project area and resulted in the breakage of 200 parabolic trough mirrors.\(^12\) If a similar event were to occur on the Project site, it is reasonable to assume that panel breakage and subsequent releases of CdTe would occur, potentially resulting in impacts to groundwater and surface water. We also previously noted that the Garlock Fault is located on the Project site.

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\(^8\) [http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_jawbone/DEIR/Subsections/4.3-4.pdf](http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_jawbone/DEIR/Subsections/4.3-4.pdf), pp. 4.3-12, 13


\(^11\) Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater.


and panel breakage is likely to occur during an earthquake along the fault, resulting in potential CdTe release.

In the event of panel breakage (via flooding or earthquake), cadmium leachate, at concentrations exceeding ESLs, will potentially be released to groundwater and surface water, a potentially significant ecological impact. The FEIR should be revised and recirculated to disclose and thoroughly evaluate this impact.

2. Impacts to humans

The County should evaluate impacts to workers, nearby residents, and schoolchildren if CdTe panels will be used for the Project. Workers, nearby residents, and schoolchildren can be exposed to CdTe if panel breakage were to result from fire – a scenario not evaluated fully in the FEIR. The FEIR simply states that fire damage would not result in the release of CdTe (Responses, p. 7-203). This is contrast with recent research that identifies fire damage to potentially result in cadmium exposure. The study states that fire can consume the PV modules and “releases cadmium from the material into the air”.

People can also be exposed to CdTe through inhalation of dust or ingestion of flakes and dust particles. A 2009 Silicon Valley Toxics Association White Paper states that the “potential for dust and fumes creates potential hazards for workers during the preparation of materials, from the scraping and cleaning of CdTe products, and from fugitive emissions.”

Other CEQA documents for projects who have proposed to use CdTe technology have disclosed the potential inhalation and ingestion risks. For example, the Environmental Impact Statement (EIS) for the Ocotillo Sol solar project states that release of CdTe could occur if pitting of the panels occurred and human exposure could occur if the panels generated flake or dust particles. The EIS mitigates for these potential impacts by implementing “routine monitoring and inspection activities by the Applicant to identify any potentially damaged panels. If a damaged panel is discovered, the panel would be replaced prior to any degeneration that may result in the release of CdTe.”

If the Applicant chooses to use CdTe panels, potential impacts to workers, nearby residents, and schoolchildren through all potential pathways of exposure (inhalation of emissions, ingestion of dust or flake particles) should be evaluated and appropriate mitigation measures, as identified in other EIRs, must be provided to ensure public health.

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14 p. 321
15 Ibid.
16 http://www.greencollar.org/UserFiles/ads-media/12526955654aaa9e0d799db.pdf
18 Ibid.
Using CdTe panels can result in potentially significant impacts from: (1) release of cadmium during earthquakes or floods to groundwater and surface water as a result of panel breakage; and (2) exposure of onsite workers, nearby residents, and schoolchildren from inhalation and ingestion of dust particles, flakes, and particulate emissions from fire damage. If the Applicant decides to use CdTe panels, these impacts should be disclosed and evaluated prior to certification of the FEIR.

HAZARDS AND HAZARDOUS WASTE

We previously stated the DEIR provided only general information on baseline soil conditions at the Project site that may be harmful to construction workers. According to the DEIR, “pesticides, herbicides, and associated metals may be present in near-surface soils at residual concentrations” (Responses, p. 4.7-4). The DEIR further stated that “older pesticides can linger in the soil for many years” (Responses, p. 4.7-4). Our comments on the DEIR noted that a Phase I Environmental Site Assessment (ESA) was not included in the DEIR to assess these potentially hazardous conditions and that without such an evaluation, construction workers might be at risk during earthwork activities.

In response, a number of Phase I ESAs, prepared in 2007 and 2008, were produced. The Phase I ESAs found no “recognized environmental conditions” to be associated with former pesticide use. Kern County concluded, in response to our comment, that “project impacts related to hazard and hazardous materials have been fully disclosed, adequately analyzed and appropriately mitigated” (Responses, p. 7-206).

We take exception with this conclusion on two counts: (1) the Phase I ESAs that were produced are more than five years old and are unreliable for decision making; and (2) failure to find pesticide use a recognized environmental condition is inconsistent with other Phase I ESA findings in Kern County.

1. Phase I ESAs have a shelf life

The Response relies on the findings from Phase I Environmental Site Assessments (ESAs) completed in 2007 and 2008. A Phase I ESA, according to the American Society for Testing and Materials, Phase Is are valid for 180 days following acquisition of the property.19

Because the Phase I ESAs are dated, they are unreliable in evaluating conditions that are potentially hazardous to construction workers and future site personnel. Therefore, the FEIR’s analysis of the Project site based on these Phase I ESAs is inadequate. An FEIR should be recirculated to include a new Phase I ESA that evaluates current Project site conditions.

2. Failure to find a recognized environmental condition

The finding in the Phase I ESAs that potential pesticide residues were not a recognized environmental condition is contrary to findings made in other Kern County Phase I ESAs where

19 [http://www.astm.org/Standards/E2247.htm](http://www.astm.org/Standards/E2247.htm)
agricultural use was noted. In the three footnoted examples, agricultural use and pesticide application were cited as recognized environmental conditions that warranted follow-up soil sampling.

The Responses state that “soil sampling pursuant to a Phase II ESA is not warranted” (p. 7-205). Contrary to this response, pesticide use in Kern County may be considered to be a recognized environmental condition, one that requires updated Phase I ESAs and soil sampling to determine health impacts. The FEIR should be recirculated to include updated Phase I ESAs and provide for soil sampling to determine if residual concentrations of pesticides are present that would present risks to construction personnel involved in earthmoving activities.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Uma Bhandaram

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COUNTY OF KERN
DEVELOPMENT SERVICES AGENCY
ROADS DEPARTMENT
Office Memorandum

To: Lorelei H. Oviatt, AICP, Director
Planning & Community Development Department
Attn: Jaymie L. Brauer, Planner III

From: Warren D. Maxwell, Development Review Engineer
Roads Department

Subject: 7-5.3 DEIR for the FRV Valley Solar Project GPA 3/CUP 24, Map 161;
CUP 25, Map 161; GPA 5/CUP 16, Map 125, Cancellation of Williamson
Act Land Use contracts; 11-3, 11-4 & 11-7 (PP11297).

This Department has reviewed the Draft Environmental Impact Report (DEIR) for the
subject project and concurs with the findings.

The proposed Amendment to the Circulation Element described in Figures 1-14 & 1-15,
shows the appropriate future midsection line roadway alignments to be removed.

The project has the necessary mitigation measures to address any significant impacts
to County roadways during the construction and operational phases of the project.

Thank you for the opportunity to comment on this project, if you have any questions or
comments please contact Steven Young at 862-8860.
Office Memorandum
KERN COUNTY

To: Planning Department
    Jaymie Brauer

From: Engineering, Surveying and Permit Services
      Floodplain Management Section
      Aaron Leicht, by Jason Scheer

Subject: Notice of Public Hearing – Planning Commission
         Conditional Use Permit #11, Map #152

Date: September 5, 2012

Phone: (661) 862-5083
Email: ScheerJ@co.kern.ca.us

From the information supplied with the Notice of Public Hearing, we have no comments or recommendations regarding the above project.
September 5, 2012

Kern County Planning and Community Development Department
Jaymie L. Brauer
2700 “M” Street, Suite 100
Bakersfield, CA 93301

Re: Beacon Solar LLC (NextEra Energy Resources) (PP12213)

Dear Jaymie L. Brauer,

Thank you for your letter and the opportunity to comment on this project. Tejon Indian Tribe has no conflict with this project nor do we know of any cultural resources that might be impacted at this site. This project is out of our area, however, I ask that you notify me immediately if any site/s and / or artifacts are discovered during your project in the area. Please update your records to reflect our new address below. Please send any future requests there so that we can respond in a timely manner.

Sincerely,

Kathryn Montes Morgan
Tribal Chair
Tejon Indian Tribe
August 30, 2012

From: Serrano Florante C. and Nilda G.
2158 Meadowbrook Ct., #9
Santa Rosa, CA 95403

To: Kern County Development Services Agency
Planning and Community Development Department
2700 ‘M’ Street, Suite 100
Bakersfield, CA 93301-2323

Subject: The proposed Beacon Photovoltaic Project, Re: CUP #11, Map #152

To whom it may concern:

The above subject project is good for California, in particular to the concerned locality. If we were to compare the area with neighboring places or even to other places around the country, we would realized that it’s been left behind for probably decades in terms of development.

The power plant will have no significant impact on the environment as power will be harvested from the sun via the proven Photovoltaic technology. The power generation process involved when the plant will be in operations is clean compare to the existing power generation systems that use internal combustion engines and/or gas turbines that contributes to the deterioration of air quality. This project is a good start to assist with reducing greenhouse gas emission here in California.

Hence, we are looking forward to the approval/ implementation of the project.

Respectfully Yours,

[Signature]
Flotante C. Serrano

[Signature]
Nilda G. Serrano
Attachments
October 16, 2012

Planning Director
Kern County Planning and Community Development Department
2700 M St. Suite 100
Bakersfield, CA 93301-2323

Re: Beacon Photovoltaic Project

Dear Planning Director:

This letter responds to Michael Kavanaugh’s comments regarding the Beacon Photovoltaic Project’s Environmental Impact Report (EIR) alleging that the Beacon Photovoltaic Project is likely to result in some form of “urban decay” and that the EIR’s analysis and proposed mitigation of cumulative impact of the abandonment of PV solar projects is inadequate. Dr. Kavanaugh submitted comments on August 21, 2012 and again on September 21, 2012. Based on my review as a professional economist, I have concluded that Dr. Kavanaugh’s comments are pure conjecture and speculation and are not supported by economic theory, economic evidence, or common sense. I support this conclusion through a point-by-point response to Dr. Kavanaugh’s concerns presented below.

1. The Project and Physical Deterioration

Dr. Kavanaugh contends that the project will lead to “deterioration of structures” and thus to some form of “urban decay.” He posits that the fact that there are “several abandoned structures in the area ... near the site access point,” proves that the area is vulnerable to “vacancy, structural deterioration and abandonment”. There is no merit to this contention. It is not surprising to find abandoned buildings in an area that has long fallen into disuse as the project site has.¹ Land records show that the project site was last farmed almost 30 years ago (DEIR, p 10). This is not evidence that the area is susceptible to further deterioration especially if the land is put back to use or that the proposed project will cause such deterioration. Indeed, the Beacon Photovoltaic project will not add to deterioration and has already eliminated abandoned and blighted structures on site. Land that becomes unattractive for one use often becomes attractive for another resulting in improvements not deterioration. This is not uncommon and is consistent with economic theory. There are ample examples of this even in the rust belt cities referenced by Dr. Kavanaugh in his August 21, 2012 comments (p.7). Re-use of the project site after 30 years of no productive use is significantly more likely to lead to economic improvement rather

¹ An aerial view of the region using Google Earth indicates that there very few structures of any kind present suggesting that the area is not vulnerable to widespread deterioration and abandonment. See Attachment 1.
than economic deterioration. Furthermore, the re-use of the project site will generate revenue for the County, including increased property taxes.

Dr. Kavanaugh also asserted in his August 21, 2012 comments that Beacon along with other photovoltaic (PV) projects has “the potential to put downward pressure on local employment and labor earnings (including agricultural income and employment).” (p.3). This he contends may lead to deterioration of residential and commercial structures. There is no evidence to suggest that this is the case. First, he presents no evidence that the project will lead to downward pressure on labor earnings. The Beacon Photovoltaic Project site currently supports no employment at all, agricultural or otherwise. Further, even if the 31,808 acres (including 2298 acres for the Beacon project) that Dr. Kavanaugh lists as associated with PV projects were on agricultural lands they would represent about 3.6% of the 874,599 acres harvested in Kern County in 2011.2 There is no evidence that approval of PV solar projects throughout the County is putting farming operations out of business or that farm workers are being laid off as a result. Second, Dr. Kavanaugh presents no evidence to connect his theorized downward pressure on earnings with deterioration of residential and commercial facilities. For there to be such a link, Dr. Kavanaugh would need to not only show that the downward pressure on wages existed, but that it was substantial enough to cause workers to neglect their homes and businesses. He makes no such showing. Finally, because PV projects consume virtually no water, they may actually help agriculture on other sites by reducing water demand relative to conventional fossil fired power plant that would be built in their absence.

2. Project Size Measured in Megawatts and Acres

Dr. Kavanaugh claims that the Beacon Photovoltaic Project is less efficient in its land use than other PV solar projects planned or approved in Kern County, and as a result the project is more likely to contribute to structural deterioration. This claim too is without merit or supporting evidence. It appears that Dr. Kavanaugh believes that a “less efficient” solar project is bad because such a project takes up more land than would be used for other purposes, such as agriculture. As I noted above, there is no evidence that the land in question would be used for agricultural or any other purpose in the absence of the project. Furthermore, Dr. Kavanaugh has offered no evidence suggesting, and there is no reason to expect, that the project site would be used for agricultural purposes again over the next 30 years or more. No other use has been proposed. Consequently, there are no opportunity costs associated with the use of these acres for the Beacon Photovoltaic Project because no other economically productive use of the land is contemplated or likely. Moreover, the additional acres attributable to Beacon relative to the average of the site identified by Dr. Kavanaugh, about 443 acres, would represent a trivial loss in agriculture employment even if the land would otherwise be placed back into agricultural production – approximately 2 jobs.3 Agricultural land does not typically generate many direct

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3 If Beacon’s land use was the average of the sites listed by Dr. Kavanaugh, it would use about 443 fewer acres (9.19 acres/mw x 250 – 7.47 acres/mw x 250 = 443). At .00477 jobs/acre x 443, only 2 jobs would be gained if the land would otherwise be in agricultural production.
local jobs. Almonds, a major crop in Kern County for example, generate only 0.00477 jobs per acre because of technological advances.  

Finally, Dr. Kavanaugh's megawatt to acre (MW/acre) comparison is seriously flawed. The fact that Beacon Photovoltaic Project's MW/acre ratio is higher than the average tells us nothing about its economic efficiency. To judge this, one has to take into account the amount of sunlight, the technology used, the cost of the technology, operating costs, and land costs. Presumably Beacon Photovoltaic Project’s investors accounted for the price of the land in their investment decision and found the project attractive. Dr. Kavanaugh cannot say that the Beacon project is any more or less economically efficient than the other local projects he lists without this information. Imposing a standard value for land use as Dr. Kavanaugh suggests, in the absence of these other factors, is likely to result in less not more efficient plant development.

3. Decommissioning Plans and Financial Assurances

Dr. Kavanaugh argues that the financial assurances proposed by Kern County are inadequate. He fails, however, to demonstrate that this is the case in quantitative terms. First, PV solar projects, even at the end of their useful lives, have value for recycling and reuse, especially aluminum and glass components that comprise a sizable fraction of the facilities. Two elements used in panels Tellurium (Tu) and Indium (In) in smaller amounts are very rare and are likely to grow in value in the future. An active market for solar module recycling is anticipated as the technology gains greater market penetration. Given the prospects for recycling or reusing much of the solar facilities themselves, it is highly unlikely that such components would be simply abandoned. Instead, solar operators are anticipated to have financial incentive to decommission the solar facilities in order to realize the salvage value of the facilities. Dr. Kavanaugh neglects to take this fact into account. Second, Dr. Kavanaugh seems to think that expected costs of decommissioning a PV solar project to the County are like those of a nuclear plant or at least an industrial site. There is no basis for such a concern and no reason to expect that the County will ultimately be responsible for cleaning up a highly contaminated site. PV plants do not contain large amounts of toxic substances and as noted above much of the material is recyclable.

4. Temporary or Permanent

Dr. Kavanaugh thinks that a date certain for decommissioning and restoration should be set – regardless of whether the project is operational or at the end of its useful life. This makes no

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5 It is useful to note that the Beacon project’s MW/acre according to the values presented by Dr. Kavanaugh is not statistically different that the ratio for the plants listed.


sense. As I indicated above, the life of the Beacon Photovoltaic Project is unknown. The solar project may be in operation for 35 years. The life of the project could also be extended beyond this point because of technological gains. It is also possible that the solar project could shut down sooner if alternative forms of energy become more attractive although this not contemplated in forecasts that I am familiar with. In either case, requiring that any restoration be completed with a reasonably prescribed time, as is required by the EIR and Mitigation Measure MM 4.9-1, can be accomplished without setting specific restoration dates in advance.

Conclusion

None of the comments made by Dr. Kavanaugh in his August 21, 2012 and September 21, 2012 comment letters raise any legitimate concerns, and no changes in the EIR, mitigation measures, or project plans are required by his comments. He has provided no evidence that the Beacon Photovoltaic Project will contribute to vacancy rates or structural abandonment or deterioration. Both theory, evidence, and common sense suggest the contrary. His proposals regarding a MW/acre standard and a date certain for restoration do not address real problems and as a consequence should be rejected.

Sincerely,

*The Brattle Group*

[Signature]

Mark Berkman, Ph.D.
Principal

*The Brattle Group*
Beacon Solar's Proposed Site is Undeveloped Desert as Shown by Recent Aerial Photography

Legend

- Beacon Solar Proposed Site — Approximate Boundary
Dr. Mark P. Berkman is an expert in applied microeconomics. His experience spans the areas of the environment, energy, and natural resources; environmental health and safety; labor and employment; intellectual property; antitrust; commercial litigation and damages; and public finance. He has assisted both public and private clients and provided testimony before state and federal courts, arbitration panels, regulatory bodies, and legislatures.

His environmental work has involved the review of proposed air, water, solid waste, and worker and product safety regulations. Dr. Berkman has quantified the costs and benefits of these regulations, as well as toxic tort and product liability claims. In addition, he has valued natural and water resources as well as property damages associated with pollution from Superfund sites, landfills, and power plants.

His work on energy matters includes the valuation of coal resources, power plants, and transmission rights-of-way. He has also prepared energy demand and price forecasts. He has extensive experience working with Native American tribes on energy valuation matters.

Clients in a variety of industries ranging from computer chip to shoe manufacturers have sought Dr. Berkman’s assistance to value patents, trade secrets, and trademarks. He has also been called on to address questions of market power in a variety of industries including solid waste, computer manufacturing, and medical devices. He has testified regarding market definition and market power and participated in Hart-Scott-Rodino proceedings.

Dr. Berkman also has substantial experience in labor and discrimination litigation. He has conducted statistical analyses of alleged discrimination in hiring, promotion, pay, and contracting, and completed damage analyses regarding these allegations. He has also conducted statistical analyses regarding mortgage lending discrimination.

Prior to joining Brattle he was a co-founder and director at Berkeley Economic Consulting and a vice president at both Charles River Associates and NERA Economic Consulting.

**Areas of Expertise**

- Antitrust/Competition
- Commercial Damages
- Environmental Litigation and Regulation
- Intellectual Property
- Product Liability
- Utility Regulatory Policy and Ratemaking
- Employment and Discrimination

The Brattle Group
EDUCATION

♦ University of Pennsylvania, Wharton School – Ph.D. in Public Policy Analysis – Managerial Science and Applied Economics
♦ Harvard University – M.A. in Planning, Policy Analysis and Administration
♦ George Washington University, B.A. in Economics and Urban Affairs

EXPERIENCE

♦ 2008 – 2010: Director, Berkeley Economic Consulting
   Responsible for managing and conducting projects in the areas of environment, energy, intellectual property, antitrust, labor, and public finance
♦ 2002 – 2008: Vice President, Charles River Associates
♦ 1993 – 2002: Vice President, NERA Economic Consulting
♦ 1988 – 1993: Senior Consultant, NERA Economic Consulting
♦ 1984 – 1988: Senior Analyst, NERA Economic Consulting
♦ 1980 – 1983: Research Fellow, University of Pennsylvania
♦ 1977 – 1980: Associate Budget Analyst, Congressional Budget Office
♦ 1976 – 1977: Teaching Assistant, Harvard University
♦ 1975 – 1976: Research Assistant, The Urban Institute
♦ 1973 – 1975: Staff Assistant, United States Congress, Office of Congressman Charles Vanik

PROFESSIONAL AFFILIATIONS

♦ American Economic Association
♦ Association for Public Policy Analysis and Management
♦ Association of Environmental and Resource Economists
♦ Western Economic Association

The Brattle Group
MARK P. BERKMAN 3

PUBLICATIONS


The Brattle Group

Mark P. Berkman

Testimony and Reports

Environment, Energy, and Natural Resources


♦ Deposition Testimony of Mark P. Berkman on behalf West Bay Sanitary District in the matter of San Francisco Baykeeper v. West Bay Sanitary District, United States District Court for the Northern District of California, Case No. cv-09-5676-EMC, regarding water pollution damages, July 28, 2011.

♦ Rebuttal Expert Report of Mark P. Berkman on behalf West Bay Sanitary District in the matter of San Francisco Baykeeper v. West Bay Sanitary District, United States District Court for the Northern District of California, Case No. cv-09-5676-EMC, regarding water pollution damages, June 2011.


♦ Rebuttal Testimony of Mark P. Berkman and David L. Sunding in the Matter of the Application of California American Water Company (U 210 W) for a Certificate of Convenience and Necessity to Construct and Operate its Coastal Water Supply Project to Resolve the Long-Term Water Supply Deficit in its Monterey District and to Recover all Present and Future Costs in Connection Therewith in Rates, Application 04009-019, on behalf of the Marina Coast Water District regarding the benefits of a regional water supply project, May 27, 2010.
Declaration of Mark P. Berkman, PhD in Support of Real Party in Interest Potrero Hills Landfill, Inc.’s Memorandum of Points and Authorities in Opposition to Petition for Writ of Mandate, Sierra Club vs. County of Solano: Board of Supervisors of Solano County: and Does 1-10, Superior Court of the State of California, County of Solano, Case No. FCS034073, regarding the interstate nature of waste disposal, December 9, 2009.

Direct Testimony of Mark P. Berkman and David L. Sunding in the Matter of the Application of California American Water Company (U 210 W) for a Certificate of Convenience and Necessity to Construct and Operate its Coastal Water Supply Project to Resolve the Long-Term Water Supply Deficit in its Monterey District and to Recover all Present and Future Costs in Connection Therewith in Rates, Application 04009-019, on behalf of the Marina Coast Water District regarding the benefits of a regional water supply project, June 24, 2009.

Deposition Testimony in the matter of Watkins & Shepard Trucking vs Socco West, Inc, Superior Court of the State of California for the County of Los Angeles –Central District, Case No. BC379287, on behalf of defendants regarding the influence of environmental risk on real estate price, September 9, 2008.


Analysis of the Economic Impacts of a Shutdown of Limestone Mining in Florida’s Lake Belt District on behalf of the Miami Dade Limestone Products Association with Ann McDermott, March 21, 2007.


Expert Testimony in the matter of Quality Control Services, Inc. v. Dougherty County, United States District Court for the Middle District of Georgia Albany Division, Case no. 1:05 CV-19 (WLS) on behalf of plaintiffs regarding the Pike Balancing test, 2006.
Deposition Testimony in the Matter of Corbitt v. American Furniture Manufacturing Inc. and W.S. Bradock Corporation, United States District Court, Middle District of Alabama Civil Action 2:05CV58-T, on behalf of defendants regarding product liability, November 18, 2005.


“Environmental liability forecasts regarding manufactured gas plant sites for Pacific Gas & Electric,” September 2004. (Confidential)


“Evaluation of Tax Claim Against the State of Montana.” Prepared for the Fort Peck Reservation, September 18, 1997. (Confidential)

Deposition Testimony on behalf of homeowners in Benicia, California, regarding property value diminution in Lagrimes v. Southampton et al., September 1997.

Testimony before the Trade Waste Commission, City of New York on behalf of the New York City Economic Development Commission, regarding maximum rate regulation of commercial waste collection, January 21, 1997.

“Costs and Benefits of the Proposed Enclosed Unloader at the Fresh Kills Landfill.” Prepared for the New York City Law Department, December 1996.

Deposition Testimony on behalf of Browning-Ferris Industries, in the matter of W.J. Curry & Son v. Velsicol Chemical Co. v. Kraft et al. regarding the allocation of Superfund remediation costs, July 12, 1996.


Affidavit on behalf of the New York City Law Department, in the matter of the Application of New York City Department of Environmental Protection for Renewals of the State Pollutant Discharge Elimination System Permits for New York City’s 14 Publicly Owned Treatment Works regarding the costs and benefits of proposed pollution control investments, August 24, 1995.


Prefiled Direct Testimony before the Montana Public Service Commission, on behalf of the Montana Power Company, Docket No. 94.8.30, regarding affiliated coal prices, August 22, 1994.


Declaration on behalf of the Hacienda Improvement Association before the Superior Court of the State of California, Case No. BS 021186, Hacienda La Puente Unified School District of Los Angeles County, et al. v. County of Sanitation District No. 2 of Los Angeles County, et al., regarding solid waste disposal capacity in Los Angeles, October 14, 1993.


• "Hydroelectric Relicensing: Comparing the Value of Power and Nonpower Uses." With Mike Rosenzweig, April 1, 1991.


• Testimony before the Oregon Environmental Quality Commission, on behalf of the Oregon Department of Environmental Quality, regarding out-of-state waste charges, November 1, 1990.


• Expert testimony before the Indiana Utility Regulatory Commission on behalf of Northern Indiana Public Service Company regarding acid rain legislation and coal price forecasts, September 27, 1989.
MARK P. BERKMAN


♦ Determination of Market Price for Angel Mining Inc.’s and Diversified Fuels Inc.’s Contracts With Taiwan Power Company.” With Fred Dunbar and Jerry Hausman before the International Chamber of Commerce on behalf of Angel/Diversified, April 1987.


♦ Testimony before the Vermont Public Service Board on capacity planning and load forecasting on behalf of Central Vermont Public Service Corporation, July 12, 1985.


♦ Expert Witness Report and Testimony before the United States District Court, District of Montana, on the coal severance taxes and the market for Western coal, on behalf of the Crow Indian Tribe, 1984.


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Environmental Health and Safety


♦ Expert Report of Mark P. Berkman in the matter of John Stewart Edwards v. La-Z-boy et.al, in the District Court 258th District, Polk County Texas, on behalf of defendant regarding the impact of fire safety regulations on upholstered furniture fires, May 16, 2008.


♦ Deposition Testimony in the matter of Seng v. Levitz et al. in the Superior Court of the State of Washington, in and for Snohomish County, on behalf of the defendants regarding product liability. Oakland, California, August 27, 2003.


♦ Testimony before the U.S. House of Representatives Committee on Education and the Workforce on behalf of the American Trucking Association regarding the costs and benefits of a proposed ergonomics standard, July 1997.


♦ Testimony on behalf of the Inter-Industry Wood Dust Coordinating Committee, before the Occupational Safety and Health Administration, Department of Labor, Docket No. H-020, August 12, 1988.

**Labor and Employment**

- Expert Report on behalf of L-3 Communications/ L-3 on the Matter of Tanya Rahim vs. L-3 Titan Corporation regarding damages, August 22, 2012.


- Deposition Testimony on behalf of the City and County of San Francisco in the matter of City and County of San Francisco, et al. v. United States Postal Service, et al., United States District Court for the Northern District of California San Francisco Division No. 3:09-cv-01964-RS (EDL), regarding costs to provide centralized service to single occupancy hotels, July 7, 2011.

- Expert Report on behalf of the City and County of San Francisco in the matter of City and County of San Francisco, et al. v. United States Postal Service, et al., United States District Court for the Northern District of California San Francisco Division No. 3:09-cv-01964-RS (EDL), regarding costs to provide centralized service to single occupancy hotels, June 2011.

- Deposition Testimony in the matter of Associated General Contractors of America v. California Department of Transportation, United States District Court Eastern District of California No. 2:09-cv-01622-JAM-GGH, November 2010.


- Expert Report in the matter of Associated General Contractors of America v. California Department of Transportation, United States District Court Eastern District of California No. 2:09-cv-01622-JAM-GGH regarding the adequacy of the statistical study that supported the introduction of a race conscious contracting program by defendant, September 2010.

- Trial Testimony in the matter of Amy Moran v. Qwest Communications et al., Superior Court of the State of California, City and County of San Francisco Case No. CGC08-480654 on behalf of plaintiff regarding damages attributable to alleged gender discrimination and sexual harassment, February 2, 2010.


Deposition Testimony in the matter of Carlos Torres et. al. v. Gristedes Operating Corporation et al., United States Court Southern District of New York, Case No. 04 CV 3316 (PAC) (ASP), October 25, 2005.

Expert Report of Mark Berkman in the matter of Carlos Torres et. al. v. Gristedes Operating Corporation et. al., United States Court Southern District of New York, Case No. 04 CV 3316 (PAC) (ASP), regarding a wages and hours claim on behalf of defendant, October 11, 2005.


Supplemental expert report of Mark P. Berkman filed in the matter of National Association for the Advancement of Colored People, et al. v. The State of Florida Department of Corrections, et al., In the United States District Court for the Middle District of Florida, Ocala Division, on behalf of the plaintiffs. October 20, 2003.

Trial Testimony in the matter of Daniel Millar v. San Francisco Bay Area Rapid Transit District, Superior Court for the State of California, for the County of Alameda, on behalf of San Francisco Bay Area Rapid Transit District, regarding alleged wrongful termination. Oakland, CA, October 8–9, 2003.


Deposition Testimony in the matter of Daniel Millar v. San Francisco Bay Area Rapid Transit District, Superior Court for the State of California, For the County of Alameda, on behalf of San Francisco Bay Area Rapid Transit District, regarding alleged wrongful termination. Walnut Creek, CA, April 3, 2003.

♦ Deposition Testimony and Trial Testimony in the matter of Lannie Staniford v. Acordia Inc., Acordia of California Insurance Services, Robert DeValle, James Wells, Wells Fargo and Company, and DOES 1 through 20 inclusive, in the Superior Court of the State of California, in and for the County of San Francisco, on behalf of defendant Acordia, Inc. regarding alleged wrongful termination. Deposition December 23, 2002; Trial Testimony January 13, 2003, both in San Francisco, CA.


♦ Trial Testimony on behalf of the NAACP in the matter of NAACP v. State of Florida Department of Corrections, U.S. District Court, Middle District of Florida, Ocala Division regarding statistical evidence of race discrimination in the promotion, training and discipline of black corrections officers, Ocala, Florida, November 6, 2002.


♦ Trial Testimony of Mark P. Berkman in the matter of Dawn Goodman v. City of San Jose before the Superior Court of the State of California on behalf of the City of San Jose regarding economic damages related to alleged wrongful termination, San Jose, CA, August 16, 2001.


♦ Trial Testimony of Mark P. Berkman in the matter of Lucy Sales et al. v. County of Contra Costa et al., before the U.S. District Court for the Northern District of California, on behalf of Contra Costa County regarding the utilization of minority- and women-owned firms by the County, June 18, 2001.

♦ Deposition of Mark P. Berkman in the matter of Lucy Sales et al. v. County of Contra Costa et al., regarding comments on reports filed by plaintiff's experts, February 16, 2001.
Affidavit of Mark P. Berkman in the matter of National Association for the Advancement of Colored People, et al. v. State of Florida Department of Corrections, et al., to examine the Florida Department of Corrections data regarding the hiring and promotion of staff and analyze it for evidence of race and gender discrimination, April 4, 2001 and September 13, 2000.

Deposition of Mark P. Berkman in the matter of Lucy Sales et al. v. County of Contra Costa et al., regarding the calculation of the utilization of minority- and woman-owned firms in professional services and purchasing by the County, October 17, 2000 and July 18, 2000.

Amended Declaration of Mark P. Berkman in the matter of Lucy Sales et al. v. County of Contra Costa et al., to calculate the utilization of minority- and woman-owned firms in professional services and purchasing by the County, September 19, 2000 and July 14, 2000.


“The Availability of Minority and Woman-Owned Businesses for the Southern California Regional Rail Authority.” Prepared at the request of the Southern California Regional Rail Authority, December 1996.

Testimony before the California Public Utilities Commission, on behalf of The Joint Utilities Subcommittee, consisting of 12 California utilities, regarding NERA’s study to estimate the availability of service disabled veteran-owned establishments within the geographic and product markets from which the California utilities purchase goods and services, October 17, 1996.


MARK P. BERKMAN


- Declaration on behalf of San Francisco Bay Area Rapid Transit District in RGW Construction, Inc. San Francisco Bay Area Rapid Transit District, et al., regarding evidence of discrimination against minority contractors in the Bay Area, October 8, 1992.


Intellectual Property

- Deposition Testimony in the matter of Quickie LLC v Greenberg Traurig et.al, United States District Court Southern District of New York, 07Civ.10331 (RMB) (DFE), on behalf of plaintiffs, April 13, 2009.


- Expert Rebuttal Report of Mark Berkman, PhD in the matter of Quickie LLC v Greenberg Traurig et.al, United States District Court Southern District of New York, 07Civ.10331 (RMB) (DFE), on behalf of plaintiffs regarding patent infringement damages, October 17, 2008.

- Expert Report of Mark Berkman, PhD in the matter of Quickie LLC v Greenberg Traurig et.al, United States District Court Southern District of New York, 07Civ.10331 (RMB) (DFE), on behalf of plain-tiffs regarding patent infringement damages, July 21, 2008.


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Deposition Testimony in the matter of Hank Spacone, on behalf of and a trustee for the General Unsecured Creditors' Liquidating Trust of At Home Corporation, and on behalf of and in the name of the At Home Liquidating Trust of At Home Corporation, Microsoft Corporation, Civil Action NO. C034739 (CW), September 27, 2005.

Expert Report of Mark Berkman in the matter of Hank Spacone, on behalf of and a trustee for the General Unsecured Creditors' Liquidating Trust of At Home Corporation, and on behalf of and in the name of the At Home Liquidating Trust of At Home Corporation, Microsoft Corporation, Civil Action NO. C034739 (CW), August 19, 2005.


♦ Trial Testimony of Mark P. Berkman in Caliper Technologies Corp. v. Bertram Rowland; Flehr, Hohbach, Test, Albritton & Herbert; Aclara Biosciences, Inc., and Does One Through One Hundred, estimated damages related to the misappropriation of trade secrets for a computer chip, October 5, 2000.


Expert Reports of Mark P. Berkman, on behalf of Cellnet Data Systems, Inc., in the matter of Cellnet Data Systems, Inc. v. Itron, Inc., to calculate damages regarding Itron's alleged infringement of their patent on remote electric meter reading, April 1, 1998 and May 19, 1998.

Antitrust


♦ Trial Testimony of Mark P. Berkman before the U.S. District Court for the District of Minnesota on behalf of Superior-FCR Landfill, Inc. v. Wright County, Minnesota, regarding the impact of a county-need based zoning decision on interstate commerce, June 15, 2001.


♦ Deposition Testimony of Mark P. Berkman on behalf of Superior-FCR Landfill, Inc., in the matter Superior-FCR Landfill, Inc. v. Wright County, Minnesota, regarding the effects on interstate commerce of Wright County’s zoning policies, August 24, 2000.


♦ Expert Witness Report of Mark P. Berkman, on behalf of Randy’s Sanitation, Inc., in the matter of Randy’s Sanitation, Inc. v. Wright County, Minnesota, Patrick Sawatzke, and Kenneth Jude, regarding the impacts of Wright County’s flow control ordinance on interstate and intrastate trade, November 2, 1998.
Investigation of the Proposed Merger of Waste Management, Inc. with USA Waste before the U.S. Department of Justice as required by the Hart-Scott-Rodino Act, 1998.

Testimony before the Trade Waste Commission, City of New York on behalf of the New York City Economic Development Commission, regarding maximum rate regulation of commercial waste collection, January 21, 1997.


Investigation of the Proposed Acquisition of United Waste by USA Waste, before the U.S. Department of Justice as required by the Hart-Scott-Rodino Act, 1997.

Expert Witness Report of Mark P. Berkman, on behalf of Robinson Rubber Co. Inc., et al. v. Hennepin County, Minnesota, before the United States District Court, District of Minnesota, Civil Court File No. 4-95-220, regarding the impact of Hennepin County's flow control ordinance on the demand for solid waste management services, December 30, 1996.


Expert Witness Report of Mark P. Berkman in the matter of Ben Oehrlein et al. v. Hennepin County, Minnesota, in the United States District Court for the District of Minnesota Fourth Division, addresses what the market price for solid waste disposal in Hennepin County, Minnesota, would have been between 1989 and 1995 but-for a County Ordinance restricting waste to designated disposal facilities, November 1, 1995.

Affidavit of Mark P. Berkman in Support of Class Certification, on behalf of Robinson Rubber Co. Inc., et al. v. Hennepin County, Minnesota, before the United States District Court, District of Minnesota, Civil Court File No. 4-95-220, regarding the impact of Hennepin County's flow control ordinance on solid waste disposal costs on County residents and businesses, October 30, 1995.

Declaration on behalf of Ben Oehrlein et al. v. Hennepin County, Minnesota, before the United States District Court, District of Minnesota, Civil Court File No. 4-94-63, regarding the geographic market for solid waste disposal, August 3, 1995.


Investigation of the Proposed Acquisition of Attwoods, Inc. by Browning-Ferris Industries, Inc. before the U.S. Justice Department as required by the Hart Scott Rodino Act, 1994.


High Technology Careers, a California partnership v. San Jose Mercury News, a California Corporation, before the U.S. District Court, Northern District of California, San Jose Division, No. 90-20579-SW, 1991.


Commercial Litigation and Damages


• Deposition of Mark Berkman, in the matter of Isuzu Motors Limited v. Consumers Union of United States, Inc, in the United States District Court, Central District of California, Case No. 97 5685 RAP (RBNx), regarding rebuttal report to plaintiff’s damage estimates, July 27, 1999.


• Declaration of Mark P. Berkman in the matter of Walters Furniture v. Alameda Newspapers Inc., in Superior Court of California, County of Alameda, Case No. 800147-8, regarding damages resulting from overstated newspaper circulation claims, June 2, 1999.


• Expert Testimony and Report before the United States District Court, for the District of Minnesota Fourth Division, Civil Court File No. 4-96-CIV 188, on behalf of Edward Kraemer & Sons, in the matter of Edward Kraemer & Sons, Inc. v. Wybierala et al., regarding estimating the lost profits suffered by a landfill owner as a result of unauthorized discounts to customers, December 8, 1997.


**Tribal and Indian Affairs**


- Deposition testimony in the matter of Rincon San Lúiseño Band of Mission Indians; and HCAL Corporation, a Nevada Corporation, vs. Dan McAllister, in his official capacity as Treasurer-Tax Collector of San Diego County, on behalf of the Rincon Tribe, May 26, 2005.

- Supplemental Expert Report in the matter of Rincon San Lúiseño Band of Mission Indians; and HCAL Corporation, a Nevada Corporation, vs. Dan McAllister, in his official capacity as 'Treasurer-Tax Collector of San Diego County, on behalf of the Rincon Tribe, May 23, 2005.

- Expert Report of Mark Berkman, PhD, “Economic Impact of the Harrah’s Rincon Casino on San Diego County, California,” in the matter of Rincon San Lúiseño Band of Mission Indians; and HCAL Corporation, a Nevada Corporation, vs. Dan McAllister, in his official capacity as Treasurer-Tax Collector of San Diego County, on behalf of the Rincon Tribe, March 21, 2005.

- Affidavit of Mark Berkman in the matter of the Navajo Nation v. United States of America, on behalf of the Navajo Nation. Filed in the United States Court of Federal Claims, August 20, 2004.

- Testified before the Public Utilities Commission of the State of California on behalf of the Navajo Nation, in the matter of the Application of Southern California Edison Regarding the Future Disposition of the Mohave Generating Station, June 23, 2004.
Prepared Superceding testimony of Mark P. Berkman, Ph.D., before the Public Utilities Commission of the State of California on behalf of the Navajo Nation, in the matter of the Application of Southern California Edison Regarding the Future Disposition of the Mohave Generating Station, May 14, 2004.


Prepared Direct Testimony of Mark P. Berkman before the Public Utilities Commission of the State of California on behalf of the Navajo Nation in the matter of the Application of Southern California Edison Regarding the Future Disposition of the Mohave Generating Station, March 28, 2003.

Trial Testimony of Mark P. Berkman in Cayuga Indian Nation of New York et al. v. George P. Pataki et al. to calculate prejudgement interest and critique defendant’s damage estimates in a land dispute dating back to 1795, August 15, 2000.


Affidavit of Mark P. Berkman, prepared on behalf of the Crow Tribe of Indians, in the matter of Crow Tribe of Indians v. State of Montana regarding the impact of Montana taxes on the Crow Tribe’s ability to manage its coal resources, October 30, 1998.


Testimony before the United States District Court, District of Arizona, on behalf of the Navajo Nation in Peabody Coal Company v. The Navajo Nation, regarding the Navajo/Hopi coal tax dispute, March 17, 1994.
Affidavit for Marathon Oil Company and the Shoshone and Northern Arapaho Tribes of the Wind River Indian Reservation in Marathon Oil Company, Shoshone and Northern Arapaho Tribes of the Wind River Reservation v. State of Wyoming, et al., demonstrating how state and local taxes infringe on the Tribes' abilities to manage their own energy resources and to provide necessary government services on the Reservation, November 19, 1992.


Testimony before the Select Committee on Indian Affairs, United States Senate, on behalf of the Crow Indian Tribe regarding coal reserve appraisal, July 23, 1992.

Testimony before Select Committee on Indian Affairs, United States Senate, “State Taxation and Indian Economic Development,” May 1, 1990.

“Preliminary Estimate of Revenues Derived by Wyoming and Fremont County from Residents and Businesses on the Wind River Reservation and Expenditures by Wyoming and Fremont County for Services to the Reservation.” Prepared for the Shoshone and Arapaho Tribes, June 3, 1988.

Other


October 16, 2012

VIA E-MAIL

Kern County Board of Supervisors
1115 Truxtun Avenue, 5th floor
Bakersfield, CA 93301

Re: Comments from Matt Hagemann regarding Air Quality

Dear Board of Supervisors:

The purpose of this letter is to respond to the comments submitted by Matt Hagemann in his letter dated September 25, 2012, on the air quality analysis in the Draft and Final Environmental Impact Reports (EIRs) for the Beacon Photovoltaic Project. As noted in Mr. Hagemann’s resume that was attached to his previously submitted comment letter (August 22, 2012), he is a hydrologist and geologist. In comparison, I hold a Ph.D. in Environmental Engineering Science and have over 36 years of experience in air quality consulting. My specialties include air pollutant emission estimation, air quality impact analyses for California Environmental Quality Act (CEQA) documents, health risk assessments, data analysis, ambient monitoring, quality assurance and visibility studies. Additional qualifications are included in my resume (attached).

Below are my responses to the comments Mr. Hagemann provided on the quantification of particulate matter emissions and health effects from particulate matter emissions.

1. Particulate Matter Emissions

Mr. Hagemann notes that Eastern Kern Air Pollution Control District’s (EKAPCD) Rule 402 does not provide control efficiencies for the dust control measures required by Rule 402. He then alleges that the control efficiencies in the Western Regional Air Partnership’s (WRAP) Fugitive Dust Handbook (http://www.wrapair.org/forums/dejffdh/content/FDHandbook_Rev_06.pdf) do not substantiate the 68 percent control efficiency that was determined through implementation of fugitive dust mitigation measures and compliance with EKAPCD’s Rule 402. Mr. Hagemann suggests that the mitigation measures to reduce fugitive dust should be modeled or calculated to show that the 68 percent control efficiency can be achieved.
Although Mr. Hagemann is correct that control efficiencies for dust control measures are not provided by the EKAPCD, WRAP’s control efficiencies, which are commonly used by air districts in California, such as the South Coast Air Quality Management District (SCAQMD), are substantial evidence of the types of efficiencies that can be expected for each required dust control measure. The efficiencies apply equally to dust control in EKAPCD as to dust control in basins regulated by other air districts. As noted in the air quality memorandum contained in Appendix C.1 of the Draft EIR prepared for this project, the 68 percent control efficiency is similar to the dust control efficiencies cited in other Kern County Planning Department CEQA documents, e.g., Rosamond Solar Project Draft Environmental Impact Report (July 2010). The County’s responses to Mr. Hagemann’s previously submitted letter (Response 7-M of Chapter 7, Responses to Comments, of the Final EIR) provide additional explanation of why the 68 percent control efficiency is appropriate. As discussed in Response 7-M, the 68 percent dust control efficiency used in the EIR was derived from the WRAP Fugitive Dust Handbook. Response 7-M includes a table of the dust control efficiencies achieved by common dust control measures, such as those required by EKAPCD’s Rule 402 and as specified to be applied on page 4.2-30 in the Draft EIR.

Additionally, the SCAQMD has compiled tables of fugitive dust mitigation measures and their estimated control efficiencies, based primarily on the WRAP Fugitive Dust Handbook (http://www.acqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html). A partial list of fugitive dust control measures that would be implemented during construction of the proposed project and the resulting control efficiencies, based on the tables compiled by the SCAQMD, are shown in the table on the following page.

As shown in the table, estimated control efficiencies from these measures range from 57 percent to 90 percent. Therefore, the 68 percent control efficiency used in the air quality analysis for this project is reasonable. Furthermore, even if the overall control efficiency were the lowest value shown in the table (57 percent), the maximum uncontrolled PM10 emissions shown in Table 4.2-5 of the Draft EIR (18.91 tons per year) would be reduced to 8.13 tons per year, which is substantially lower than the EKAPCD CEQA significance threshold of 15 tons per year.
Fugitive Dust Control Measure Efficiencies

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Control Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply water every 3 hours to disturbed areas within a construction site</td>
<td>61%</td>
</tr>
<tr>
<td>Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)</td>
<td>Up to 80%</td>
</tr>
<tr>
<td>Water storage piles by hand at a rate of 1.4 gallons/hour-yard², or apply cover when wind events are declared</td>
<td>90%</td>
</tr>
<tr>
<td>Require minimum soil moisture of 12% for earthmoving by use of a moveable sprinkler system or a water truck</td>
<td>69%</td>
</tr>
<tr>
<td>Limit on-site vehicle speeds (on unpaved roads) to 15 mph</td>
<td>57%</td>
</tr>
</tbody>
</table>

2. Health Effects of Particulate Matter Emissions

Mr. Hagemann notes that his previously submitted comments included a discussion of potential health effects from particulate emissions. He then lists several health effects that are known to be linked to particulate emissions. Mr. Hagemann notes that several residences are located within a half mile of the site and an elementary school is located three miles north of the site. He requests that the Final EIR address potential health effects to sensitive receptors as a result of dust emissions during project construction and that a dust control plan pursuant to EKAPCD's Rule 402 be prepared and included in the EIR.

The information requested by Mr. Hagemann regarding health effects from particulate matter emissions is already provided in the Draft EIR and in the Responses to Comments section of the Final EIR:

- As noted in Section 4.2, Air Quality of the Draft EIR, and in Response 7-M of Chapter 7, Responses to Comments, in the Final EIR, particulate matter emissions during construction and operation would not exceed the County’s thresholds.

- Impacts to sensitive receptors are specifically discussed under Impact 4.2-4 in Section 4.2, Air Quality, of the Draft EIR. As discussed under Impact 4.2-4, the proposed project would have a less-than-significant impact related to exposure of sensitive receptors to substantial pollutant concentrations.

I agree with the methodology and conclusions presented in the Draft EIR. In fact, the Beacon project may reduce fugitive dust in the region. A solar energy project must keep dust to a minimum through the use of dust control measures, as dust on PV panels reduces their efficiency for energy production. The mandatory dust control measures, along with water from the panel washing that runs off the panels and onto the ground and compaction of the driving surface over time would reduce the amount of dust in the air compared to current conditions. For these reasons, I would expect that implementation of the project would result in an overall incremental decrease in particulate matter emissions and associated potential adverse health effects in the region.

Mr. Hagemann correctly notes that the project falls into EKAPCD’s category of a “Large Operation” and a dust control plan must be prepared for the project. This is already discussed in Section 4.2, Air Quality, of the Draft EIR. Contrary to Mr. Hagemann’s claim, it is not necessary for the dust control plan to be included in the Draft EIR or Final EIR, as is suggested by Mr. Hagemann. In fact, dust control plans are rarely included in EIRs because such plans are usually prepared after the land use permits are granted and the design of the project is finalized. This is also the case for other plans, such as Stormwater Pollution Control Plans. Further there is no need to include the preparation of a dust
control plan as a mitigation measure because the project applicant already is required to prepare such as plan under Rule 402.

In conclusion, I disagree with Mr. Hagemann's allegation that the Final EIR and Responses do not sufficiently address commenter's previously submitted comments on air quality. The air quality analysis contained in the Draft EIR is technically sound and impact determinations are accurate. I find the County's responses to Mr. Hagemann's comments on the Draft EIR provide a good explanation of methodologies used in the Draft EIR analysis.

Please feel free to contact me if you have any questions about this letter.

Sincerely,

Steven L. Heisler, Ph.D., QEP
Steven L. Heisler, Ph.D., QEP
Senior Program Manager

Education
BS, Chemical Engineering, California Institute of Technology, 1970
MS, Environmental Engineering Science, California Institute of Technology, 1971
Ph.D., Environmental Engineering Science, California Institute of Technology, 1975

Years of Experience
Years with AECOM: 37

Professional Affiliations
Air and Waste Management Association

Training and Certifications
Qualified Environmental Professional (QEP)

Dr. Heisler has 37 years experience in air quality consulting. His specialties have included air pollutant emission estimation for both stationary and mobile sources, air quality impact analyses for California Environmental Quality Act (CEQA) documents, health risk assessments, data analysis, ambient monitoring, quality assurance and visibility studies.

Representative Project Experience

UNOCAL, Air Emissions During Site Remediation, San Luis Obispo County, California. Estimated direct and indirect emissions that would occur during excavation and remediation of two large sites, including exhaust emissions from on-site construction equipment and off-site motor vehicles as well as fugitive particulate matter emissions from construction activities.

Southern California Edison, Proponent's Environmental Assessment for Falcon Ridge Substation Project, Southern California. Managed preparation of the Proponent's Environmental Assessment (PEA) for the Falcon Ridge Substation Project for Southern California Edison. Oversaw and conducted quality assurance review for all PEA sections, conducted air and quality greenhouse gas impacts analyses and prepared the air quality and greenhouse gas impacts section.

Southern California Edison, Proponent's Environmental Assessment for Lakeview Substation, Southern California. Participated in preparation of several sections for the Proponent's Environmental Assessment (PEA) for the Lakeview Substation for Southern California Edison. Oversaw and conducted quality assurance review for several PEA sections, conducted air quality and greenhouse gas impacts analyses and prepared the air quality impacts section.

Southern California Edison, Proponent's Environmental Assessment for Alberhill System Project, Southern California. Managed preparation of several sections for the Proponent's Environmental Assessment (PEA) for the Alberhill System Project for Southern California Edison. Oversaw and conducted quality assurance review for several PEA sections, conducted air quality and greenhouse gas impacts analyses and prepared the air quality impacts section.
Southern California Edison, Proponent’s Environmental Assessment for Presidential Substation, Southern California. Managed preparation of several sections for the Proponent’s Environmental Assessment (PEA) for the Presidential Substation for Southern California Edison. Oversaw and conducted quality assurance review for several PEA sections, conducted air quality impacts analyses and prepared the air quality impacts section.

Southern California Edison, Mitigated Negative Declarations for Five Peaker Plants, Southern California. Participated in preparation of Mitigated Negative Declarations (MNDs) for the construction and operation of five peaking power plants for Southern California Edison. Calculated air pollutant emissions during construction, including emissions from off-road and on-road equipment and vehicles, developed air quality impacts mitigation measures, oversaw impacts analyses for other environmental areas, prepared portions of Draft MNDs, prepared responses to comments on the Draft MNDs, prepared Final MNDs and Mitigation Monitoring Plans (MMPs) for four of the peaker facilities, and calculated actual emissions during construction of four of the peakers as required by the MMPs.

Chevron Products Company, EIR for Heavy Crude Project, El Segundo, California. Managed preparation of an Environmental Impact Report (EIR) for modifications to Chevron Products Company’s El Segundo refinery to allow the refinery to increase its capacity to process heavy crude oil. Calculated air pollutant emissions during construction and operation of the proposed project, including emissions from off-road and on-road equipment and vehicles, developed air quality impacts mitigation measures, oversaw impacts analyses for other environmental areas, prepared Draft EIR, prepared responses to comments on the Draft EIR, prepared Final EIR.

South Coast Air Quality Management District, Air Emissions During Power Plant Modification Construction, Southern California. Provided support to the South Coast Air Quality Management District (SCAQMD) for the preparation of an environmental impact report (EIR) for modifications to three Los Angeles Department of Water and Power generating stations. Activities included estimating direct and indirect emissions from construction of the station modifications and preparation of the corresponding sections of the EIR.

South Coast Air Quality Management District, Emission Estimation for Proposed Fleet Vehicle Rules, Southern California. Provided support to the South Coast Air Quality Management District (SCAQMD) for the preparation of a Program Environmental Assessment for its proposed fleet vehicle rules. Activities included estimating direct and indirect emissions from construction of alternative fuel refueling stations and from operation of alternative fueled vehicles by public vehicle fleets in the California South Coast Air Basin.

BP/ARCO, Environmental Impact Report for MTBE
Phaseout/CARB Phase 3 Reformulated Gasoline Project, 
*Southern California*. Oversaw air quality analyses for the 
preparation of an environmental impact report (EIR) for 
modifications to BP/ARCO’s Los Angeles refinery and distribution 
terminals for the phase out of MTBE and the production of 
California Air Resources Board (CARB) Phase 3 reformulated 
gasoline. Specific activities included estimating direct and indirect 
air pollutant emissions associated with construction of the 
modifications and the development of air quality impacts mitigation 
measures.

Chevron Products Company, Environmental Impact Report for 
MTBE Phaseout/CARB Phase 3 Reformulated Gasoline Project, 
*Southern California*. Oversaw air quality analyses for the 
preparation of an environmental impact report (EIR) for 
modifications to Chevron Products Company’s El Segundo refinery 
and distribution terminals for the phase out of MTBE and the production of California Air Resources Board (CARB) Phase 3 
reformulated gasoline. Specific activities included estimating direct and indirect air pollutant emissions associated with construction of the 
modifications and the development of air quality impacts mitigation 
measures.

Mobil Oil Corporation, Environmental Impact Report for MTBE 
Phaseout/CARB Phase 3 Reformulated Gasoline Project, 
*Southern California*. Oversaw air quality analyses for the 
preparation of an environmental impact report (EIR) for 
modifications to Mobil Oil Corporation’s Torrance refinery and distribution terminals for the phase out of MTBE and the production of California Air Resources Board (CARB) Phase 3 reformulated 
gasoline. Specific activities included estimating direct and indirect 
air pollutant emissions associated with construction of the 
modifications and the development of air quality impacts mitigation 
measures.

Cadiz, Inc., Support for EIR/EIS Preparation and Federal 
General Conformity Determination, *San Bernardino County, 
California*. Provided support to Cadiz, Inc. and the Metropolitan 
Water District of Southern California for revisions to a Draft 
Environmental Impact Report (EIR)/Environmental Impact 
Statement (EIS) for construction and operation of a water storage 
and extraction project in the Mojave Desert. Activities included 
estimating air pollutant emissions anticipated to occur during 
construction and operation of the project, preparation of a Federal 
General Conformity Determination, and development of an air 
quality monitoring program.

Riverside Cement Company, Health Risk Assessment, *Oro 
Grande, California*. Served as the project manager for a health risk 
assessment (HRA) for the Riverside Cement Company’s Oro 
Grande cement plant. The HRA was required by and submitted to 
the Mojave Desert Air Quality Management District. Responsibilities 
included overall project management, calculating emissions of 
substances of potential concern, conducting the HRA utilizing the 
Hot Spots Analysis and Reporting Program (HARP) software
package developed by the California Air Resources Board (CARB) for conducting health risk assessments in California under the Air Toxics Hot Spots Program, and preparing the final report.

Riverside Cement Company, Health Risk Assessment, Riverside, California. Served as the project manager for a health risk assessment (HRA) for the Riverside Cement Company’s Crestmore cement plant. The HRA was required by and submitted to the South Coast Air Quality Management District. Responsibilities included overall project management, calculating emissions of substances of potential concern, conducting the HRA utilizing the Hot Spots Analysis and Reporting Program (HARP) software package developed by the California Air Resources Board (CARB) for conducting health risk assessments in California under the Air Toxics Hot Spots Program, and preparing the final report.

CalPortland, Health Risk Assessment, Colton, California. Served as the project manager for a health risk assessment (HRA) for CalPortland’s Colton cement plant. The HRA was required by and submitted to the South Coast Air Quality Management District. Responsibilities included overall project management, calculating emissions of substances of potential concern, conducting the HRA utilizing the Hot Spots Analysis and Reporting Program (HARP) software package developed by the California Air Resources Board (CARB) for conducting health risk assessments in California under the Air Toxics Hot Spots Program, and preparing the final report.

Electric Power Research Institute, Multimedia Health Risk Assessment for a Coal-Fired Power Plant, California. Managed the application of the Total Risk of Utility Emissions (TRUE) model to perform a multi-media health risk assessment for emissions from a coal-fired electric power plant.

Ventura Regional Sanitation District, Air Permit Application, Ventura County, California. Served as the project manager for an application for an air quality Permit to Construct for a biosolids drying system and a landfill-gas fired microturbines at the Ventura Regional Sanitation District’s Toland Road sanitary landfill. Responsibilities included overall project management, conducting a health risk assessment (HRA) for the application of water recovered from biosolids drying for dust control at the landfill and responding to comments and requests for information from the Ventura County Air Pollution Control District.

CalPortland, Air Permit Application, Rillito, Arizona. Served as the project manager for development of an application for a major expansion at CalPortland’s Rillito cement plant. The proposed expansion includes construction of a new cement kiln line and associated raw materials, clinker, and cement handling, milling and storage facilities. Responsibilities included overall project management; calculating baseline actual and future potential emissions from the facility, conducting New Source Review netting analyses, preparation of the permit application and coordinating responses to comments and requests for additional information.
from the Arizona Department of Environmental Quality.

**Arizona Department of Environmental Quality, Hazardous Air Pollution Research Program, Arizona.** Principal Investigator for a hazardous air pollution research program for the State of Arizona in response to a legislative mandate. The objectives of the research program were to evaluate health risks to the population in Arizona from hazardous air pollution and to identify options for reducing emissions. Four geographic regions of Arizona (Phoenix, Tucson, Casa Grande and Payson) were chosen for study based on population and geographical characteristics, and inhalation risk assessments were performed for all four regions.

**Arizona Department of Environmental Quality, Development of Hazardous Air Pollution (HAP) Research Plan, Arizona.** Managed development of a plan for a statewide research program to evaluate existing risks to human health from hazardous air pollution. Coordinated and participated in development of approaches to identify HAPs of concern; monitor ambient HAP concentrations; estimate HAP emissions; model ambient atmospheric, soil and water concentrations; evaluate existing risks; evaluate residual risks following implementation of emission controls; evaluate feasibility of establishing HAP ambient air quality standards; and communicating results and progress to the public. Led preparation of a nationally peer-reviewed written research plan.

**Electric Power Research Institute, Exploratory Assessment of Regional Air Toxics Source-Receptor Relationships, United States and Canada.** Developed gridded estimates of emissions of mercury and particulate air toxics throughout the United States and Canada for regional source-receptor modeling. Reviewed available mercury emission factors and emission source operating data to develop approaches for estimating emissions. Reviewed estimates of emissions of air toxics from fossil-fueled power plants developed by EPRI and the US EPA as well as the quality of all particulate matter speciation profiles in the U.S. EPA's SPECIATE database to select most appropriate values for the emission calculations.

**Electric Power Research Institute, National Emissions Inventory, United States.** Managed the development of a national emissions inventory of 16 pollutants with seasonal, weekday/weekend, and diurnal resolution. The inventory includes data for more than 300,000 individual point sources and area sources in each county in the United States and in southeastern Canada. The project included development of a specialized database management system, extensive automated data quality checks, speciation factors to allocate VOC emissions to nine reactivity classes, and estimates of ammonia and alkaline particulate matter emissions from individual point sources and area sources in each county in the United States.

**Mountain View Power Company, Estimation of Potential Effects of Power Plant Expansion on Nitrogen Deposition, San Bernardino County, California.** Estimated the potential effects on nitrogen deposition of increased nitrogen oxide emissions from
increasing generating capacity at the Mountain View Power Plant.

**Duke Energy North America, Air Quality Modeling Analysis of Effects of New Power Plants on Ozone in Maricopa County, Phoenix, Arizona.** Oversaw air quality modeling analyses using the Urban Airshed Model (UAM) to evaluate the potential effects of emissions from three proposed power plants on ozone in the Maricopa County, AZ ozone nonattainment area. The analyses demonstrated that the emissions from the power plants would not have significant effects on ozone levels.

**Arizona Department of Environmental Quality, Metropolitan Phoenix Voluntary Early Ozone Plan, Phoenix, Arizona.** Managed contract to support ADEQ in development of a state implementation plan for the metropolitan Phoenix ozone nonattainment area. Coordinated activities of regulatory agencies and subcontractors for the development of emissions inventories, Urban Airshed Model (UAM) application, control strategy development, and evaluation and technical analyses of UAM performance.

**Electric Power Research Institute, Operational Evaluation Network Program, Eastern and Midwestern United States.** Deputy project manager with overall responsibility for all development, testing, and implementation of filter and instrumental methods for daily measurements of HNO₃, NH₃, NO₂, PAN, O₃, and particulate mass and composition at 25 sites throughout the Eastern and Midwestern United States over a 2-year period. Directly managed the development of testing facilities to generate known concentrations of gases and the application of those facilities to develop and test new measurement methods.

**U.S. EPA, Acid Model Operational and Diagnostic Evaluation Study, Eastern United States.** Deputy project manager with overall responsibility for daily sampling and analysis of HNO₃, NH₃, SO₂, NO₂, and particulate mass and composition at 75 locations in the Midwestern and Eastern United States over a 2-year period.

**American Iron and Steel Institute, Analysis of Costs to Comply with PM2.5 NAAQS in the Pittsburgh-Steubenville Area, Washington, DC.** Project Manager for an analysis of the costs of emission reductions to comply with proposed levels and forms of revised national ambient air quality standards (NAAQS) for particulate matter smaller than 2.5 microns (PM2.5). The study estimated the effects of emissions of both primary PM2.5 and gaseous PM2.5 precursors on atmospheric concentrations in the Pittsburgh, Pennsylvania/Steubenville, Ohio area and estimated costs for controls to reduce those emissions. The results provided curves of compliance cost as a function of the level of the standard for both 24-hour and annual averages.

**Arizona Department of Environmental Quality, Development of Limited Serious Area PM Attainment Plan, Phoenix, Arizona.** Participated in the development of an Attainment Plan for the Phoenix, AZ serious non-attainment area. Activities included
identification and evaluation of the effectiveness of control measures to reduce fugitive PM10 emissions.

Arizona Department of Environmental Quality, Data Analysis and Source Attribution for Selected Arizona Visibility Monitoring Sites, Arizona. Analyzed visibility and particulate matter data from Phoenix and Tucson, Arizona and from Arizona Sonoran Desert Class I areas. The analyses characterized the spatial and temporal nature of visibility impairment and evaluated the contributions of atmospheric constituents and emission source categories. Presented results for Phoenix to the Arizona Governor’s Brown Cloud Summit, which was an effort to develop strategies to reduce visibility impairment in Phoenix.


Arizona Department of Environmental Quality, Tucson Urban Haze Study, Tucson, Arizona. Managed a study of the nature and sources of Tucson's winter haze. The study included optical, aerosol and meteorological measurements at four locations during a two-month period. Led analysis of the data to describe the haze and its characteristics, attribute the haze to atmospheric constituents, and apportion the haze to emission source categories.

United States Environmental Protection Agency, Project BRAVO Atmospheric Tracer Quality Assurance, Texas. Conducted field and laboratory quality assurance audits of perfluorocarbon tracer release and laboratory analysis activities for Project BRAVO. The atmospheric tracer release and measurement program was intended to quantitatively evaluate transport of emissions from various source areas to Big Bend National Park in Texas.

Southern California Edison Company, Project MOHAVE Quality Assurance, California. Managed field, laboratory and data quality assurance and method evaluations for a multi-institutional study of visual air quality in the Grand Canyon area. Prepared field performance and system audit procedures, conducted field audits of aerosol sampling systems and system audits of laboratory analysis. Audited the central data management for the study. Developed and implemented laboratory approaches for intercomparing SO2 measurement methods implemented by two of the participating organizations.
Appeal Application and
Submitted Materials
REQUEST FOR APPEAL
Kern County Planning and Community Development Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-8600

Pursuant to the provisions therefor in Section 19.102.110 or Section 19.102.170 of the Ordinance Code of Kern County, the undersigned hereby appeals the decision of the ( ) Director of Kern County Planning and Community Development Department, ( ) Kern County Planning Commission, wherein Beacon Photovoltaic Project Case # CUP #11, Map # 152, was (X) approved ( ) disapproved.

The case in question was to allow a Conditional Use Permit to allow for the construction and operation of a 250 MW solar electrical generating facility within the A ... A GH FPS, ... and A-1 ... Districts.

and said decision was rendered on September 27, 2012.

This decision is being appealed for the following reasons: Violations of CEQA and General Plan. See attached.

(attach additional sheets if necessary)

Legal description of property involved in this appeal: Four miles from California City, 15 miles north of unincorporated town of Mojave, and less than one mile southwest of the unincorporated town of Cantil / Rancho Seco. In southeastern Kern County, Supervisorial District 2- Scrivner.

Signature: ___________ Lettered Name: Gideon Kracov on behalf of LIUNA Local No. 220
Street: 801 S. Grand Avenue, 11th Floor Telephone: (213) 629-2071
City, State, Zip: Los Angeles, CA 90017

FOR OFFICE USE ONLY

Name: Kracov Gideon - LIUNA Local 220
Last First Middle
Case # CUP #11 Map # 152 AP # Existing Zone A - A-1
Fee $ 540 Date Filed 9/9/12 Receipt # 189408 S.D. # 2 Rec'd By

FORM196.doc (4/2011)
Development Services Agency

2700 'M' Street
Bakersfield, Ca. 93301

Transaction ID 189408  Transaction Date 10/09/2012  Transaction Time 11:27 AM  Cashier EA

Customer Name THE LAW OFFICES OF GIDEON KRACOV

Zone Map or Area JLB

Tracts or Parcel Maps

Lot or Parcel #

Fee Code  Price  Quantity  Description  Cost
PIM006  $420.00  1  4480 APPEAL  $420.00
CLK001  $120.00  1  4681 Clk of Bd - Notice Process  $120.00

Total  $540.00

Amount Type  Check No.  Description
$540.00  Check  1260

Total Payment $540.00

Amount Due $540.00
Amount Collected $540.00
Change $0.00

Payment of fees may be subject to:
California Government Code Section 66020 (d)(1)
EXHIBIT 1
August 23, 2012

Via email and overnight delivery

Jaymie L. Brauer
Planner 3/Advance Planning Section
Kern County Planning and Community Development Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2323
Email: brauerj@co.kern.ca.us

Re: Comment re: Draft Environmental Impact Report for the
Beacon Photovoltaic Project by Beacon Solar LLC
SCH # 2012011029
Conditional Use Permit 11, Map 152
PP 12213

Dear Ms. Brauer:

This letter is submitted on behalf of Laborers International Union of North America, Local 220, and its members living in Kern County ("LIUNA Local 220" or "Commenters") regarding the proposed Draft Environmental Impact Report ("DEIR") for the Beacon Photovoltaic Project by Beacon Solar LLC ("Project"), SCH# 2012011029, Conditional Use Permit ("CUP") 11, Map 152, PP 12213. Please put this Office on the mailing list for all California Environmental Quality Act ("CEQA") and local land use notices for the Project. After reviewing the DEIR together with our team of expert consultants, it is evident that the document contains numerous errors and omissions that preclude accurate analysis of the Project. As a result of these inadequacies, the DEIR fails as an informational document, fails to identify environmentally superior Project alternatives, and fails to impose feasible mitigation measures to reduce the Project’s impacts.¹

In particular, the DEIR has the following deficiencies:

1. The DEIR erroneously concludes that the Project is consistent with the General Plan. The DEIR also fails to include and evaluate

¹ We reserve the right to supplement these comments at later hearings and proceedings for this Project. See Galante Vineyards v. Monterey Water Dist. (1997) 60 Cal. App. 4th 1109.
whether the Project is consistent with key provisions of the General Plan.

2. The DEIR fails to analyze the cumulative urban decay impacts of the Project. The Beacon Photovoltaic Project in conjunction with other past, present, and future projects in the area will permanently convert over 31,000 acres of land to solar development. These large changes in the use of land has the potential to result in regional disinvestment in the built environment (e.g., structures). Furthermore, when viewed cumulatively, the increasing amount of land used in PV projects suggests an increase in the likelihood of disinvestment in local housing in particular and deterioration of structures generally.

3. The DEIR fails to adequately analyze and mitigate for risks of widespread abandonment of the Beacon Photovoltaic Project as well as other solar projects. The proposed mitigation measure, the Decommissioning Plan, has numerous issues associated with it that makes it ineffective including it does not appear that the County has the power to require compliance and the financial assurance instrument may not withstand bankruptcy.

4. The DEIR fails to adequately identify, analyze, and mitigate all potentially significant impacts to biological resources.
   a. The DEIR fails to adequately analyze impacts to golden eagles and wildlife movement corridors.
   b. In several instances, the DEIR improperly proposes inadequate and deferred mitigation measures, including:
      i. Failing to identify suitable land parcels for compensatory mitigation for permanent impacts to western burrowing owls;
      ii. Failing to formulate the details of the Habitat Mitigation and Monitoring Plan that would address impacts to desert tortoise, western burrowing owl, and Mohave ground squirrel; and
      iii. Failing to provide for adequate mitigation to address cumulative impacts to biological resources.
   c. The DEIR fails to provide for monitoring of avian collision fatalities.

5. The DEIR fails to adequately identify, analyze, and mitigate all potentially significant impacts to air quality. In particular, the DEIR's analysis of the Project's PM10 and NOx emissions are inadequate.

6. The DEIR fails to adequately analyze impacts to hydrology and water quality. The DEIR fails to analyze toxic chemical impacts related to cadmium telluride. The DEIR also fails to address potential violations of water quality standards and waste discharge requirements.
7. The DEIR fails to establish a baseline for soil conditions at the site. A Phase I is needed to evaluate past pesticide use and any potential for pesticide residuals in the soil in light of the fact that the Project site land was formerly used for agricultural activities. This analysis is needed to protect workers.

8. The DEIR fails to adequately analyze cumulative impacts to land. The DEIR impermissibly narrows the scope of projects considered for cumulative impacts to land to 24 solar projects. The analysis fails to also evaluate the cumulative impacts of 46 additional solar projects and 19 wind projects in the area.

9. The DEIR fails to identify a reasonable range of alternatives.
   a. Alternative B (General Plan Buildout Alternative) is not a reasonable alternative because it does not meet any of the Project objectives.
   b. Therefore, the DEIR only evaluates 2 alternatives (Alternative A - the No Project Alternative and Alternative C - the Distributed Commercial and Industrial Rooftop Solar Only Alternative). This does not meet the CEQA standard of evaluating a reasonable range of alternatives.
   c. The DEIR fails to adequately explain why the Environmentally Superior Alternative (Alternative C) is not feasible.
   d. The DEIR should consider how the Project and the Alternatives will impact ratepayers.

We have prepared these comments with the assistance of Michael Kavanaugh, Ph.D in economics. His comments and curriculum vitae are attached hereto as an exhibit and are incorporated by reference in their entirety. We have also obtained the consultation of Matt Hagemann, P.G, C.Hg., an expert hydrologist. His comments are attached as an exhibit hereto and are incorporated herein by reference in their entirety. Each of Dr. Kavanaugh's and Mr. Hagemann's comments requires separate response in the Final EIR.

LIUNA Local 220 recognizes that the development of renewable energy is critical for the reduction of greenhouse gas emissions. Renewable energy is essential to forestall the worst consequences of climate change and to help the state of California meet its ambitions emissions reductions goals. LIUNA Local 220 supports the development of renewable energy production, including the development of solar power generation through both appropriately sited solar "farms" and distributed solar power generation. All solar power projects must be properly sited and carefully planned to minimize impacts on the environment. Renewable energy projects should avoid impacts to sensitive species and
habitats, and should be sited in proximity to electricity consumers to reduce the costs and impacts associated with new transmission corridors. Only by maintaining the highest standards in these and other ways can renewable energy production be truly sustainable. Unfortunately, the proposed project falls short in these and other ways. As a consequence, the DEIR will need to be revised and recirculated, as set forth below.

I. BACKGROUND

The Project would cover approximately 2,301 acres of land in Kern County - approximately one mile southwest of the unincorporated town of Cantil/Rancho Seco, four miles from California City, and 15 miles north of the unincorporated town of Mojave and would generate up to 250 Megawatts (MW) of electricity from an estimated 972,000 solar photovoltaic (PV) panels. (DEIR, p. 1-1). The majority of the Project site is located on exclusive agriculture or limited agriculture land. The Project would preclude agricultural production at the site for the life of the project, which will last at least 35 years; however, the loss of land for other uses (e.g., habitat and agriculture) will be permanent. The proposed decommissioning plan is ineffective because, inter alia, it does not appear that the County has the power to require compliance and the financial assurance instrument may not withstand bankruptcy.

Portions of the Project site are designated as seismic and flood hazard areas. To comply with Land Use Ordinance, the Applicant is seeking a Conditional Use Permit (CUP).

Other site features include electrical combiners, power inverters, and mid-voltage transformer; on-site substation; O&M building and associated septic system; solar meteorological station; perimeter security fencing; and potential solar tracking system. The Project includes a total of two miles of above-ground transmission lines. (DEIR, p. 3-17). The power poles would be an average of 79 feet in height with a maximum of 110 feet, with a span of length averaging roughly 500 feet.

The Project is expected to be constructed over a period of up to 20 months. (DEIR, p. at 3-19). Construction-related features will include security lighting, office trailer, and use of groundwater wells. (DEIR, p. 3-19-3-20). Additional details of construction-related features are not included in the DEIR (e.g., waste management, fuel and other hazardous material storage, and storage). Construction-related impacts include mowing or clearing or trimming of existing vegetation, grading associated with the installation of aggregate base access roads, and use of less than 304 acre-feet of water. (DEIR, p. 3-19 - 3-20).
Once the Project is constructed, ongoing activities will include regular usage and trips to and from the site by 5-10 workers 5 days a week. (DEIR, p. 3-22). Panel washing for a total of 135 to 145 days per year is required and would be completed by 2-5 additional staff. (DEIR, p. 3-22). Regular maintenance would include responding to plant failures/emergencies and routine maintenance. (DEIR, p. 3-22). Operations would continue at the site for at least 35 years. (DEIR, p. 3-22). The DEIR states that after that period, the site might be decommissioned (e.g., the system technology could be updated, it could be converted to other uses). (DEIR, p. 3-22).

It cannot be disputed that this is a very large project that will have permanent impacts on the land at the project site and contribute to significant cumulative changes to Kern County. The impact of the loss of the agricultural land has cultural, demographic, and economic consequences. While economic analysis is not always part of an EIR, if the Project causes changes to the physical environment as a result of a project's economic effects than the effect are deemed as an indirect effect and must be analyzed in an EIR. Case law has included urban decay as an indirect effect that must be analyzed under CEQA.

Given the number of other solar projects proposed for Kern County and their effectively permanent change on the landscape and character of the County, the Cumulative Impacts are undeniably immense. Alone, a 2,301-acre solar farm will unquestionably have extensive, significant impacts. However, when considered cumulatively with other past, present, and foreseeable projects converting agricultural land to non-agricultural uses in Kern County, there is no credible way to conclude that the Project's impacts are less than significant under CEQA.

II. STANDING

LIUNA Local 220 has members who live, work, and recreate in the immediate vicinity of the 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. Hundreds of LIUNA Local 220 members live and work in areas that will be affected by traffic, air pollution, and water pollution generated by the Project.

In addition, construction workers will suffer many of the most significant impacts from the Project as currently proposed, such as from air pollution emissions from poorly maintained or controlled construction
equipment, possible risks related to hazardous materials on the Project site, and other impacts. Therefore, LIUNA Local 220 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.

III. LEGAL STANDARDS

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See, e.g., Pub. Res. Code § 21100.) The EIR is the very heart of CEQA. (Dun-Eddwards v. BAAQMD (1992) 9 Cal.App.4th 644, 652.) "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.)

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1).) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" (Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal. 3d 553, 564). The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." (Berkeley Keep Jets Over the Bay v. Bd. of Port Commrs. (2001) 91 Cal. App. 4th 1344, 1354 ("Berkeley Jets"); County of Inyo v. Yorty (1973) 32 Cal.App.3d 795, 810).

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); See also, Berkeley Jets, 91 Cal. App. 4th 1344, 1354; Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564). The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (Guidelines §15002(a)(2)). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable
significant effects on the environment are "acceptable due to overriding concerns." (Pub.Res.Code § 21081; 14 Cal.Code Regs. § 15092(b)(2)(A) & (B)).

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference." (Berkeley Jets, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, Laurel Heights Improvement Assn. v. Regents of University of California, 47 Cal. 3d 376, 391 409, fn. 12 (1988)). As the court stated in Berkeley Jets, 91 Cal. App. 4th at 1355:


IV. THE PROJECT IS FATALLy INCONSISTENT WITH THE COUNTY'S GENERAL PLAN, VIOLATING CEQA AND LAND USE LAW.

The County must treat its analysis of conflicts with the General Plan seriously and land use decisions must be consistent with the plan. (CEQA Guidelines, App. G, Evaluation of Environmental Impacts; Guidelines § 15125(d); Gov. Code § 65860(a)). The General Plan is intended to be the "constitution for all future developments" in Kern County, a "charter for future development," that embodies "fundamental land use decisions that guide the future growth and development of cities and counties." (Families Unafraid to Uphold Rural El Dorado County v. Board of Supervisors of El Dorado County (1998) 62 Cal.App.4th 1334, 1335; Lesher Communications, Inc. v. City of Walnut Creek (1990) 52 Cal.3d 531,54; City of Santa Ana v. City of Garden Grove (1979) 100 Cal.App.3d 521,532). The "propriety of virtually any local decision affecting land use and development depends upon consistency with applicable general plan and its elements." (Citizens of Goleta Valley v. Board of Supervisors of County of Santa Barbara (1990) 52 Cal.3d 553, 570). The consistency doctrine has been described as the "linchpin of California's land use and development laws; it is the principal which infuses the concept of planned

A project's impacts may be deemed significant if they are greater than those deemed acceptable in a general plan. (Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359, 1416). A significant impact on land use and planning would occur if the project would "[c]onflict 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." (CEQA Guidelines Appendix G, § IX(b)).

According to the CEQA Guidelines, "environmental effects" include direct and indirect impacts to land use and planning. Where the plan or policy was adopted to avoid negative environmental effects, conflicts with the plan or policy constitutes a significant negative impact. (Oro Fino Gold Mining Corp. v. Co. of El Dorado (1990) 225 Cal.App.3d 872, 881-882; see also Endangered Habitats League, Inc. v. County of Orange (2005) 131 Cal.App.4th 777, 783-4; County of El Dorado v. Dept. of Transp. (2005) 133 Cal.App.4th 1376; CEQA Guidelines, App. G., § IX(b)). Thus, under CEQA, a project results in a significant effect on the environment if the project is inconsistent with an applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating one or more of these environmental effects.

The DEIR fails to conduct a complete and forthright consistency analysis with the Kern County General Plan and its Elements. The DEIR must be revised to analyze inconsistencies, identify appropriate mitigations, or set the foundation for a finding of overriding considerations.

A. The DEIR is Inconsistent With Section “1.3 Physical and Environmental Constraints” of the General Plan

The Project site includes Kern County General Plan land use designations of 2.1 – Seismic Hazard and 2.5 – Flood Hazard. (DEIR p. 4.9-1). When evaluating whether the Project is consistent with the Kern County General Plan section 1.3 Physical and Environmental Constraints (see DEIR, p. 4.9-19), the DEIR fails to include the overarching goal of these designated lands. Namely, the goal is "[t]o strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous." (Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 11). The
Project is not consistent with this goal because it sites new development in seismic and flood hazard areas.

Similarly, the DEIR fails to include and evaluate whether the Project is consistent with Policy 1:

Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained ((Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard)) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

(Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 12). The default position is that new development is not permitted in seismic and flood hazard areas thereby making the Project inconsistent with this policy. However, development is permitted when "appropriate studies establish such development will not result in unmitigated significant impact." The DEIR fails to cite to any "appropriate studies establish[ing] such development will not result in unmitigated significant impact."

The DEIR includes an inadequate discussion of Policy 2. Policy 2 provides that "new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria and standards for the approval of development in hazard areas." (Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 12). In evaluating whether the Project is consistent with Policy 2, the DEIR states the following:

Consistent with this policy, the proposed project would develop a solar PV power generating facility that is not located on a hazardous site. Final review of the proposed project by the Kern County Planning and Community Development Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards. (emphasis added).
(DEIR, p. 4.9-19). The first sentence of the consistency analysis is not accurate. The Project is in fact located on a seismic and flood hazards area. The second sentence fails to adequately explain how the Project meets Policy 2. Namely, has the County implemented ordinances that establish conditions, criteria, and standards for approval of development in hazard areas? If so, what are those conditions, criteria, and standards.

The DEIR fails to provide mitigation measures as required by Policy 10. Policy 10 provides:

The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan. (emphasis added).

(Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 13). Under this General Plan Policy, lands within flood hazard areas can only be developed if mitigation measures are incorporated to ensure development will not be hazardous. The DEIR fails to include and articulate required mitigation measures.

B. The DEIR is Inconsistent With Section “1.9 Resource” of the General Plan

The DEIR fails to adequately analyze conflicts with General Plan Section 1.9 Resource. Section 1.9 states, "[c]onflicts over the use of agricultural land frequently occur. As is the case for other urbanizing regions, the loss of valuable agricultural lands to urban development is a prime concern." The Project would result in the loss of valuable agricultural lands and therefore would appear to be inconsistent with this provision.

The DEIR fails to include and evaluate Policy 2, which states "[p]rotect areas of important mineral, petroleum, and agricultural resource potential for future use." This project is inconsistent with this policy because it removes agricultural land from current and future use.

The 1.9 Resource section of the General Plan articulates uses for different map coded areas. The Project includes Map Code 8.1 (Intensive Agriculture) and Map Code 8.5 (Resource Management). The General Plan lists the following allowable uses for the Intensive Agriculture areas:
Irrigated cropland; orchards; vineyards; horse ranches; raising of nursery stock ornamental flowers and Christmas trees, fish farms, bee keeping, ranch and farm facilities and related uses, one single-family dwelling unit; cattle feed yards; dairies; dry land farming; livestock grazing; water storage; groundwater recharge acres; mineral; aggregate; and petroleum exploration and extraction; hunting clubs; wildlife preserves; farm labor housing; public utility uses; and agricultural industries pursuant to provisions of the Kern County Zoning Ordinance, and land within development areas subject to significant physical constraints.

(Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 53). This list could but does not include solar generating facilities. Under the doctrine of expressio unius est exclusion alterius, solar generating facilities are not permitted on Intensive Agriculture lands, which makes the Project inconsistent with the General Plan. Similarly, the General Plan sets forth the allowable uses for Resource Management areas as well as provides a description of the areas as follows:

Primarily open space lands containing important resource values, such a wildlife habitat, scenic values, or watershed recharge areas. These areas may be characterized by physical constrains, or may constitute an important watershed recharge area or wildlife habitat or may have value as a buffer between resource areas and urban areas. Other lands with this resource attribute are undeveloped, non-urban areas that do not warrant additional planning within the foreseeable future because of current population (or anticipated increase), marginal physical development, or no subdivision activity...Uses shall include, but are not limited to, the following: Recreational activities; livestock grazing; dry land farming; ranching facilities; wildlife and botanical preserves; and timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral; aggregate; petroleum exploration and extraction; open space and recreational uses; one single-family dwelling on legal residentially zoned lots on effective date of this General Plan; land within development areas subject to physical constraints; State and federal lands which have been converted to private ownership.
(Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 54-55). This list could but does not include solar generating facilities. By inference, solar generating facilities are not permitted on Intensive Agriculture lands, which makes the Project inconsistent with the General Plan.

The Project is inconsistent with Policy 3 which provides that “[t]he County will support programs and policies that provide tax and economic incentives to ensure the long-term retention of agriculture, timber, and other resource lands.” (Kern County General Plan, Land Use, Open Space, and Conservation Element, p. 55). In evaluating whether the project is consistent with this policy, the DEIR states “[p]lacement of a solar PV power generating facility at the project site is compatible with open space and other resource management land uses…” (DEIR, p. 4.9-21). This statement is not true. Solar farm development is not compatible with agricultural production. In fact, the California Department of Conservation has determined in similar cases that proposed solar development on agricultural lands are “completely incompatible” with on-site agricultural uses (see attached exhibit).

V. THE DEIR FAILS TO ADEQUATELY IDENTIFY, ANALYZE, AND MITIGATE ALL POTENTIALLY SIGNIFICANT IMPACTS


An EIR must also identify and describe mitigation measures to minimize significant environmental effects. (Pub. Res. Code §§ 21002.1(a), 21100(b)(3); 14 Cal. Code Regs. § 15126.4, CEQA Guidelines § 15002(a)(2) and (3); See also, Berkeley Jets, 91 Cal.App.4th 1344, 1353; Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564). The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (Guidelines §15002(a)(2)). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the
environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (Pub.Res.Code § 21081; 14 Cal.Code Regs. § 15092(b)(2)(A) & (B)).

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (CEQA Guidelines § 15126.4(a)(1)(B); Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 308-309). Feasible mitigation measures for significant environmental effects must be set forth in an EIR for consideration by the lead agency's decision makers and the public before certification of the EIR and approval of a project.2

The formulation of mitigation measures generally cannot be deferred until after certification of the EIR and approval of a project. CEQA Guidelines Section 15126.4(a)(1)(B) states: "[f]ormulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way." An agency may only defer the formulation of mitigation measures when it possesses "meaningful information" reasonably justifying an expectation of compliance." (Sundstrom at 308; see also Sacramento Old City Association v. City Council of Sacramento (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible").)

A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available).) This approach helps "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug."

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2 "Deferral of the specifics of mitigation is permissible where the local entity commits itself
to mitigation and lists the alternatives to be considered, analyzed and possibly incorporated in the mitigation plan. [Citation.] On the other hand, an agency goes too far when it simply requires a project applicant to obtain a biological [or other] report and then comply with any recommendations that may be made in the report." (Defend the Bay v. City of Irvine (2004) 119 Cal.App.4th 1261, 1276.) "If mitigation is feasible but impractical at the time of a general plan or zoning amendment, it is sufficient to articulate specific performance criteria and make further approvals contingent on finding a way to meet them." (Endangered Habitats League, Inc. v. County of Orange (2005) 131 Cal.App.4th 777, 793).

However, a lead agency's adoption of an EIR's proposed mitigation measure for a significant environmental effect that merely states a "generalized goal" to mitigate a significant effect without committing to any specific criteria or standard of performance violates CEQA by improperly deferring the formulation and adoption of enforceable mitigation measures. (San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Cal.App.4th 645, 670; Communities for a Better Environment v. City of Richmond (2010) 184 Cal.App.4th 70, 93 ("EIR merely proposes a generalized goal of no net increase in greenhouse gas emissions and then sets out a handful of cursorily described mitigation measures for future consideration that might serve to mitigate the [project's significant environmental effects.").

The Comments provided below are supplemental to and in accord with those provide by Dr. Kavanaugh and Mr. Hagemann, LIUNA Local 220's expert consultants. The comments provided by Dr. Kavanaugh and Mr. Hagemann require individual responses in the Response to Comments as well.

A. The DEIR Fails to Adequately Analyze Urban Decay

1. CEQA Requires Analysis of Urban Decay

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR (except in certain limited circumstances). (See, e.g., Pub. Res. Code § 21100). In general, "[e]conomic and social changes resulting from a project shall not be treated as significant effects on the environment" and therefore analysis in an EIR is not required. (14 Cal. Code Reg. § 15064(e)). However, if the Project causes changes to the physical environment as a result of a project's economic effects than the effect are deemed an indirect effect and must be analyzed in an EIR. (Id.). Case law has included urban decay as an indirect effect that must be analyzed under CEQA.

In Bakersfield Citizens for Local Control v. City of Bakersfield (2004) (124 Cal.App.4th 1184), the Court expressly held that an EIR must analyze a project's potential to cause urban decay if there is substantial evidence showing that the project may lead to such impacts. The court pointed out that CEQA requires the project proponent to discuss the project's economic and social impacts where "[a]n EIR may trace a chain of cause and effect from a proposed decision on a project through
anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic and social changes.” (CEQA Guidelines §§ 15131(a) and 15064(f)).

Bakersfield Citizens concerned a proposal to construct two WalMart Stores within 3 miles of each other. Evidence was submitted that the stores could cause urban decay by forcing local downtown stores to close. The court held that this impact must be analyzed in the EIR. Most of the cases cited by the Bakersfield Citizens court concerned other retail developments with alleged urban decay impacts. (See, Citizens Assoc. for Sensible Dev. of Bishop Area v. County of Inyo (1985) 172 Cal.App.3d 151, 170 171 (shopping mall threatens downtown businesses and urban decay); Citizens for Quality Growth v. City of Mt. Shasta (1988) 196 Cal.App.3d 433, 445-446 (shopping mall may cause “business closures” in downtown area); Friends of Davis v. City of Davis (2000) 83 Cal.App.4th 1004, 1019 (insufficient evidence that Borders bookstore may threaten local bookstores); see also, Anderson First Coalition v. City of Anderson (2005) 30 Cal.Rptr.3d 738 (shopping center); American Canyon Community United for Responsible Growth v. City of American Canyon (2006) 145 Cal.App.4th 1062, 1074 (urban decay impacts of supercenter must be analyzed); Gilroy Citizens for Responsible Planning v. City of Gilroy (2006) 140 Cal.App.4th 911, 920 (EIR adequately analyzed urban decay impacts of supercenter)).

The Bakersfield Citizens court also cited an industrial and a prison project that were alleged to have blighting impacts. The court noted that in Christward Ministry v. Superior Court (1986) (184 Cal. App. 3d 180, 197) (Christward Ministry) an agency was required to analyze in the EIR the potential that odors, noise, and traffic from a garbage dump could adversely impact a nearby religious retreat center. The Bakersfield Citizens court noted that this was a type of “urban blight” impact. The court also noted that in City of Pasadena v. State of California (1993) (14 Cal.App.4th 810) the “blighting” impact of a parole office on a nearby residential neighborhood was recognized (however the court held that insufficient evidence had been presented to establish that the parole office may have an urban blight impact).

Finally, the Bakersfield Citizens court recognized that cumulative blight impacts must be considered. In other words, it is necessary to analyze the blight impacts of the proposed project together with other past, present and future projects in the area. (124 Cal.App.4th at 1193).

2. The DEIR Failed to Analyze the Cumulative Urban Decay Impacts of the Project
As discussed below, the Project will likely result in cumulative urban decay impacts that should be analyzed in the DEIR.

The Beacon Photovoltaic Project is part of a massive county-wide movement to convert primarily agricultural land to large-scale solar developments. The Beacon Photovoltaic Project will convert 2,298 acres of land designated exclusive agriculture and limited agriculture. The DEIR identified several approved, proposed, and reasonably foreseeable large-scale projects in the vicinity of the Beacon Photovoltaic Project that will convert over 31,000 acres (about 50 square miles). (DEIR, p. 3-26 - 3-28).

This conversion of primarily agricultural land will likely lead to significant economic effects including urban decay. According to Mr. Kavanaugh

Land is a traditional economic input and these are large changes in its use. The changes signal that an economic change is underway in the local economy. This economic change is being driven by the PV projects. They are foreclosing, perhaps permanently, employment and earning opportunities from certain (e.g., agricultural) uses of land.3

Although no cumulative effect of these changes is at hand, it is a fair to say that taken together the PV projects will test the strength of several local markets to adjust to the foreclosed opportunities -- initially for labor and then for commercial and residential structures.4 These adjustments will take different forms including out migration from the local area for labor and deterioration of structures (both commercial and residential) within the local area.

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3 As is well established, the plants and animals that use this land do not have purchasing power to use to bid the land's use away from PV users. Accordingly, market prices alone are insufficient to assure that the land is being used efficiently.

4 There is a continual flow of workers through labor markets. The average duration of a job is three to five years. Equivalently, one-third to one-half of the labor force is searching for a job. The composition of this flow while mostly young and unskilled workers does have a component of experienced workers searching for jobs and older workers returning to the labor force for a variety of reasons (for example: no longer raising children; reentering labor force after schooling; after caring for family members; or, ending a period of military service). (See: Microeconomic Foundations of Employment and Inflation Theory, E. Phelps, et al.)
PV projects require few workers per acre. An expanding use of land for PV projects -- from Beacon and when coupled with past and probable future losses of acreage for other PV projects -- has the potential to put downward pressure on local employment and labor earnings (including agricultural income and employment). Unlike labor, which can move to another location, structures -- both residential and commercial -- are immobile. Structures, if left vacant or not maintained, will deteriorate.

Workers searching in a stagnating labor market will find that it will take longer to find new work and finding new work may involve leaving the area. This will bring about declines in local income. While declines in income may be met with variety of responses, income reductions generally result in reductions in spending and draw downs of savings. The reduction in spending may take many forms including but not limited to: reductions in home maintenance and delinquencies on mortgages. These factors may lead to deterioration of residential and commercial structures.

Although the PV projects have the potential to cause structural deterioration in the local area, mitigation measures may be able to slow or arrest the decline. To identify and design mitigation measures requires, *inter alia*, an understanding of the economic changes that are occurring to identify points of intervention. One set of measures, and there may be other sets, would apply performance standards to proposed PV projects. Another set of measures would condition use permits to achieve operating standards or be dismantled and removed. Strong, arms-length instruments would financially assure the site's decommissioning.5

The DEIR is a ready vehicle for this work. It could identify the cumulative changes in land use; consider the impacts on the constructed environment; determine if mitigations measures are needed; and, propose mitigation options.

Mr. Kavanaugh prepared the following table using data from DEIR's Cumulative Projects List and data from the Notices of Preparation issued

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5 Financial assurances are discussed in more detail in the next section of these comments.
by Kern County.\(^6\) (DEIR, p. 3-26 - 2-28). The table "shows the MW claimed by the projects' designers, the total acres needed for the project; and, how many acres are needed per MW."

<table>
<thead>
<tr>
<th>Kern Cty</th>
<th>MW</th>
<th>Acres</th>
<th>AC/MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antelope Valley</td>
<td>650</td>
<td>3544</td>
<td>5.45</td>
</tr>
<tr>
<td>Distributed</td>
<td>214</td>
<td>1709</td>
<td>7.99</td>
</tr>
<tr>
<td>Catalina (eXco) - solar portion</td>
<td>150</td>
<td>1441</td>
<td>9.61</td>
</tr>
<tr>
<td>Edwards AFB</td>
<td>450</td>
<td>4000</td>
<td>8.89</td>
</tr>
<tr>
<td>Fremont Valley</td>
<td>1000</td>
<td>9000</td>
<td>9.00</td>
</tr>
<tr>
<td>Tenaska</td>
<td>100</td>
<td>700</td>
<td>7.00</td>
</tr>
<tr>
<td>Millennium</td>
<td>250</td>
<td>1760</td>
<td>7.04</td>
</tr>
<tr>
<td>Cantil</td>
<td>8</td>
<td>34</td>
<td>4.25</td>
</tr>
<tr>
<td>Monte Vista</td>
<td>126</td>
<td>1040</td>
<td>8.25</td>
</tr>
<tr>
<td>Desert Solar - Site 1</td>
<td>100</td>
<td>611</td>
<td>6.11</td>
</tr>
<tr>
<td>Site 2 both phases</td>
<td>96</td>
<td>548</td>
<td>5.71</td>
</tr>
<tr>
<td>Kingbird</td>
<td>40</td>
<td>324</td>
<td>8.10</td>
</tr>
<tr>
<td>Willow Springs</td>
<td>160</td>
<td>1402</td>
<td>8.76</td>
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<tr>
<td>Weldon</td>
<td>60</td>
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<tr>
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<td>1177</td>
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<tr>
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<tr>
<td></td>
<td>20</td>
<td>160</td>
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<tr>
<td></td>
<td>70</td>
<td>320</td>
<td>4.57</td>
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<tr>
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<td>188</td>
<td>9.40</td>
</tr>
<tr>
<td>#2</td>
<td>5</td>
<td>33</td>
<td>6.60</td>
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<tr>
<td>Nautilus</td>
<td>18</td>
<td>150</td>
<td>8.33</td>
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<tr>
<td>High Desert</td>
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<td>154</td>
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<tr>
<td>Sub total</td>
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<tr>
<td>Total</td>
<td>4033</td>
<td>31808</td>
<td>7.89</td>
</tr>
</tbody>
</table>

Sources: Kern County Notice of Preparations
Kern County DEIRs for Beacon; Distributed Project

When the Beacon Photovoltaic Project is compared to other solar projects in the area, the Beacon Photovoltaic Project is an underperforming solar project in terms of acres required to produce MW. According to Mr. Kavanagh,

The data show Beacon will be an underperforming PV project when measured by its consumption of land. Beacon requires more acres to make a MW than any other PV project in the area except for Old River #1 and the solar portion of Catalina (eXco). In turn, this suggests that Beacon when compared to other projects is less efficient in its resource use; may contribute more to structural deterioration in the local area; and, has increased vulnerability to policy or economic changes.

According to Mr. Kavanugh, the land use changes will likely lead to urban decay including deteriorating structures. In pertinent part, Mr. Kavanugh states

Land is a traditional factor of production that when combined with other factors like labor can provide local earnings (e.g., agriculture). Beacon -- like other PV projects -- uses a large amount of land to employ relatively few. Beacon, however, is at an extreme in its use of land. Beacon -- relative to other PV projects -- has more potential to foreclose local earnings and employment and more potential to result in regional disinvestment in the built environment (e.g., structures) than previous PV projects. Furthermore, when viewed cumulatively, the increasing amount of land used in PV projects suggests an increase in the likelihood of disinvestment in local housing in particular and deterioration of structures generally.

A typically disinvestment process proceeds as follows. Reductions in earnings result in across the board reductions in spending including reduction in spending for maintenance of structures. Reductions in maintenance causes structures to deteriorate and their value in exchange (the market price) declines. Falling market prices for existing structures may cause the prices of some structures to fall below their outstanding mortgage amounts. Falling market prices also influence valuations of neighboring property whose value

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7 The Rider Ridge project used more acres to make a MW but is no longer proposed.
may fall below their outstanding mortgage amounts. This may lead to delinquencies and foreclosures and another round of price declines.

Sometimes declines in market prices signal would-be buyers to become active and look for bargains. This can slow a disinvestment process. This has happened in some neighborhoods in urban areas. When successful, the deteriorating of structures in some neighborhoods is slowed, halted and reversed. Reinvestment occurs. Deteriorating structures in remote locations, however, are less likely to attract bargain hunters than similar structures in urban locations. In consequence, the disinvestment process may continue as declining structure prices induces further reductions in maintenance, which further depresses prices and induces further deferrals of maintenance.

In some urban areas the disinvestment cycles end when structure prices plus rehabilitation (undoing the effects of deferred maintenance) begin to approximate site costs plus replacement costs (i.e. demolish the deteriorated structure and build a new one).

There are two reasons why bargain hunting cannot be relied on to attenuate structural decline in areas that are not already densely settled.

First, in rural area fewer people are aware of what is occurring. Many people see urban areas decline because urban areas offer diverse employment and recreational opportunities (zoos, sporting events, entertainment). Mobility thru the area sparks interest in renewed investment.

Second, the declining neighborhoods in an urban area are sustained by a level of public services supported by a tax base from other neighborhoods.

Towns beyond the urbanized area are different. Fewer people live there and fewer people visit. They are more limited in their employment options and their recreational attractions. There is no larger unit to buffer their decline.
The relative isolation of towns and small cities may well allow them to decline in obscurity. Those who can move away, move away. Vacancies increase. Vacant homes deteriorate faster than occupied homes. The tax base and services fall and the general desirability of such areas drop. Disinvestment continues and the quality of the housing stock declines. In less urbanized areas there is no readily available larger unit to slow the decline. The decline of small cities and towns—if the past provides guidance—will be marked by household income reductions, deterioration of structures and deteriorating public services.\(^8\)

This disinvestment process has been observed in urban areas during the decline and depopulation of Rust Belt cities. It is a process that started with the loss of an employment base albeit manufacturing rather than land-based activities like agriculture. It has proved difficult to reverse in an urban setting. It may be harder to reverse at outlying sites. In urban areas, density and public transit provide a basic level of mobility; remote areas have fewer employment alternatives and access requires private transit.

The DEIR fails to analyze these urban decay impacts. The DEIR must be revised to analyze these impacts and if necessary, develop appropriate mitigation measures as required by CEQA.

**B. The DEIR Fails to Adequately Analyze and Mitigate for Risks of Widespread Abandonment**

The DEIR acknowledges that the Beacon Photovoltaic Project in conjunction with the other solar projects in the area presents risks for abandonment of such facilities as a result of a number of factors including “the development of newer technology, change in state or national policy that encourages the construction of such facilities, or other economical factors.” (DEIR, p. 4.9-16). According to Mr. Kavanaugh, “[f]ailed or obsolete PV facilities have no alternative use. If abandoned they would deteriorate, perhaps creating a hazard to human health and the environment.”

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\(^8\) Allowing the decline of the tax base to lead to deterioration in the quality of public services may create social outcomes that are costly to address.
To mitigate these risks, the DEIR proposes a decommissioning plan. (DEIR, p. 4.9-16 4.9-17). Mr. Kavanaugh highlights three issues with the decommissioning plan as proposed.

"First, the existence of a decommissioning plan does not imply that Beacon's impacts will be temporary. Beacon is intended to be a permanent feature of the high desert landscape, ecology and economy." The DEIR states that "at the end of the lifespan of the proposed project, the panels and all above ground equipment would be removed, restoring the visual character of the proposed project site to its pre-construction state, which would also restore potential foraging habitat for golden eagle and other raptors." (DEIR, p. 1-15). According to Mr. Kavanaugh, "This statement is not indicating that Beacon will only last for a few years or is temporary. It is envisioned to be permanent. The loss of land for other uses (e.g., habitat, agriculture) will be permanent. This statement is supported by the language in the DEIR, which states:

The project proponent expects to sell the renewable energy produced by the product under the terms of a long-term Power Purchase Agreement (PPA). It is anticipated that the life of the PPA is between 20 to 25 years, while the life of the solar facility is at least 35 years. Following the expiration of a PPA for the project, the project proponent may, at its discretion, choose to enter into a subsequent PPA, update technology and re-commission, or decommission and remove the system and its components. The solar site could then be converted to other uses in accordance with applicable land use regulations in effect at that time. (emphasis added) (DEIR, p. 3-22).

"Second, the decommissioning plan applies only to Beacon; it does not apply to the other facilities that may also fail." As previously mentioned, the DEIR acknowledges that there are widespread risks of abandonment because of various factors including technology, energy policy, or economics. (DEIR, p. 4.9-16 - 4.9-17). According to Mr. Kavanaugh,

Moreover, these common causes could influence all or most PV projects in the region. Yet, the decommissioning plan called for in this mitigation measure applies only to the Beacon facility.9

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9 Of course the Beacon facility might fail for reasons particular to it such as: inefficiency, poor management, unable to secure a favorable future contract, unreliability and the
How the County addresses *widespread* abandonment of PV facilities is a serious question but it may be a question outside of the scope of this DEIR. Formally, widespread abandonment will either be addressed: case-by-case by requiring decommissioning plans for each PV facility;\(^{10}\) broadly by developing a comprehensive response (e.g., levy a tax on all PV facilities to build a trust fund to decommission the facilities); or by ignoring widespread abandonment.

"Third, this decommissioning plan is only as effective as the financial assurances that support it." Mitigation Measure 4.9-1 provides that prior to the issuance of a building permit, "the project operator shall provide the Kern County Planning and Community Development Department with a Decommission Plan for review and approval." (DEIR, p. 4.9-17). Mr. Kavanaugh summarizes the required elements of the Decommissioning Plan as "*inter alia*, are that it be written; be kept up to date; contain a cost estimate for carrying out the tasks involved in removing the facility; and, be financially assured."

According to Mr. Kavanaugh,

[The characteristics of the financial assurance instrument the permittee must provide are important because an inadequate (perhaps worthless) financial assurance may mean inadequate (or not mitigation).

An adequate financial assurance should:

- Attach to all transfers of site ownership;
- Make all responsible parties jointly liable;
- Be assured by an entity at arms length from the site owner;
- Be able to withstand any responsible party's bankruptcy;
- Be clear about what signals the start of restoration, (e.g., a date certain; output falls below a threshold);
Be payable to an entity capable of managing the restoration; and,

Provide in cash the purchasing power needed to restore the site.

Mitigation Measure 4.9-1 contains a "trigger" that states:

Should any portion of the solar field not be in operational condition for a consecutive period of twenty four (24) months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the County a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Community Development Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field, which has been deemed abandoned, be permitted to remain in place for more than forty-eight (48) months from the date the solar facility was first deemed abandoned. (DEIR, p. 4.9-18).

Mr. Kavanaugh provides three comments on this mitigation measure trigger. "First, the County appears to have no power to require compliance with the mitigation measure once the building permit(s) are issued. This must be corrected." Instead, the mitigation measure relies and "assumes a high level of good faith cooperation among the County and Beacon's owners. Even if this trust exists today, there is no reason to believe that the same level of trust will exist tomorrow or that today's owner of the facility will be tomorrow's owner." This is especially true in light of the fact that solar energy is still in its infancy. Mr. Kavanaugh states:

There is little experience with utility scale PV facilities so their useful life is a matter of conjecture. Utility scale PV facilities are likely to have an economic life that depends on many variables including but not limited to: the wholesale price of electricity; the relative efficiency of other solar installations; and, the relative efficiency of providing the
services of electricity that can be self-produced by the residential and commercial sectors.\textsuperscript{11}

The data show that thirty years is a long time in the economic life of a firm. The U.S. Department of Commerce, Center for Economic Studies tracks, \textit{inter alia}, the life of U.S. firms.\textsuperscript{12} For 2010, the latest year for which data has been published, the US economy consisted of five million firms with employees. These data show that there is a 17\% chance that a firm will survive to the twenty-sixth year.\textsuperscript{13,14}

So, even if useful life is shorter than some expect and does not exceed thirty years, thirty years is beyond the lifetime of most U.S. firms.\textsuperscript{15} The data on firm life indicate that it is highly likely that even if the PV facility is short-lived, the County will not know the entity with whom they will be dealing even a few years from now. Accordingly, the mitigation measure must require ongoing compliance with the mitigation measure by all current and future owners.

Perhaps there are permits issued by the county -- in addition to building permits -- than can be conditioned. What the County or citizens need is the authority:

- To shut down the facility if the County does not have an approved, financially assured plan; and,

\begin{itemize}
  \item To shut down the facility if the County does not have an approved, financially assured plan; and,
\end{itemize}

\textsuperscript{11} Residential scale hot water heating competes with utility provided electricity, residential scale pv production competes with utility provided electricity, commercial entities are place panels on the roof to provide electricity for lighting and temperature control. This competes with utility provided electricity.

\textsuperscript{12} See the Business Dynamics Statistics (BDS) produced by the Center for Economic Studies of the U.S. Census Bureau maintains the database of establishments with paid employees.

\textsuperscript{13} See also the Prologue to Arie de Graus's, \textit{The Living Company}. He reports that the life expectancy at birth of all companies is 12.5 years; multinational corporations last only 40 to 50 years; and, one third of 1970 Fortune 500 companies disappeared by 1983 (a rate consistent with a 40 year life for a Fortune 500 company).

\textsuperscript{14} A company may cease to exist for many reasons including liquidation, acquisition, and multiple types of bankruptcy. All cessations of business jeopardize the continuation and completion of a pledge of decommissioning and removal unless there is an adequate and independent assurance instrument. The data show cessation is a common occurrence and that it is highly likely after twenty-five years.

\textsuperscript{15} Title to some or all of the parcels that make up the site Beacon has proposed may, in the future, be sold to another firm.
• To confiscate all revenues earned during the time the facility operated without a financially assured decommissioning plan.

Absent this authority, mitigation measure (MM 4.9-1) appears to be inadequate to mitigate the impact that it claims to address.

"Second, the financial assurance instrument must be able to withstand bankruptcy and attach to all future owners of the site. I do not see how the requirement to maintain a decommissioning plan is transferred from owner to owner." Mr. Kavanaugh further states

Not all financial instruments are capable of providing adequate financial assurances.

A trust fund that builds over time, for example, is by itself an inadequate assurance. An accumulating trust fund would be unable to pay for the restoration if the solar facility fails or becomes obsolete earlier than expected. So, if an accumulating trust fund is used to financially assure the restoration then it must be complemented with another instrument, such as a letter of credit, until the trust builds to an amount that can provide the purchasing power to implement the restoration plan. Finally, to withstand bankruptcy, the trust must be irrevocable. That is, the funds in the trust are never returned to Beacon’s owners.

A fully funded, irrevocable trust can provide the necessary funds and can survive bankruptcy.

A surety bond may be impractical. These instruments are more commonly used for a shorter term than envisioned in this instance; have not proved to be effective to assure coal mine reclamation; and place a burden on the receiver of the funds (the County) to show whether the site is ready to be restored or should be restored. In a bankruptcy petition the funds for decommissioning may be withheld at the request of creditors.

A stand-by, evergreen letter of credit is a better instrument to use to assure restoration. These instruments are in use to assure the remediation of Resource Conservation and
Recovery Act sites. The amount of the letter is tied to the restoration cost estimate. Typically, a letter lasts for a year. When renewed its amount may change depending on increases or decreases in the restoration cost estimate. The permittee may be given the option to supplement the letter of credit by establishing an arm’s length trust fund. In this event the amount of the letter plus the amount of the trust must meet the engineering cost estimate for restoration.

Most importantly, a letter of credit is not the property of the owner of the PV facility and in the event of a bankruptcy is not counted as part of the property of the failing company. The County will be able to collect the funds and will be in a much stronger bargaining position about the use of the funds.

No other financial instrument is appropriate. Pledges will not withstand bankruptcy. Pledges make the County dependent upon the good will of a troubled company. Generally, instruments or statements that are not guaranteed by a third party (e.g., self insured) or not at arms length from the current operator (e.g., parent corporation) will not withstand bankruptcy.

Finally, while requiring the receiver of a building permit to submit a financially assured decommissioning plan is important, it is insufficient.

The costs of the decommissioning plan and it assurance must attach to the site so that any and all future owners of the site have this obligation.

"Third, the mismatch between the time the trigger allows for appealing a compulsory decommissioning and the length of time a financial assurance instrument is in force reduces if not completely

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16 Responsible parties in RCRA cases that fail to provide financial assurances are in contempt of a court and are subject to additional fines and loss of liberty.
17 The mitigation measure might be rewritten so that PV owners who do not renew the letter of credit would face the same penalty as owners who fail to pay property taxes.
18 This is analogous to the post-closure liability trust fund required of operators or owners of solid waste disposal facilities.
19 Deed restrictions or covenants, for example, might be a way.
eliminates the value of this mitigation measure. This is because the
mismatch may result in the County not receiving any funds.” Mr.
Kavanaugh states that the financial assurance instrument is made
worthless by the proposed trigger. In pertinent part,

The trigger outlines a process where if the facility or a
portion of the facility is out of use it can be decommissioned.
Yet the process it outlines may last four years. The
financially assurance instruments – save for a fully-funded
trust fund – are renewable, one-year instruments or in the
case of an accumulating trust an instrument that requires
annual payments. If a portion of the project is not being
used, the issuer of the financially assurance instrument – if it
does any due diligence – will realize that the assurance
instrument will be used. If so it may simply decline to renew
and no other issuer will be willing to assure the funds. In
that event the County will not be receiving any financial
assurance and decommissioning may not occur. This makes
the mitigation measure ineffective.

I do not see a way of using this trigger with a letter of credit
or surety bond. If the trigger stays as written; then, the
decommissioning plan must be assured with fully-funded
trust that is at arms-length from the owner and is kept up to
date during the appeal.

As discussed, there are risks of widespread abandonment. These
risks must be properly analyzed, and if necessary mitigated. The
proposed mitigation measure, the decommissioning plan, is inadequate.
The DEIR must be revised to address these deficiencies.

C. The DEIR Fails to Adequately Analyze Impacts to Biological
Resources

It is the policy of the State of California to

Prevent the elimination of fish or wildlife species due to
man’s activities, insure that fish and wildlife populations do
not drop below self-perpetuating levels, and preserve for
future generations representations of all plant an animal
communities.

(Pub. Res. Code § 21001(c)). An EIR may not avoid studying impacts to
biological resources by proposing future study or mitigation based on
future studies unless the mitigation measures and performance standards are explicit in the DEIR. (San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Cal.App.4th 645, 671).

As discussed below, the DEIR fails to assess impacts to wildlife, especially sensitive species, and native plants. Where impacts are identified, the DEIR impossibly relies on vague, unenforceable and deferred mitigation measures, most of which lack a foundation in science and performance standards. Consequently, the DEIR must be revised to reassess impacts to biological resources and, where appropriate, propose adequate mitigation measures with definite terms and verifiable performance standards.

1. The DEIR Fails to Adequately Assess Impacts to Golden Eagles

The DEIR states “[t]hese species [prey species of golden eagle] are likely more abundant in less disturbed adjacent habitat and west of SR 14 along the proposed transmission line, but their presence is also expected in lower numbers throughout areas of the project site that support even sparse vegetation.” (DEIR, p. 4.3-17). This conclusion is unfounded and the product of hopeful speculation. Unless qualified biologists performed surveys or live-trapping for lagomorphs and rodents on and off the project site, this conclusion lacks scientific foundation. There is no reason to believe that there could not be more golden eagle prey items on the project site compared to offsite. Another factor to consider is prey vulnerability to eagles, which could be higher on disturbed lands. In some situations, golden eagle foraging success could be even higher where there are few prey items simply because the prey items that are available are also more exposed to predation.

The DEIR also concludes that “[b]ased on the nearest active nest locations, the project site lies outside the known maximum potential home range of known breeding pairs of golden eagles, which can measure up to 36 square miles in Southern California (CDFG, 2005).” (DEIR, p. 4.3-17). This conclusion implies that animal home ranges can be delineated by simple circles. The majority of home ranges, however, can be delineated by complex polygons that look very different from a circle. The only way to know whether the eagles nesting 6.5 miles away actually forage over the proposed project site is to track the eagles' flights.

In addition, the DEIR concludes “if this [active eagle] nest were to become active again, the project area would be within potential foraging range for nesting eagles. Otherwise, it is unlikely that the species would
forage over the project site on anything more than a transient basis." (DEIR, p. 4.3-17). Most animal populations are spatially dynamic, meaning activity areas shift every generation or so (Taylor and Taylor 1979). In the case of golden eagles, it is well known that vacant nests are often used again in the future, and this pattern is consistent with the general findings of Taylor and Taylor (1979). Animal populations must shift their activity areas occasionally to escape parasite loads or to allow prey populations to recover, and there are two additional hypotheses for why activity areas shift, as well. Not only should the project site be considered as likely golden eagle foraging and nesting habitat, but the notion of transient use should be rejected (Smallwood 2001, 2002). Even if a biologist could successfully define an activity level as “transient,” that biologist would not be able to convince fellow biologists that this transient use of a site is of no value to the eagles. The DEIR should be revised to assess impacts to Golden Eagles.

2. The DEIR Fails to Analyze Impacts to Wildlife Movement Corridors

The DEIR concludes “[t]he project site has not been identified as lying within a major terrestrial wildlife movement corridor (California Wilderness Coalition, 2001-2008).” (DEIR, p. 4.3-52). This conclusion was unfounded, because the California Wilderness Coalition is not an acceptable source on the distribution of wildlife movement corridors. In fact, the Coalition’s web site contains no maps or reports on wildlife movement corridors. Wildlife movement corridors need to be identified using scientific methods (Beier and Loe 1992).

The DEIR also concludes “[a]lthough dry washes often comprise movement corridors, the project site has been fenced for some time and much of the fencing remains to provide a deterrent for potential wildlife movement through the site.” (DEIR, p. 4.3-52). However, the EIR provided no evidence that the fences have effectively blocked wildlife movement along the dry washes on the site. No surveys were performed to determine whether wildlife have been using the dry washes as movement corridors.” The DEIR should be revised to analyze impacts to wildlife movement corridors.

3. The DEIR Improperly Defers Mitigation for Permanent Impacts to Western Burrowing Owls

The DEIR promises “[c]ompensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined
and acquired as required by the wildlife or resource agency." (DEIR, p. 4.3-17, MM 4.3-17(a)). This mitigation measure improperly defers mitigation. In pertinent part, this measure defers the formulation of the most important details of the mitigation to an unspecified, later date, thereby excluding me and other members of the public from participating in a meaningful way. Suitable land parcels should be identified and presented to the public prior to certification of the EIR. The DEIR should be revised to provide an adequate mitigation measure.

4. The DEIR Improperly Defers Mitigation for Impacts to Desert Tortoise, Western Burrowing Owl, and Mohave Ground Squirrel

The DEIR promises "[a] Habitat Mitigation and Monitoring Plan shall be prepared that outlines all project compensatory mitigation for desert tortoise, western burrowing owl and Mohave ground squirrel, in coordination with California Department of Fish and Game, and the Regional Water Quality Control Board." (DEIR, p. 4.3-17, MM 4.3-17(b)). This mitigation measure also improperly defers the formulation of the most important details of the mitigation to an unspecified, later date, thereby excluding the members of the public from participating in a meaningful way. The DEIR should be revised to provide an propose a adequate habitat mitigation and monitoring plan so that the public, prior to certification of the EIR.

5. The DEIR Fails to Adequately Mitigate for Cumulative Impacts to Biological Resources

Compensatory mitigation is required to mitigate for cumulative impacts to biological resources. The Beacon Solar project would contribute incrementally to cumulative impacts in the region. Other planned and in-construction solar projects within 30 miles of the Beacon Photovoltaic Project total 20,300 acres. About 200 MW of wind energy has been constructed or will soon be constructed northwest of the Beacon Photovoltaic Project, and large wind projects have been constructed southwest of the project. The Pine Tree wind energy project began killing golden eagles soon after operations began, and had already reached 8 golden eagle fatalities by spring 2012. Given the multiple special-status species that will be adversely affected by the Beacon Photovoltaic Project, and given the significance of the Project's cumulative impacts, compensatory mitigation should be directed toward cumulative impacts. Land area equal to the project area should be purchased as a conservation easement or in fee title and set aside and managed in perpetuity as habitat for the special-status species at issue. The mitigation
land should include appropriate desert plant communities, and it should be identified prior to the certification of the EIR.

Providing compensatory mitigation to offset cumulative impacts would also be consistent with Policy 9 of Kern County's General Plan. Policy 9 holds that the County should develop and implement measures which result in long-term compensation for wildlife habitat, which is unavoidably damaged by energy exploration and development activities. Mitigating for project-specific impacts will not be sufficient for meeting this General Plan Policy. The DEIR should be revised to provide an adequate mitigation measure to address cumulative impacts to biological resources.

6. The DEIR Failed to Provide for Monitoring of Avian Collision Fatalities

Monitoring of avian collision fatalities should be required because little is known about the rate of avian collisions with solar panels installed in a commercial setting. Post-construction fatality monitoring program is warranted. Qualified biologists should be funded to search the ground between solar panel arrays on a monthly basis for at least one year to determine whether collision fatalities are an issue. Searches should be done on foot. Searching should be conducted randomly or systematically thereby selecting arrays of solar panels to the extent that equals 20 person-days per month. If collision fatalities are deemed to be an issue, then the fatality monitoring should be extended for another two years and additional searcher detection trials to facilitate the accurate estimation of fatality rates. Furthermore, an analysis should be performed on the pattern of fatalities to identify spatial or other trends that can inform mitigation measures to reduce fatality rates. Basic methods for fatality monitoring at a solar energy plant can be found in McCrary et al. (1986), and updated methodology can be found in Smallwood (2007, 2009) and Smallwood and Karas (2009).

The ground under the transmission lines should also be searched monthly for at least one year to determine whether collisions will be an issue at the Project site. If collisions are deemed to be an issue, then the surveys should be extended for another two years, adding searcher detection trials, and implementing mitigation measures such as installing flight diverters.

The DEIR should be revised to include monitoring of avian collision fatalities.
D. The DEIR Fails to Adequately Analyze Impacts to Air Quality

1. Particulate Matter

Mr. Hagemann concludes that the DEIR fails to adequately analyze air quality impacts of the Project. The Project is located in the Eastern Kern County Air Pollution Control District ("EKAPCD") and the Mojave Desert Air Basin ("MDAB"). These air basins are both designated non-attainment for particulate matter ("PM10"). The open lands of the Project site are also a "large source of windblown dust." (Beacon Solar Energy Project (08-AFC-2) Fact Sheet, p. 5). According to Mr. Hagemann,

Significant emissions of PM10 from Project construction, in conjunction with the area's natural windblown dust, may result in a further degradation of regional air quality.

The Project's PM10 emissions from construction activities, prior to any mitigation, are estimated to be 18.91 tons per year (tpy) and are identified to be significant because they exceed the EKAPCD threshold of 15tpy (DEIR, p. 4.2-33). The DEIR identifies mitigation measures recommended by the EKAPCD (DEIR, pp. 4.2-29 – 4.2-32). After mitigation, PM10 emissions are estimated to be 6.47 tpy (a reduction of 66%) and are considered less than significant as they fall below the EKAPCD threshold (DEIR, p. 4.2-33). The DEIR and its supporting documents fail to provide any documentation to substantiate the 66% reduction in its estimate of PM10 emissions.

A revised DEIR must be prepared to show the efficiency of the Project's proposed mitigation measures. If these measures do not account for a 66% reduction in the Project's estimated PM10 levels, additional mitigation measures (listed below) that routinely considered in other CEQA projects should be implemented:

- All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized;
- Use of emission control devices on diesel equipment;
- Pave dirt roads within the development;
- All hauling materials should be moist while being loaded into dump trucks. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or
other enclosures that would reduce fugitive dust emissions); and

- A wheel-washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the proposed project property.\textsuperscript{20}

Research identifies that dust from construction is a major contributor to PM10 and that PM10 exposure is associated with asthma.\textsuperscript{21} Inhalation of PM10 can exacerbate asthma especially in children who are susceptible to higher risks from PM10 exposure.\textsuperscript{22} A “Federal Particulate Matter (PM10) Attainment Plan” by the Mojave Desert Air Quality Management District states that asthma is one adverse health effect from exposure to PM10 and children are especially high-risk.\textsuperscript{23}

The Project's construction activities such as “excavation, filling, grading, and vehicle travel” will result in PM10 emissions (DEIR, p. 4.2-26). PM10 emissions from Project construction in conjunction with the site's existing windblown dust (Fact Sheet, p. 5) can result in significant impacts to workers and offsite receptors, including residences located within a half-mile of the Project site (Table 4.2-2). If the Project's estimates of PM10 are significant, mitigation measures must be included in the revised DEIR.

2. \textbf{NOx}

According to Mr. Hageman,

NOx can react in the atmosphere to form PM10. Because the Project is located in areas that are designated non-attainment for PM10, significant emissions of NOx can lead to a worsening or regional air quality.

\textsuperscript{20} http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_jawbone/DEIR/Subsections/4.3-4.pdf
\textsuperscript{21} http://scerpfiles.org/cont_mgt/doc_files/EH-01-2.pdf and
\textsuperscript{22} http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20document.pdf http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20document.pdf
\textsuperscript{23} http://www.mdlqmd.ca.gov/Modules/ShowDocument.aspx?documentid=42
The Project's NOx emissions from construction activities are estimated to be 10.59 tons per year (tpy) and are not significant as they do not exceed the Eastern Kern Air Pollution Control District ("EKAPCD") thresholds (DEIR, p. 4.2-33).

The DEIR includes a table to show construction emissions of NOx from solar projects in the Desert Region of the Mojave Desert Air Basin ("MDAB"). We have reviewed estimates of NOx emissions from construction activities and have tabulated them.

We have tabulated emissions, including some identified in the DEIR, from some estimates included in the DEIR and from estimates we found from other projects in the table below.

<table>
<thead>
<tr>
<th>Name</th>
<th>County</th>
<th>Megawatts</th>
<th>Acreage</th>
<th>NOx Emissions (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beacon Solar</td>
<td>Kern</td>
<td>250</td>
<td>2300</td>
<td>10.59</td>
</tr>
<tr>
<td>Rosamond Solar²⁴</td>
<td>Kern</td>
<td>155</td>
<td>1177</td>
<td>18</td>
</tr>
<tr>
<td>Catalina²⁵</td>
<td>Kern</td>
<td>150</td>
<td>1100</td>
<td>64.51</td>
</tr>
<tr>
<td>Solar Gen 2²⁶</td>
<td>Imperial</td>
<td>200</td>
<td>2009</td>
<td>146.14</td>
</tr>
<tr>
<td>Cluster I Solar²⁷</td>
<td>Imperial</td>
<td>275</td>
<td>1738</td>
<td>64.65</td>
</tr>
<tr>
<td>Campo Verde²⁸</td>
<td>Imperial</td>
<td>140</td>
<td>1990</td>
<td>23.79</td>
</tr>
</tbody>
</table>

The table shows estimates of NOx construction emissions vary from the low of 10.59 tons per year – the estimate for the Project – to a high of more than 146 tons per year. No rationale is provided in the DEIR for why estimates of NOx emissions from Project construction are so low in comparison to comparably sized projects. For example, NOx estimates for a similar sized project (Solar Gen 2) are nearly 14 times greater than the Project's estimates of NOx. No documentation of how the NOx estimate was made is included in the DEIR or any of its supporting documents.

²⁴ http://www.co.kern.ca.us/planning/pdfs/eirs/recurrent_desert/Appendix_C-
Air_Quality_and_GHG_Report.pdf
A revised DEIR must be prepared to provide modeling calculations of Project NOx emissions, to include the methodology, model inputs, and any assumptions that were used. Gaseous particles such as NOx can react in the atmosphere to form PM10. Because the EKAPC and the MDAB are both designated non-attainment for PM10, significant emissions of NOx can lead to a further degradation of regional air quality. NOx emissions can also react to produce ground-level ozone. Exposure to NOx emissions and its products (ozone and PM10) can lead to the airway inflammation and can cause or exacerbate conditions such as emphysema and bronchitis.

If the revised results exceed the Kern County threshold of 25 tons per year, appropriate mitigation measures must be identified in the DEIR, to include:

- A plan to demonstrate that heavy-duty (50 horsepower or more) off-road vehicles to be used in the construction project will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board fleet average;
- Limiting emissions from all off-road diesel powered equipment to a maximum of 40% opacity (the degree to which light is obscured) for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or 2 on the Ringelmann smoke chart) shall be repaired immediately; and
- Minimizing drop heights when loaders dump soil into trucks.

A DEIR must be prepared to include revised calculations of the Project’s NOx emissions. Mitigation measures, if necessary, should be included to ensure the health of construction workers and offsite receptors (especially children at the nearby Red Rock Elementary School).

30 http://www.epa.gov/captrade/documents/power.pdf
31 Ibid.
32 http://www.epa.gov/air/nitrogenoxides/health.html
E. The DEIR Fails to Adequately Analyze Impacts to Hydrology and Water Quality

1. The DEIR Fails to Adequately Analyze the Potential Releases of Cadmium

The DEIR states that PV panels containing cadmium telluride (CdTe) are being considered as a possible technology for the Project. (DEIR, p. 3-4). However, the DEIR dismisses any impacts these CdTe panels may have and instead states “it has been demonstrated that there are no cadmium emissions to air, water, or soil during standard operation of CdTe PV systems. CdTe releases are unlikely to occur during accidental breakage.” (DEIR, p. 4.7-4). According to Mr. Hagemann,

[This is in contrast with recent research that shows that cadmium from broken panels can leach into the environment. A 2011 study found that cadmium, from broken panels, can leach into groundwater at concentrations that exceed Environmental Screening Levels\(^{33}\), which have been established for “protection against leaching and subsequent impacts to groundwater”\(^{34}\). The DEIR does not consider the possibility of panel breakage and subsequent CdTe releases due to flooding. Broken panels can expose the CdTe that is locked inside which can wash into adjacent waterways. The Project drains to the Koehn Dry Lake (DEIR, p. 4.8-1) located five miles east. Panels that break during flooding may release CdTe, at concentrations exceeding ESLs, which will be carried in the water to the Koehn Dry Lake.

Panels may break during flooding as seen in the recent flooding that occurred at the Genesis Solar Energy Project site, which is currently under construction in Riverside County. The flood, which occurred on July 30 and July 31, 2012, resulted from 6 inches of rain over the 2-day period\(^{35}\), corresponding to a 500-year storm event.\(^{36}\) The rainfall, which was paired with high winds, damaged


\(^{36}\) http://hdsc.nws.noaa.gov/hdsc/pdfs/pfds_map_cont.html?bkmrk=ca
almost 200 parabolic trough mirrors resulting in damages of $3 million.

Panels may also break in the event of surface rupture along the Garlock fault, located on the Project site (DEIR, p. 4.5-6). The Garlock fault is mapped as an Alquist-Priolo (A-P) Fault Zones on the basis of fault rupture has been documented in the last 11,000 years and where future rupture is considered likely. Rupture of the Garlock fault may result in panel breakage and release of CdTe to the environment. If coupled with a rainfall event, significant amounts of cadmium may flow to waterways, which flow to Koehn Dry Lake, creating potential ecological risks for aquatic organisms.

PV panels containing CdTe, if used for the project, would likely break under similar flooding conditions. Potentially significant releases of CdTe into waterways could result, leading to toxic concentrations of cadmium in the Kohn Dry Lake and other waterways. If the Applicant decides to use CdTe panels for the Project, impacts from panel breakage that may occur due to flooding and any subsequent releases of CdTe must be disclosed, evaluated, and mitigated.

The DEIR must be revised to analyze impacts related to CdTe.

2. The DEIR Fails to Address Potential Violations of Water Quality Standards and Waste Discharge Requirements

According to Mr. Hagemann,

Treatment of groundwater that will be pumped to provide 15 acre-feet of water per year for PV panel washing is not discussed. Treatment of water used for PV panel washing is often necessary at other solar projects to reduce mineral content. At other solar project sites, the treatment requires discharge of wastewater to evaporation ponds which are subject to a Report of Waste Discharge and issuance of a Waste Discharge Requirement permit by the Regional Water Quality Control Board (RWQCB); in fact, a Draft Report of Waste Discharge was submitted in 2009 to the RWQCB for a previous incarnation of the Beacon Solar Project for wastewater discharge. Evaluation of permit requirements is

necessary to ensure full compliance with the requirements of the Porter-Cologne Water Quality Control Act and the California Water Code.

The DEIR and supporting documents provide no discussion of the need to treat water used for PV panel washing and the need to evaporation ponds to treat wastewater. A revised DEIR should be prepared to identify needs for water treatment to include a Draft Report of Waste Discharge to identify potential impacts to water resources from wastewater discharge.

A Report of Waste Discharge may also be needed for any fill placement with jurisdictional Waters of the State. The DEIR states that Pine Tree Wash will be avoided during road construction except for three crossings, concluding the “impact will be minimal from these crossings and will comply with all pertinent regulations” (DEIR, p. 4.8-12). However, the DEIR does not include an analysis of the specific need for a Report of Waste Discharge and Waste Discharge Requirements for the placement of the crossings.

The DEIR states that panels or structures within high-flow areas as determined in the hydrology study for the 100-year event will be avoided (p. 4.8-12) but does not identify where other panels will necessarily be placed within channels of jurisdictional Waters of the State, thus triggering the need for a Report of Waste Discharge and Waste Discharge Requirements. The placement of fill across ephemeral drainages considered Waters of the State has led to the preparation of Reports of Waste Discharge for other solar projects. For example, in San Luis Obispo County, the Central Coast RWQCB required a ROWD and issued Waste Discharge Requirements in 2012 for the California Valley Solar Ranch project.³⁹ The Waste Discharge Requirements for the California Valley Solar Ranch project were based on the finding that construction would impact only 0.02 acres of ephemeral drainages.

Pursuant to Section 13260(a) of the California Water Code, a revised DEIR should be prepared to include a ROWD that would identify the project’s impacts to jurisdictional waters from

³⁹ California Regional Water Quality Control Board Central Coast Region, Individual Waste Discharge Requirements Order No. R3-2012-0006 for California Valley Solar Ranch Discharges of Fill Material for Waters of the State, San Luis Obispo County, California. February 2012.
construction of roads or placement of PV panel supports in waterways.

F. The DEIR Fails to Establish a Baseline and Fails to Adequately Assess Impacts to Worker Health Related

The DEIR fails to establish a baseline for soil conditions at the Project Site. The DEIR states that "[t]he project site and the surrounding areas are primarily undeveloped disturbed lands, formerly used for agricultural activities." (DEIR, p. 4.7-4). The DEIR suggests that pesticide usage on the site was likely due to its land use history but does not provide any details of the Project’s land use history. Instead, the DEIR simply states "[t]he type, concentration, and frequency of this use is unknown" and "pesticides, herbicides, and associated metals may be present in near-surface soils at residual concentrations." (DEIR, p. 4.7-4).

Mr. Hagemann states that

The failure to provide any detail about pesticide use and the potential for pesticide residuals stems from the failure to prepare a Phase I Environmental Site Assessment (ESA) to be included with the DEIR. Phase I ESAs are routinely prepared to document site conditions and to identify any recognized environmental conditions.40

A Phase I ESA must be prepared for the Project site to evaluate past pesticide use and any potential for pesticide residuals in soil. The Project proposes to install approximately one million PV panels and associated infrastructure. Construction of these Project components will require significant earthwork including excavation, grading, filling, soil compacting, and trenching. These activities have the potential to expose construction workers to pesticides that may be present in Project site soils through dermal contact and dust inhalation. Dust containing residual concentrations of pesticides may also be transported by wind and affect offsite receptors (in particular, nearby residents).

40 A REC is defined as the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. See: http://www.astm.org/Standards/E1527.htm
The Center on Race, Poverty, and the Environment states that "exposure to pesticides can both cause asthma and aggravate it". The "Strategic Plan for Asthma in California 2008-2012" prepared by the California Department of Health identifies pesticides as a specific asthma trigger.

Construction of the Project will generate dust that may contain pesticides that are harmful to human health. Because exposure to pesticides has been established as an asthma trigger, there is the potential that Project construction may result in a significant impact to workers and offsite receptors, especially children who may live in nearby houses.

The potential for pesticides and their impacts cannot be adequately assessed without a Phase I ESA. A revised DEIR should be prepared to include a Phase I ESA to document recent and past agricultural activities on the Project site, use and types of any pesticides in those activities, and the identification of any pesticide mixing or loading areas. If pesticide use is confirmed in the Phase I ESA and identified as a REC, soil sampling under a Phase II ESA must be conducted. Results should be compared to screening levels (such as environmental screening levels, regional screening levels, and human health screening levels) and mitigation must be provided, if necessary.

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43 A REC is defined as the presence of or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.


VI. The DEIR Inadequately Analyzed Cumulative Impacts to Land

A. CEQA Requires analysis of cumulative impacts

An EIR must discuss significant cumulative impacts. CEQA Guidelines section 15130(a). This requirement flows from CEQA section 21083, which requires a finding that a project may have a significant effect on the environment if “the possible effects of a project are individually limited but cumulatively considerable... ‘Cumulatively considerable’ means that the incremental effects of an individual 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.” “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 section 15355(a)). “[I]ndividual effects may be changes resulting from a single project or a number of separate projects.” (Id.) Incremental contributions must be assessed “when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably foreseeable projects.” (14 Cal. Code Regs. § 15065(a)(3)).

“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.” Communities for a Better Environment v. Cal. Resources Agency (“CBE v. CRA”), (2002) 103 Cal.App.4th 98, 117. A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand. “Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” CEQA Guidelines § 15355(b).

As the court stated in CBE v. CRA, 103 Cal. App. 4th at 114:

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.

(Citations omitted).

In *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d at 718, the court concluded that an EIR inadequately considered an air pollution (ozone) cumulative impact. The court said: "The [ ] EIR concludes the project's contributions to ozone levels in the area would be immeasurable and, therefore, insignificant because the [cogeneration] plant would emit relatively minor amounts of [ozone] precursors compared to the total volume of [ozone] precursors emitted in Kings County. The EIR's analysis uses the magnitude of the current ozone problem in the air basin in order to trivialize the project's impact." The court concluded: "The relevant question to be addressed in the EIR is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin." The *Kings County* case was recently reaffirmed in *CBE v. CRA*, 103 Cal.App.4th at 116, where the court rejected cases with a narrower construction of "cumulative impacts."

Similarly, in *Friends of Eel River v. Sonoma County Water Agency*, (2003) 108 Cal. App. 4th 859, the court held that the EIR for a project that would divert water from the Eel River had to consider the cumulative impacts of the project together with other past, present and reasonably foreseeable future projects that also divert water from the same river system. The court held that the EIR even had to disclose and analyze projects that were merely proposed, but not yet approved. The court stated, CEQA requires "the Agency to consider 'past, present, and probable future projects producing related or cumulative impacts . . . .' (Guidelines, § 15130, subd. (b)(1)(A)). The Agency must interpret this requirement in such a way as to 'afford the fullest possible protection of the environment.'" *Id.*, at 867, 869. The court held that the failure of the

46 *Los Angeles Unified v. City of Los Angeles*, 58 Cal.App.4th at 1024-1026 found an EIR inadequate for concluding that a project's additional increase in noise level of another 2.8 to 3.3 dBA was insignificant given that the existing noise level of 72 dBA already exceeded the regulatory recommended maximum of 70 dBA. The court concluded that this "ratio theory" trivialized the project's noise impact by focusing on individual inputs rather than their collective significance. The relevant issue was not the relative amount of traffic noise resulting from the project when compared to existing traffic noise, but whether any additional amount of traffic noise should be considered significant given the nature of the existing traffic noise problem.
EIR to analyze the impacts of the project together with other proposed projects rendered the document invalid. "The absence of this analysis makes the EIR an inadequate informational document." Id., at 872.

The court in *Citizens to Preserve the Ojai v. Bd. of Supervisors*, 176 Cal.App.3d 421 (1985), held that an EIR prepared to consider the expansion and modification of an oil refinery was inadequate because it failed to consider the cumulative air quality impacts of other oil refining and extraction activities combined with the project. The court held that the EIR’s use of an Air District Air Emissions Inventory did not constitute an adequate cumulative impacts analysis. The court ordered the agency to prepare a new EIR analyzing the combined impacts of the proposed refinery expansion together with the other oil extraction projects.

**B. The DEIR Inadequately Analyzed Cumulative Impacts to Land**

The Beacon Photovoltaic Project is part of a county-wide movement to develop large-scale solar and wind projects. The Project will convert 2,301 acres of primarily agricultural land to a utility-scale solar energy production facility. The DEIR identified 24 projects to be considered for cumulative impacts analysis. (DEIR, p. 4.9-16). The 24 projects will impact 20,300 acres. (DEIR, p. 4.9-16). The DEIR stated that "[t]he anticipated project impacts in conjunction with cumulative development in the project area would increase urbanization and result in the loss of open space within the desert region of the County." (DEIR, p. 4.9-16). The DEIR should further evaluate the type of lands these 24 projects will impact. For example, what percentage of the 20,300 acres is designated as agricultural land or residential land? The DEIR impermissibly narrows the scope of projects considered for cumulative impacts to 24 solar projects. However, according to a Kern County Solar Projects document dated July 17, 2012, there are an additional 46 solar projects planned for the area (Kern County Solar Project, 7/17/12, available at http://www.co.kern.ca.us/planning/pdfs/renewable/solar_projects.pdf). These projects include:

- Chevron Energy Solutions Company by URS Corporation (18 acres, 2 MW)
- Meadows Field Solar Project (9 acres, 0.75 MW)
- GE Energy LLC by URS Corp (337 acres, 40 MW)
- LADWP (75 acres, 10 MW)
- Vaquero Energy (10 acres, 1 MW)
- Cenergy Power by McIntosh & Assoc. (2 acres, 0.5 MW)
- Renewable Technology Development (2 acres, 0.5 MW)
• Lost Hills Solar by NextLight (307 acres, 33 MW)
• Cenergy Power (160 acres, 1.5 MW)
• Maricopa Sun Solar Complex Project by Maricopa Sun LLC (6,046 acres, 700 MW)
• SKIC Development Inc (321 acres, 20 MW)
• Kern County General Services Dept - Lerdo Detention Facility (14 acres, 2 MW)
• RE Distributed Solar Projects (RE Rio Grande) (47 acres, 5 MW)
• Elk Hills Solar by enXco (47 acres, 7 MW)
• Goose Lake Solar by enXco (94 acres, 15 MW)
• Smyrna Solar by enXco (125 acres, 12 MW)
• Cenergy Power by McIntosh & Associates (29 acres, 3 MW)
• Catalina (Enxco) (1,223 acres, 150 MW)
• Old River One by RE Old River One LLC (105 acres, 16 MW)
• FRV Valley Solar Projects (3 sites: Regulus, Adobe and Rigel) (1,128 acres, 115 MW)
• Pioneer Green Energy Solar (3 sites: Wildwood, Pumpjack & Rio Bravo) (480 acres, 125 MW)
• FRV Mojave Solar Project by FRV Mojave Solar, LP (174 acres, 20 MW)
• Weldon Solar Project by Renewable Sources (300 acres, 60 MW)
• SunGen Solar by La Paloma (398 acres, 31 MW)
• High Desert Solar by Element Power (154 acres, 18 MW)
• Orion Solar by Fotowatio Renewable Ventures (265 acres, 20 MW)
• FS Weldon 1 Solar - Foresight Solar (538 acres, 20 MW)
• Wasco-Charca Solar by Solar Land Partners (72 acres, 8 MW)
• Kern Solar Ranch (6,100 acres, 1,000 MW)
• Avenida Del Sol Solar Project (37 acres, 5 MW)
• Chaparral Solar by Aurora Solar (Iberdrola) (172 acres, 30 MW)
• Gateway Solar Project by East Kern Properties (3,066 acres, 350 MW)
• Browning Rd Solar by Integrated Sources Development (28 acres, 4.5 MW)
• Twisselman Solar by Gestamp (103 acres, 17 MW)
• CA Solar LLC (37 acres, 3 MW)
• Axio Power w/ TRC Solutions - McFarland-Delano SLF (unknown)
• Axio Power w/ TRC Solutions - Buttonwillow SLF (unknown)
• Pond-Pozo Solar by SolarGEN (35 acres, 5 MW)
• Paso Robles Solar by SolarGen (80 acres, 10 MW)
• Thermopylea Solar by WDG Capital Partners (94 acres, 20 MW)
• Borax Solar Project by Valos Solar Ventures, LCC (320 acres, 20 MW)
• Ignite solar (40 acres, 1.5 MW)
• Harris (40 acres, 1.5 MW)
• RE Distributed Solar Projects (RE Tehachapi Solar One) (160 acres, 20 MW)
• RE Distributed Solar Projects (RE Tehachapi Solar Two) (157 acres, 20 MW)

In addition, according to a Kern County Alternative Energy Projects (Wind Projects) document dated December 12, 2011, there are also 19 wind energy projects that have been recently completed or are planned for the area including (Kern County, available at http://www.co.kern.ca.us/planning/pdfs/renewable/wind_projects.pdf):

• PdV (Manzana) (5,820 acres, 300 MW)
• Alta (Terra-Gen) (9,175 acres, 800 MW)
• Windstar (Western Wind) (1,007 acres, 65 MW)
• Coram, Inc., ZCC, Map 198 (69.09 acres, 3 MW)
• Coram, Inc., ZCC #43, Map 197 (60.1 acres, 3 MW)
• PdV Addendum (Enxco) (2,423 acres, 0 MW)
• Alta Addendum I (Terra-Gen) (1 acre, 0 MW)
• Pacific Wind (Enxco) (8,300 acres, 151 MW)
• Windstar Addendum I (Western Wind) (1 acre, 0 MW)
• Alta Addendum II (Terra-Gen) (4,610 acres, 330 MW)
• Pacific Wind Addendum (Enxco) (1,325 acres, 0 MW)
• Jawbone Wind Energy Project (Phil Rudnick) (640 acres, 39 MW)
• North Sky River Wind Energy Project (NextEra) (12,781 acres, 300 MW)
• Morgan Hills (Terra-Gen) (3,604 acres, 230 MW)
• Alta Infill II (Terra-Gen) (5,185 acres, 530 MW)
• Catalina (Enxco) (7,440 acres, 200 MW)
• Avalon (Enxco) (10,000 acres, 255 MW)
• Alta East (Terra-Gen) (3,660 acres, 300 MW)
• Rising Tree (Horizon Wind) (4,019 acres, 350 MW)

The DEIR should consider these projects in its cumulative impact analysis and should provide information about the types of lands being impacted (e.g., are the lands designated for agriculture or residential use) in addition to impacts to increased urbanization and loss of open space. These projects will undoubtedly have significant cumulative impacts on water usage, construction air quality, agricultural production, toxic chemicals (to the extent cadmium telluride panels are used), and many other impacts. The burden is on the agency to collect this information. Sundstrom v. County of Medocino, (1988) 202 Cal.App.3d 296 (“The agency should not be allowed to hide behind its own failure to gather relevant data.”).
VII. THE DEIR FAILED TO IDENTIFY A REASONABLE RANGE OF ALTERNATIVES AND FAILED TO ADEQUATELY EXPLAIN WHY THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE IS INFEASIBLE

An EIR must describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. "An EIR's discussion of alternatives must contain analysis sufficient to allow informed decision making." (Laurel Heights I, 47 Cal.3d at 404.) An EIR must also include "detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (Id. at 405). "There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." Watsonville Pilots Association v. City of Watsonville, (2010) 183 Cal. App. 4th 1059, 1089.

One of CEQA's fundamental requirements is that the DEIR must identify the "environmentally superior alternative," and require implementation of that alternative unless it is infeasible. (14 Cal.Code Regs. §1526.6(e)(2); Kostka & Zischke, Practice Under the California Environmental Quality Act §15.37 (Cont. Educ. Of the Bar, 2008).) Typically, a DEIR identifies the environmentally superior alternative, which is analyzed in detail, while other project alternatives receive more cursory review.

The analysis of project alternatives must contain an accurate quantitative assessment of the impacts of the alternatives. In Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 733-735, the court found the EIR's discussion of a natural gas alternative to a coal-fired power plant project to be inadequate because it lacked necessary "quantitative, comparative analysis" of air emissions and water use.

A "feasible" alternative is one that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. (Pub. Res. Code § 21061.1; 14 Cal. Code Regs. § 15364.) California courts provide guidance on how to apply these factors in determining whether an alternative or mitigation measure is economically feasible.
The lead agency is required to select the environmentally preferable alternative unless it is infeasible. As explained by the Supreme Court, an environmentally superior alternative may not be rejected simply because it is more expensive or less profitable:

The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project.

(Citizens of Goleta Valley v. Bd. of Supervisors (1988) 197 Cal.App.3d 1167, 1180-81; see also, Burger v. County of Mendocino (1975) 45 Cal.App.3d 322 (county’s approval of 80 unit hotel over smaller 64 unit alternative was not supported by substantial evidence)).

A. Alternative B is Not a Reasonable Alternative

As previously mentioned, under CEQA Guidelines, “[a]n EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternative.” (emphasis added) (CEQA Guideline 15126.6(a) Consideration and Discussion of Alternatives to the Proposed Project). “The purpose of an EIR is not to identify alleged alternatives that meet few if any of the project’s objectives so that all these alleged alternatives may be readily eliminated.” Watsonville Pilots Association v. City of Watsonville, (2010) 183 Cal. App. 4th 1059, 1089.

Alternative B is not a reasonable alternative under CEQA guidelines. Alternative B: General Plan Build-Out Alternative would develop the proposed site under the existing Kern County General Plan designations, which “would allow agricultural operations on the site, or with the recordation of a parcel map, construction of 115 residential dwellings (1 dwelling per 20acre parcel) with a reduced amount of potential agricultural production. Under this alternative, no solar facilities would be developed at the site.” (DEIR, p. 1-20). While this alternative would “reduce some of the impacts associated with the proposed project,” “[t]his alternative would not result in the creation of renewable power and would not meet any of the project operator’s objectives for the proposed project.” (emphasis added) (DEIR, p. 1-20, 6-14). To reiterate, Alternative B would not meet any of the 10 Project Objectives, which include:
• Develop a solar power generating facility that would provide clean, renewable, solar-powered electricity to the citizens of California.
• Develop a site with an excellent solar resource.
• Develop a previously disturbed site with close proximity to transmission infrastructure in order to minimize environmental impacts.
• Interconnect directly to the LADWP electrical transmission system.
• Use proven and established PV technology.
• Create 385 temporary construction jobs and 5-10 permanent operations jobs.
• Provide an investment in California and Kern County that would create jobs and other economic benefits.
• Assist California utilities in meeting their obligations under California’s Renewable Portfolio Standard (RPS) Program. In April 2011, Governor Brown signed into law Senate Bill X1-2, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewable by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirements being met by the end of 2020.
• Assist an off-taker in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.
• Address local mandates that California’s electric utilities have adopted for the provision of renewable energy. Substantial State legislation has been passed related to renewable energy that is relevant to projects.

This is not a reasonable alternative because it does not meet any of the project objectives and therefore should be removed from analysis.

B. The DEIR Fails to Include a Reasonable Range of Alternatives

A reasonable range of alternatives is required to allow informed decision making. Case law developed under the National Environmental Policy Act (“NEPA”) helps define what is a reasonable range of alternatives. Courts often look to NEPA cases when interpreting CEQA since CEQA is modeled after NEPA. See no Oil, Inc. v. City of Los Angeles (1974) 13 Cal. 3d 68, 86, fn. 21 [118 Cal. Rptr. 34]; Friends of Mammoth v. Board of Supervisors (1972) 8 CCal. 3d 247, 261 [104 Cal. Rptr. 761]; Del Mar Terrace Conservancy, Inc. v. City Council of the City of San Diego (4th Dist. 1992) 10 Cal. App. 4th 712, 732 [12 Cal. Rptr. 2d 785]; Mount Sutro Defense Committee v. Regents of the University of California (1st Dist. 1978) 77 Cal. App. 3d 20, 35-38 [143 Cal. Rptr. 365]; Environmental Defense Fund, Inc. v. Coastside Water District (1st Dist. 1972) 27 Cal. App. 3d 695, 701 [104 Cal. Rptr. 197].
Some agencies have failed to meet the procedural requirements of the Act when they have not evaluated a reasonable range of alternatives. For example, in *Davis v. Mineta*, the Federal Highway Administration ("FHWA") prepared an Environmental Assessment ("EA") that was deemed deficient, inter alia, because the alternatives to the highway expansion were inadequate. 302 F.3d 1104, 1110 (10th Cir. 2002). Only two alternatives were studied in detail. Other courts have likewise held that the range of alternatives considered were inadequate in cases that were similar to *Davis*. For example, in *Muckleshoot Indian Tribe v. United States Forest Serv.*, the Forest Service considered only three alternatives: a no action alternative and two virtually identical alternatives. 177 F.3d 800, 803 (9th Cir. 1999). The Court held that the Forest Service failed to consider a range of reasonable alternatives in violation of the law. (Iid. at 812).

Because Alternative B is not a reasonable alternative as described above, serious consideration will be given to only two alternatives, the No Project Alternative (Alternative A) and the No Utility-Solar Development - Distributed Commercial and Industrial Rooftop Solar Only Alternative (Alternative C). Like the FHWA and the Forest Service, the County has failed to facilitate a reasoned choice by providing only two feasible alternatives (Alternatives A and C). The DEIR fails to provide a reasonable range of alternatives for informed decision-making that is required by CEQA.

A supplemental EIR is required to analyze a reasonable range of alternatives. This should include at a minimum: (1) a reduced scale alternative; (2) an alternative that avoids seismic and flood hazards; and (3) an alternative that avoids cadmium telluride panels.

C. **The DEIR Fails to Adequately Explain Why the Environmentally Preferable Alternative is Infeasible**

As previously discussed above, the lead agency is required to select the environmentally preferable alternative if it attains most of the basic project objectives, would avoid or substantially lessen any of the significant effects of the project, and would be feasible.

Here, the County selected Alternative C: No Utility-Solar Development – Distributed Commercial and Industrial Rooftop Solar Only as the Environmentally Superior Alternative. (DEIR, p. 6-19). This alternative would site small to medium PV systems (100 kilowatts to 1 MW) on existing developed properties, on rooftops of commercial and
industrial facilities throughout Kern County. (DEIR, p. 6-14). This alternative “would avoid all significant and unavoidable impacts that would occur under the proposed project.” (DEIR, p. 6-19). Significant impacts that would be avoided would include, but are not limited to, impacts to aesthetics, air quality, and biological resources. This alternative, as acknowledged in the DEIR, “would achieve most of the project objectives, such as offsetting energy generated from fossil fuels and helping to achieve California’s renewable energy goals, while investing in Kern County and creating jobs.” (DEIR, p. 6-18).

The distributed commercial and industrial rooftop alternative would also diversify the County's economic base and position the County as a leader in distributed generation—considered by many to be the future of solar development. Distributed generation will also provide for expansion of the project to new structures as they become available and allow for updating and replacement more readily than large scale solar farms. Today's large-scale solar "farm" can quickly become a "dinosaur" compared with the distributed systems that can quickly absorb the new technology about to come online.

However, the DEIR concludes that the Environmentally Superior Alternative is "impractical and infeasible" without providing any evidence to support such a conclusion. None of the information provided in the DEIR would suggest that the Environmentally Superior Alternative is infeasible. The DEIR cites several "drawbacks" to the Environmentally Superior Alternative but does not provide evidence that the alternative is infeasible. (DEIR, p. 6-18). One of the drawbacks cited in the DEIR is that "[t]here would be difficulties with respect to buildout of the system within a timeframe that would be similar to that of the proposed project." (Id.). No information is provided regarding what the timeframe would likely be "with respect to buildout of the system." An estimated timeframe – the amount of time (e.g., days, months, years) it would take to implement the Environmentally Superior Alternative – is needed to support the conclusion made in the DEIR that the alternative is infeasible. Another drawback cited is that "[g]iven the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher." (Id.). Again no information or details are provided regarding why the Environmentally Superior Alternative would not be as efficient and capital costs would be higher than the proposed Project. Even if capital costs were shown to be more, an alternative cannot be rejected simply because it is more expensive. (Citizens of Goleta Valley v. Bd. of Supervisors (1988) 197 Cal.App.3d 1167, 1180-81). A showing would need to be made by the County that the
"additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project." \(\textit{Id.}\).

Other reasons cited in the DEIR for the conclusion that the Environmentally Superior Alternative is infeasible include: (1) "[t]he project operator's business model is focused solely on ground-mounted, utility-scale, PV power plants, (2) a need for "a large sales force dedicated to identifying, qualifying, designing, and implementing thousands of individual projects," (3) [t]he project operated has not secured any CSI incentives and, as the incentive level continues to decline, likely could not secure incentives that would support a large-scale deployment of 250 MW." (DEIR, p. 6-18). These "reasons" do not rise to a level that the Environmentally Superior Alternative could be deemed infeasible, i.e., not capable of being carried out or implemented. These reasons may make the implementation of Environmentally Superior Alternative more challenging but the reasons cited do not make the alternative infeasible.

As previously explained above, the County is required to select the Environmentally Superior Alternative if it would avoid significant impacts and meet Project objectives and it is feasible. The Environmentally Superior Alternative would avoid all significant impacts and meet Project objects. The County has failed to support its claim that the alternative is infeasible. The DEIR must be revised to give this alternative serious consideration and explain – with supported facts, not mere conclusions – why the alternative is infeasible.

D. The DEIR Should Consider How the Project and the Alternatives Will Impact Ratepayers

One of the Project's objectives is to

[a]ssist California utilities in meeting their obligations under California's Renewable Portfolio Standard (RPS) Program. In April 2011, Governor Brown signed into law Senate Bill X1-2, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewable by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirements being met by the end of 2020.

The DEIR should consider how the Project and the Alternatives will impact ratepayers. Important questions include:
• How will implementation of the project affect the rates that ratepayers will pay for energy?
• How will implementation of the project affect rates paid by residents of Imperial County?
• Will ratepayers be forced to pay for any of the costs to the County resulting from the project?

While these questions would seem to be central to a discussion of the merits of this Project, there has been little or no discussion of how the Project will concretely affect energy rates. A full exploration of these questions should be conducted for the public.

Relevant to this inquiry is a report by the California Public Utilities Commission’s Division of Ratepayer Advocates (DRA). The report is entitled, Green Rush: Investor-Owned Utilities’ Compliance with the Renewables Portfolio Standard (February, 2011) (see attached exhibit). This report points out, among other things, that the cost of renewable energy is quite high and that California:

utilities have signed contracts that will cost them over $6 billion more than they would otherwise pay for electricity from natural gas power plants...The DRA contends in its report that the CPUC hasn’t done a good job scrutinizing contracts to make sure they aren’t unreasonably high and won’t saddle consumers with hefty bills...The report goes on to say that utilities and the CPUC gives too much weight to whether developers can complete and deliver their projects and not enough to the projects’ costs to the public. It notes that the utilities have signed enough contracts to meet the state goals, so there is no good reason to accept super expensive contracts to ensure that the goals are met.

(See below under “Summary of DRA Report.” See also the full report attached as an exhibit).

Furthermore, the report contains the following finding: “The utilities are on track to achieve the 20% RPS goal by the end of flexible compliance in 2013 and are ahead of schedule to meet the 33% Renewable Energy Standard (RES) goal by 2020, even though some projects scheduled to come online will fail or be delayed.” (p. 5, italics added)

CEQA provides that a lead agency “has an obligation to balance a variety of public objectives, including economic, environmental, and social
factors" in justifying its findings. (CEQA Guidelines §§ 15021(d), 15093(a).) The report from the DRA, which is based on recent information, shows that there is no pressing need to rush into approval of a renewable energy project merely to meet the needs of California's RPS goals.

**Summary of DRA Report**


Report: CA Utilities Signing Expensive Clean Power Contracts
By Ucilia Wang, Contributor
February 21, 2011

It's no secret that renewable electricity in general is more expensive than power from fossil fuels. But how much more expensive? A California report shows that the state's utilities have signed contracts that will cost them over $6 billion more than they would otherwise pay for electricity from natural gas power plants.

The report, released by the Division of Ratepayer Advocates (DRA) last Friday, says 59 percent of the contracts signed by the state's three largest utilities are priced above the market price referent (MPR), which is a yardstick used by the California Public Utilities Commission (CPUC) in reviewing the contracts. The MPR takes into account the costs of building, operating and maintaining a 500-megawatt combined cycle natural power plant. The more expensive contracts have prices that on average are 15 percent higher than the MPR.

The report looks at the contracts signed by the utilities from 2002 to 2010 in order to meet the state's 2010 mandate called renewable portfolio standard (RPS) to get 20 percent of their electricity from renewable sources. The portion needs to climb to 33 percent by 2020. The contracts analyzed by the DRA include ones with power plants already in operation as well as projects that haven't yet been constructed.

California has set aside funds to allow utilities to sign contracts above the MPR because regulators understand
that renewable electricity is more expensive. It's a price that the public will have to pay to use clean power that is better for the environment. The CPUC publishes the MPR and notes whether each contract it's approved is below or above the MPR. But it doesn't divulge the actual pricing for each contract.

The DRA contends in its report that the CPUC hasn't done a good job scrutinizing contracts to make sure they aren't unreasonably high and won't saddle consumers with hefty bills. It notes that the CPUC has rejected only two out of the 184 it has reviewed. Many of these contracts are for power plants that haven't yet been built, so the actual impact on consumers isn't known.

The CPUC "has approved nearly every renewable contract filed by the utilities, even when contracts rate poorly on least-cost, best fit criteria," the report says.

The report goes on to say that utilities and the CPUC give too much weight on whether developers can complete and deliver their projects and not enough on the projects' costs to the public. It notes that the utilities have signed enough contracts to meet the state goals, so there is no good reason to accept super expensive contracts to ensure that the goals are met.

Not all proposed projects get built, of course, and the expensive contracts reflect the early stages of clean energy development. The California Energy Commission has found that 14 percent of the contracts have failed to deliver while 15 percent have been delayed, the report said. The 14 percent failure rate isn't so high, the DRA notes in the report. The number could climb because of some of the proposed projects are so large that lining up permits and financing will be difficult.

The three utilities, Pacific Gas and Electric, Southern California Edison, and San Diego Gas & Electric, have been signing lots of power purchase agreements. Some of the contracts involved mega projects of hundreds of megawatts each, and those projects have stirred up controversy for their impact on the environment and local communities. A few of
them already have attracted lawsuits or threats of legal challenges.

PG&E has signed more contracts that are priced above the MPR than other utilities. Of the ones PG&E has signed, 77 percent of them are above the MPR. Edison and SDG&E’s shares are less than 50 percent. A PG&E spokesman told the San Francisco Chronicle the utility is committed to pay more because many of the contracts are for solar electricity, which can be more expensive than some other sources.

The DRA wants the CPUC to be more selective in approving contracts. Its recommendations include setting a pricing limit annually and requiring utilities that submit especially expensive contracts — those that are $100 million more than the MPR-based prices — to go through a lengthier review process.

DRA adds that the public also should be given easier access to information on how much these renewable electricity contracts are costing so far and will likely cost for the next 10 years, and the progress the utilities are making to meet the state mandates. The CPUC should require the utilities to report that information, DRA says.

"DRA supports the RPS program and cost-effective renewables. However, DRA is concerned that the perceived urgency to comply with the RPS and continuing CPUC approval of high-priced contracts has created an inelastic demand and subsequently driven the renewable market to yield very high prices," the report says.

Given these considerations, and considering that the ongoing “solar gold rush” may be proceeding without due deliberation, the County should give additional consideration to the Environmentally Superior Alternative, Alternative C: No Utility-Solar Development - Distributed Commercial and Industrial Rooftop Solar Only.

VIII. THE COUNTY SHOULD PREPARE AND RECIRCULATE A SUPPLEMENTAL DEIR

Recirculation of an EIR prior to certification is required "when the new information added to an EIR discloses: (1) a new substantial environmental impact resulting from the project or from a new mitigation
measure proposed to be implemented; (2) a substantial increase in the severity of an environmental impact unless mitigation measures are adopted that reduce the impact to a level of insignificance; (3) a feasible project alternative or mitigation measure that clearly would lessen the environmental impacts of the project, but which the project's proponents decline to adopt; or (4) that the draft EIR was so fundamentally and basically inadequate and conclusory in nature that public comment on the draft was in effect meaningless." (CEQA Guidelines § 15088.5; Laurel Heights Improvement Assn. v. Regents of University of California (1993) 6 Cal. 4th 1112, 1130, citing Mountain Lion Coalition v. Fish & Game Comm'n (1989) 214 Cal.App.3d 1043.

Recirculation is required where "significant new information" has been added to an EIR. (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 447). New information is "significant" where it results in a change to the EIR's analysis or mitigation of a substantial adverse environmental effect. (See id.) to the EIR.

Here, the DEIR must be revised to address the many deficiencies identified above. Specifically, the DEIR must be revised and recirculated to allow the public a meaningful opportunity to comment on a complete analysis of cumulative impacts that includes sources of similar impacts within Kern County. Moreover, the DEIR must be revised to adequately identify, analyze, and mitigate all potentially significant impacts to biological resources and air quality. The DEIR must also be revised to establish a baseline for soil conditions. Finally, the DEIR must be revised to identify a reasonable range of alternatives and explain why the environmentally preferable alternative is infeasible.

IX. CONCLUSION

LIUNA Local 220 believes the Project DEIR is wholly inadequate and requires significant revision, recirculation, and review. Moreover, LIUNA Local 220 believes that the Project as proposed would result in too many unmitigated adverse impacts on the environment to be justified. Given the ongoing "solar gold rush" occurring in the fragile desert areas of southern California, LIUNA believes the proposed Project should be reconsidered. Distributed generation of renewable electricity represents the "low hanging fruit" of solar electricity generation and should be pursued throughout already disturbed areas before sacrificing fragile desert environments and the species that rely on them. In a short time, solar panels will far exceed the technology of today in terms of efficiency. Kern County should think twice before approving a potentially costly
dinosaur in its backyard. The hazards and risks posed cadmium-telluride panels have not been considered to the potential great harm to workers and nearby residents who, even if small in number, deserve and are entitled to full consideration. All of these considerations weigh against approval of the project as proposed.

Thank you for your attention to these comments. Please include this letter and all attachments hereto in the record of proceedings for this project.

Sincerely,

Gideon Kracov
Attorneys for Laborers International Union of North America, Local 220
EXHIBIT 2
August 22, 2012

Gideon Kracov
Attorney at Law
801 S. Grand Ave, 11th Fl.
Los Angeles, CA 90017

Subject: Comments on the Beacon Photovoltaic Project

Dear Mr. Kracov:

We have reviewed the July 2012 Draft Environmental Impact Report ("DEIR") for the Beacon Photovoltaic Project ("Project"). The Project proposes to build a 250-megawatt solar generation facility on approximately 3.6 square miles of land four miles north of California City in Kern County, California. Project components include:

- A photovoltaic (PV) solar power generation facility containing approximately 972,000 panels;
- 230 kilovolt overhead transmission line;
- Operations and maintenance building, parking lot, office, and sewer system; and
- Access roads (DEIR, p. 3-9).

We have reviewed the DEIR for issues associated with air quality, hydrology and water quality, and hazards and hazardous materials. The DEIR fails to adequately disclose potentially significant impacts from Project construction on workers and offsite receptors. A revised DEIR needs to be prepared to adequately disclose and analyze these impacts and provide mitigation, if necessary.

Air Quality

The Project is located in the Eastern Kern Air Pollution Control District ("EKAPCD") and the Mojave Desert Air Basin ("MDAB"). Both the EKAPCD and the MDAB are designated non-attainment for PM10 (DEIR, pp. 4.2-3, 22). Significant emissions of PM10 and its contributing sources, such as NOx, will lead
to a worsening of regional air quality. The Project’s estimates of PM10 and NOx emissions need to be properly disclosed and mitigated, if necessary.

*Particulate Matter Emissions from Project Construction*

The Project site is located in areas that are designated non-attainment for PM10. In addition, the open lands of the Project site are a “large source of windblown dust” (Fact Sheet, p. 5). Significant emissions of PM10 from Project construction, in conjunction with the area’s natural windblown dust, may result in a further degradation of regional air quality.

The Project’s PM10 emissions from construction activities, prior to any mitigation, are estimated to be 18.91 tons per year (tpy) and are identified to be significant because they exceed the EKAPCD threshold of 15tpy (DEIR, p. 4.2-33). The DEIR identifies mitigation measures recommended by the EKAPCD (DEIR, pp. 4.2-29 – 4.2-32). After mitigation, PM10 emissions are estimated to be 6.47 tpy (a reduction of 66%) and are considered less than significant as they fall below the EKAPCD threshold (DEIR, p. 4.2-33). The DEIR and its supporting documents fail to provide any documentation to substantiate the 66% reduction in its estimate of PM10 emissions.

A revised DEIR must be prepared to show the efficiency of the Project’s proposed mitigation measures. If these measures do not account for a 66% reduction in the Project’s estimated PM10 levels, additional mitigation measures (listed below) that routinely considered in other CEQA projects should be implemented:

- All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized;
- Use of emission control devices on diesel equipment;
- Pave dirt roads within the development;
- All hauling materials should be moist while being loaded into dump trucks. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions); and
- A wheel-washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the proposed project property.¹

Research identifies that dust from construction is a major contributor to PM10 and that PM10 exposure is associated with asthma.² Inhalation of PM10 can exacerbate asthma especially in children who are susceptible to higher risks from PM10 exposure.³ A “Federal Particulate Matter (PM10) Attainment Plan” by the Mojave Desert Air Quality Management District states that asthma is one adverse health effect from exposure to PM10 and children are especially high-risk.⁴

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¹ [http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_lawbone/DEIR/Subsections/4.3-4.pdf](http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_lawbone/DEIR/Subsections/4.3-4.pdf)
³ [http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20document.pdf](http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20document.pdf)
The Project’s construction activities such as “excavation, filling, grading, and vehicle travel” will result in PM10 emissions (DEIR, p. 4.2-26). PM10 emissions from Project construction in conjunction with the site’s existing windblown dust (Fact Sheet, p. 5) can result in significant impacts to workers and offsite receptors, including residences located within a half-mile of the Project site (Table 4.2-2). If the Project’s estimates of PM10 are significant, mitigation measures must be included in the revised DEIR.

**NOx Emissions from Project Construction**

NOx can react in the atmosphere to form PM10. Because the Project is located in areas that are designated non-attainment for PM10, significant emissions of NOx can lead to a worsening or regional air quality.

The Project’s NOx emissions from construction activities are estimated to be 10.59 tons per year (tpy) and are not significant as they do not exceed the Eastern Kern Air Pollution Control District (“EKAPCD”) thresholds (DEIR, p. 4.2-33).

The DEIR includes a table to show construction emissions of NOx from solar projects in the Desert Region of the Mojave Desert Air Basin (“MDAB”). We have reviewed estimates of NOx emissions from construction activities and have tabulated them.

We have tabulated emissions, including some identified in the DEIR, from some estimates included in the DEIR and from estimates we found from other projects in the table below.

<table>
<thead>
<tr>
<th>Name</th>
<th>County</th>
<th>Megawatts</th>
<th>Acreage</th>
<th>NOx Emissions (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beacon Solar</td>
<td>Kern</td>
<td>250</td>
<td>2300</td>
<td>10.59</td>
</tr>
<tr>
<td>Rosamond Solar</td>
<td>Kern</td>
<td>155</td>
<td>1177</td>
<td>18</td>
</tr>
<tr>
<td>Catalina</td>
<td>Kern</td>
<td>150</td>
<td>1100</td>
<td>64.51</td>
</tr>
<tr>
<td>Solar Gen 2</td>
<td>Imperial</td>
<td>200</td>
<td>2009</td>
<td>146.14</td>
</tr>
<tr>
<td>Cluster I Solar</td>
<td>Imperial</td>
<td>275</td>
<td>1738</td>
<td>64.65</td>
</tr>
<tr>
<td>Campo Verde</td>
<td>Imperial</td>
<td>140</td>
<td>1990</td>
<td>23.79</td>
</tr>
</tbody>
</table>

The table shows estimates of NOx construction emissions vary from the low of 10.59 tons per year – the estimate for the Project – to a high of more than 146 tons per year. No rationale is provided in the DEIR for why estimates of NOx emissions from Project construction are so low in comparison to comparably sized projects. For example, NOx estimates for a similar sized project (Solar Gen 2) are nearly 14 times

5 http://www.co.kern.ca.us/planning/pdfs/eis/recurrent_desert/Appendix C-Air_Quality and GHG_Report.pdf
greater than the Project’s estimates of NOx. No documentation of how the NOx estimate was made is included in the DEIR or any of its supporting documents.

A revised DEIR must be prepared to provide modeling calculations of Project NOx emissions, to include the methodology, model inputs, and any assumptions that were used. Gaseous particles such as NOx can react in the atmosphere to form PM10.\textsuperscript{10,11} Because the EKAPCD and the MDAB are both designated non-attainment for PM10, significant emissions of NOx can lead to a further degradation of regional air quality. NOx emissions can also react to produce ground-level ozone.\textsuperscript{12} Exposure to NOx emissions and its products (ozone and PM10) can lead to the airway inflammation and can cause or exacerbate conditions such as emphysema and bronchitis.\textsuperscript{13}

If the revised results exceed the Kern County threshold of 25 tons per year, appropriate mitigation measures must be identified in the DEIR, to include:

- A plan to demonstrate that heavy-duty (50 horsepower or more) off-road vehicles to be used in the construction project will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board fleet average;
- Limiting emissions from all off-road diesel powered equipment to a maximum of 40% opacity (the degree to which light is obscured) for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or 2 on the Ringelmann smoke chart) shall be repaired immediately; and
- Minimizing drop heights when loaders dump soil into trucks.

A DEIR must be prepared to include revised calculations of the Project’s NOx emissions. Mitigation measures, if necessary, should be included to ensure the health of construction workers and offsite receptors (especially children at the nearby Red Rock Elementary School).

**Hydrology and Water Quality**

**Potential Releases of Cadmium**

PV panels containing cadmium telluride (CdTe) are being considered as a possible technology for the Project (DEIR, p. 4.9-6). The DEIR dismisses any impacts these panels may have and instead states it has been demonstrated that there are no cadmium emissions to air, water, or soil during standard operation of CdTe PV systems. CdTe releases are unlikely to occur during accidental breakage (DEIR, p. 4.7-4).

This is in contrast with recent research that shows that cadmium from broken panels can leach into the environment. A 2011 study found that cadmium, from broken panels, can leach into groundwater at

\textsuperscript{10} http://www.fhwa.dot.gov/resourcecenter/teams/airquality/brochure/particulatebrochure.pdf
\textsuperscript{11} http://www.epa.gov/captrade/documents/power.pdf
\textsuperscript{12} ibid.
\textsuperscript{13} http://www.epa.gov/air/nitrogenoxides/health.html
concentrations that exceed Environmental Screening Levels\textsuperscript{14}, which have been established for "protection against leaching and subsequent impacts to groundwater"\textsuperscript{15}.

The DEIR does not consider the possibility of panel breakage and subsequent CdTe releases due to flooding. Broken panels can expose the CdTe that is locked inside which can wash into adjacent waterways. The Project drains to the Koehn Dry Lake (DEIR, p. 4.8-1) located five miles east. Panels that break during flooding may release CdTe, at concentrations exceeding ESLs, which will be carried in the water to the Koehn Dry Lake.

Panels may break during flooding as seen in the recent flooding that occurred at the Genesis Solar Energy Project site, which is currently under construction in Riverside County. The flood, which occurred on July 30 and July 31, 2012, resulted from 6 inches of rain over the 2-day period\textsuperscript{16}, corresponding to a 500-year storm event.\textsuperscript{17} The rainfall, which was paired with high winds, damaged almost 200 parabolic trough mirrors resulting in damages of $3 million.

Panels may also break in the event of surface rupture along the Garlock fault, located on the Project site (DEIR, p. 4.5-6). The Garlock fault is mapped as an Alquist-Priolo (A-P) Fault Zones on the basis of fault rupture has been documented in the last 11,000 years and where future rupture is considered likely.\textsuperscript{18} Rupture of the Garlock fault may result in panel breakage and release of CdTe to the environment. If coupled with a rainfall event, significant amounts of cadmium may flow to waterways, which flow to Koehn Dry Lake, creating potential ecological risks for aquatic organisms.

PV panels containing CdTe, if used for the project, would likely break during an earthquake or if a similar storm of the magnitude that occurred at the Genesis Solar Project were to occur on the Project site. Potentially significant releases of CdTe into waterways could result, leading to toxic concentrations of cadmium in the Koehn Dry Lake and other waterways. If the Applicant decides to use CdTe panels for the Project, impacts from panel breakage that may occur due to flooding and earthquakes and any subsequent releases of CdTe must be disclosed, evaluated, and mitigated.

*Project may Violate Water Quality Standards and Waste Discharge Requirements*

Treatment of groundwater that will be pumped to provide 15 acre-feet of water per year for PV panel washing is not discussed. Treatment of water used for PV panel washing is often necessary at other solar projects to reduce mineral content.\textsuperscript{19} At other solar project sites, the treatment requires discharge of wastewater to evaporation ponds which are subject to a Report of Waste Discharge and issuance of a Waste Discharge Requirement permit by the Regional Water Quality Control Board (RWQCB); in fact, a

\textsuperscript{14} Fate and Transport Evaluations of Potential Leaching Risks from Cadmium Telluride Photovoltaics (2012). Environmental Toxicology and Chemistry, Vol. 31, No. 7
\textsuperscript{16} http://www.earthtechling.com/2012/08/big-desert-solar-project-hit-by-wind-flood/
\textsuperscript{17} http://hdsc.nws.noaa.gov/hdsc/pdfs/pdfs_map_cont.html?bkmkrk=ca
\textsuperscript{18} http://www.conservation.ca.gov/cgs/rghm/ap/Pages/main.aspx
Draft Report of Waste Discharge was submitted in 2009 to the RWQCB for a previous incarnation of the Beacon Solar Project for wastewater discharge. Evaluation of permit requirements is necessary to ensure full compliance with the requirements of the Porter-Cologne Water Quality Control Act and the California Water Code.

The DEIR and supporting documents provide no discussion of the need to treat water used for PV panel washing and the need to evaporation ponds to treat wastewater. A revised DEIR should be prepared to identify needs for water treatment to include a Draft Report of Waste Discharge to identify potential impacts to water resources from wastewater discharge.

A Report of Waste Discharge may also be needed for any fill placement with jurisdictional Waters of the State. The DEIR states that Pine Tree Wash will be avoided during road construction except for three crossings, concluding the “impact will be minimal from these crossings and will comply with all pertinent regulations” (DEIR, p. 4.8-12). However, the DEIR does not include an analysis of the specific need for a Report of Waste Discharge and Waste Discharge Requirements for the placement of the crossings.

The DEIR states that panels or structures within high-flow areas as determined in the hydrology study for the 100-year event will be avoided (p. 4.8-12) but does not identify where other panels will necessarily be placed within channels of jurisdictional Waters of the State, thus triggering the need for a Report of Waste Discharge and Waste Discharge Requirements. The placement of fill across ephemeral drainages considered Waters of the State has led to the preparation of Reports of Waste Discharge for other solar projects. For example, in San Luis Obispo County, the Central Coast RWQCB required a ROWD and issued Waste Discharge Requirements in 2012 for the California Valley Solar Ranch project. The Waste Discharge Requirements for the California Valley Solar Ranch project were based on the finding that construction would impact only 0.02 acres of ephemeral drainages.

Pursuant to Section 13260(a) of the California Water Code, a revised DEIR should be prepared to include a ROWD that would identify the project’s impacts to jurisdictional waters from construction of roads or placement of PV panel supports in waterways.

**Hazards and Hazardous Materials**

*Baseline Soil Conditions at the Project Site are not Disclosed*

Past uses of and soil conditions at the Project site are not adequately described. The Project site is located on lands formerly used for agricultural operations (DEIR, 4.7-4). The DEIR generally states that pesticide usage on the site was likely due to its land use history, but does not provide any specifics on the Project’s land use history except to say the “type, concentration, and frequency of this use is unknown *(Ibid.*). The DEIR concludes by stating that residual concentrations of pesticides may be present in near surface soils *(Ibid.*).

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21 California Regional Water Quality Control Board Central Coast Region. Individual Waste Discharge Requirements Order No. R3-2012-0006 for California Valley Solar Ranch Discharges of Fill Material for Waters of the State, San Louis Obispo County, California. February 2012.
The failure to provide any detail about pesticide use and the potential for pesticide residuals stems from the failure to prepare a Phase I Environmental Site Assessment (ESA) to be included with the DEIR. Phase I ESAs are routinely prepared to document site conditions and to identify any recognized environmental conditions.22

A Phase I ESA must be prepared for the Project site to evaluate past pesticide use and any potential for pesticide residuals in soil. The Project proposes to install approximately one million PV panels and associated infrastructure. Construction of these Project components will require significant earthwork including excavation, grading, filling, soil compacting, and trenching. These activities have the potential to expose construction workers to pesticides that may be present in Project site soils through dermal contact and dust inhalation. Dust containing residual concentrations of pesticides may also be transported by wind and affect offsite receptors (in particular, nearby residents).

The Center on Race, Poverty, and the Environment states that “exposure to pesticides can both cause asthma and aggravate it.”23 The “Strategic Plan for Asthma in California 2008-2012” prepared by the California Department of Health identifies pesticides as a specific asthma trigger.24

Construction of the Project will generate dust that may contain pesticides that are harmful to human health. Because exposure to pesticides has been established as an asthma trigger, there is the potential that Project construction may result in a significant impact to workers and offsite receptors, especially children who may live in nearby houses.

The potential for pesticides and their impacts cannot be adequately assessed without a Phase I ESA. A revised DEIR should be prepared to include a Phase I ESA to document recent and past agricultural activities on the Project site, use and types of any pesticides in those activities, and the identification of any pesticide mixing or loading areas. If pesticide use is confirmed in the Phase I ESA and identified as a REC,25 soil sampling under a Phase II ESA must be conducted. Results should be compared to screening levels (such as environmental screening levels, regional screening levels, and human health screening levels)26 and mitigation must be provided, if necessary.

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22 A REC is defined as the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. See: http://www.astm.org/Standards/E1527.htm
25 A REC is defined as the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.
Sincerely,

[Signature]

Uma Bhandaram

[Signature]

Matt Hagemann, P.G., C.Hg.

Environmental Screening Levels:
http://www.waterboards.ca.gov/sanfranciscobay/water_issuess/available_documents/ESL_May_2008.pdf; and
Regional Screening Levels: http://www.epa.gov/region9/superfund/prp/
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

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 Konnex 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 nationwide 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., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.


Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.


Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.


Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.


Other Experience:
Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.
EXHIBIT 3
Comments

Beacon Solar
Draft Environmental Impact Report

August 21, 2012

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mkavanaugh
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Comments

These comments on the Beacon Solar Draft Environmental Impact Report (DEIR) are in two parts. Part one has topics that, I think, should be addressed in the DEIR to better inform decisions about the large and growing use of land for photovoltaic facilities; part two is a discussion of a proposed mitigation measure that needs adjustments.¹

1.0 Topics not discussed – cumulative impacts of land use changes on structures

The Beacon Solar Project (Beacon) is not the first and may not be the last photovoltaic (PV) project proposed in Kern County. PV projects require few workers per acre. As land use for PV projects expands, there is a prospect that this will put downward pressure on local employment and labor earnings resulting in disinvestment in structures. Taken together the PV projects -- unless mitigated -- may lead to downward spirals in the value of existing structures and deterioration.

1.1 Introduction

Beacon is a utility scale PV project with an expected output of two hundred fifty megawatts (MW).² Beacon Solar LLC has proposed this project.³ It plans to enter into a power purchase agreement with a commercial supplier of electricity to buy the power produced at the site; and, expects the useful life of the equipment to be thirty-five years. The equipment may be replaced at the end of its useful life and the site would continue to operate.⁴

¹ Although the Law firm of Gideon Kracov asked me to comment on the DEIR, these comments reflect my opinions and are not the firm's opinions or the opinions of its clients.

² A megawatt is equal to one million (10⁶) watts.

³ DEIR Cover letter, July 10, 2012, from Jaymie Bauer, Kern County Planning and Development Department; Beacon Solar LLC is wholly owned by FPL energy, which is ultimately owned by Next Era Energy Inc.

⁴ See Section 3.5
The site is located in a rural, high desert area of eastern Kern County near the places of California City, Mojave and Cantil/Rancho. The existing land use zoning designation for the site is exclusive agriculture and limited agriculture. The California Department of Conservation classifies the site as ‘Other Land’.

The DEIR discloses that the project will be built on two thousand two hundred ninety-eight acres. The land has been out of agricultural production for about twenty-five years. This project -- if approved and if it is a business success -- will use this land permanently.

1.2 PV’s Cumulative Impact on Structures

Beacon is not the first and may not be the last PV project proposed in Kern County. Solar projects other than Beacon (identified in DEIR in Sections 3.0 and 4.9) will consume, permanently, over thirty-one thousand acres (about fifty square miles).

Land is a traditional economic input and these are large changes in its use. The changes signal that an economic change is underway in the local economy. This economic change is being driven by the PV projects. They are foreclosing, perhaps permanently, employment and earning opportunities from certain (e.g., agricultural) uses of land.

Although no cumulative effect of these changes is at hand, it is a fair to say that taken together the PV projects will test the strength of several local markets to adjust to the foreclosed opportunities -- initially for labor and then for commercial and residential structures.

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5 See DEIR Cover letter, July 10, 2012, from Jaymie Bauer, Kern County Planning and Development Department.

6 See Project Description in the DEIR Notice of Availability.

7 As is well established, when there are important uses that are external to the market (i.e. plants and animals) and cannot bid the land’s use away from PV users, then, market prices will be insufficient to assure that the land is being used efficiently.

8 There is a continual flow of workers through labor markets. The average duration of a job is three to five years. Equivalently, one-third to one half of the labor force is searching for a job. The composition of this flow while mostly young and unskilled workers does have a component of experienced workers searching for jobs and older workers returning to the labor force for a variety of reasons (for example: no longer raising children; reentering labor force after schooling; after caring for family
These adjustments will take different forms including out migration from the local area for labor and deterioration of structures (both commercial and residential) within the local area.

PV projects require few workers per acre. An expanding use of land for PV projects -- from Beacon and when coupled with past and probable future losses of acreage for other PV projects -- has the potential to put downward pressure on local employment and labor earnings (including agricultural income and employment). Unlike labor, which can move to another location, structures -- both residential and commercial -- are immobile. Structures, if left vacant or not maintained, will deteriorate.

Workers searching in a stagnating labor market will find that it will take longer to find new work and finding new work may involve leaving the area. This will bring about declines in local income. While declines in income may be met with variety of responses, income reductions generally result in reductions in spending and draw downs of savings. The reduction in spending may take many forms including but not limited to: reductions in home maintenance and delinquencies on mortgages. These factors may lead to deterioration of residential and commercial structures.

Although the PV projects have the potential to cause structural deterioration in the local area, mitigation measures may be able to slow or arrest the decline. To identify and design mitigation measures requires, inter alia, an understanding of the economic changes that are occurring to identify points of intervention. One set of measures, and there may be other sets, would apply performance standards to proposed PV projects. Another set of measures would condition use permits to achieve operating standards or be dismantled and removed. Strong, arms-length instruments would financially assure the site’s decommissioning.⁹

The DEIR is a ready vehicle for this work. It could identify the cumulative changes in land use; consider the impacts on the constructed environment; determine if mitigations measures are needed; and, propose mitigation options.

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⁹ Financial assurances are discussed in more detail in the next section of these comments.
1.3 Land use in other PV projects

I begin with data on solar projects built or proposed within Kern County. The data is from Section 3.0 of the DEIR and from information in Notices of Preparation issued by Kern County. For each project the table shows the MW claimed by the projects' designers, the total acres needed for the project; and, how many acres are needed per MW.

<table>
<thead>
<tr>
<th>Kern Cty.</th>
<th>MW</th>
<th>Total Acres</th>
<th>AC/MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antelope Valley</td>
<td>650</td>
<td>3544</td>
<td>5.45</td>
</tr>
<tr>
<td>Distributed</td>
<td>214</td>
<td>1709</td>
<td>7.99</td>
</tr>
<tr>
<td>Catalina (eXco) - solar portion</td>
<td>150</td>
<td>1441</td>
<td>9.61</td>
</tr>
<tr>
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Sources: Kern County Notice of Preparations Kern County DEIRs for Beacon; Distributed Project

http://www.co.kern.ca.us/planning/noticeprep.asp
The data show Beacon will be an under performing PV project when measured by its consumption of land. Beacon requires more acres to make a MW than any other PV project in the area except for Old River #1 and the solar portion of Catalina (eXco). In turn, this suggests that Beacon when compared to other projects is less efficient in its resource use; may contribute more to structural deterioration in the local area; and, has increased vulnerability to policy or economic changes.

1.3 Land use changes, deteriorating structures and its consequences

Land is a traditional factor of production that when combined with other factors like labor can provide local earnings (e.g., agriculture). Beacon -- like other PV projects -- uses a large amount of land to employ relatively few. Beacon, however, is at an extreme in its use of land. Beacon -- relative to other PV projects -- has more potential to foreclose local earnings and employment and more potential to result in regional disinvestment in the built environment (e.g., structures) than previous PV projects. Furthermore, when viewed cumulatively, the increasing amount of land used in PV projects suggests an increase in the likelihood of disinvestment in local housing in particular and deterioration of structures generally.

A typically disinvestment process proceeds as follows. Reductions in earnings result in across the board reductions in spending including reduction in spending for maintenance of structures. Reductions in maintenance causes structures to deteriorate and their value in exchange (the market price) declines. Falling market prices for existing structures may cause the prices of some structures to fall below their outstanding mortgage amounts. Falling market prices also influence valuations of neighboring property whose value may fall below their outstanding mortgage amounts. This may lead to delinquencies and foreclosures and another round of price declines.

Sometimes declines in market prices signal would-be buyers to become active and look for bargains. This can slow a disinvestment process. This has happened in some neighborhoods in urban areas. When successful, the deteriorating of structures in some neighborhoods is slowed, halted and reversed. Reinvestment occurs. Deteriorating structures in remote locations, however, are less likely to attract bargain hunters than similar structures in urban locations. In

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11 The Rider Ridge project used more acres to make a MW but is no longer proposed.
12 Perhaps Beacon could be reconfigured to use less land.
consequence, the disinvestment process may continue as declining structure prices induces further reductions in maintenance, which further depresses prices and induces further deferrals of maintenance.

In some urban areas the disinvestment cycles end when structure prices plus rehabilitation (undoing the effects of deferred maintenance) begin to approximate site costs plus replacement costs (i.e. demolish the deteriorated structure and build a new one).

There are two reasons why bargain hunting cannot be relied on to attenuate structural decline in areas that are not already densely settled.

First, in rural area fewer people are aware of what is occurring. Many people see urban areas decline because urban areas offer diverse employment and recreational opportunities (zoos, sporting events, entertainment). Mobility thru the area sparks interest in renewed investment.

Second, the declining neighborhoods in an urban area are sustained by a level of public services supported by a tax base from other neighborhoods.

Towns beyond the urbanized area are different. Fewer people live there and fewer people visit. They are more limited in their employment options and their recreational attractions. There is no larger unit to buffer their decline.

The relative isolation of towns and small cities may well allow them to decline in obscurity. Those who can move away, move away. Vacancies increase. Vacant homes deteriorate faster than occupied homes. The tax base and services fall and the general desirability of such areas drop. Disinvestment continues and the quality of the housing stock declines. In less urbanized areas there is no readily available larger unit to slow the decline. The decline of small cities and towns—if the past provides guidance—will be marked by household income reductions, deterioration of structures and deteriorating public services.13

13 Allowing the decline of the tax base to lead to deterioration in the quality of public services may create social outcomes that are costly to address.
This disinvestment process has been observed in urban areas during the decline and depopulation of Rust Belt cities. It is a process that started with the loss of an employment base albeit manufacturing rather than land-based activities like agriculture. It has proved difficult to reverse in an urban setting. It may be harder to reverse at outlying sites. In urban areas, density and public transit provide a basic level of mobility; remote areas have fewer employment alternatives and access requires private transit.

1.4 Conclusions on topics not adequately discussed

Beacon is one of several PV projects that are reducing the opportunity to earn labor income in the local area. Taken together the PV projects -- unless mitigated -- may lead to downward spirals in the value of existing structures. Deterioration may result.

Beacon -- in part because it consumes more land per unit of output than most other existing or proposed PV projects -- presents an opportunity to address concerns about the consequences to the fixed structural assets in the County. The DEIR should investigate and determine if the cumulative impacts from PV projects on the built environment are significant and capable of mitigation.

2.0 Comments on Impacts addressed – cumulative impacts on land use.

The previous section addressed topics that are not discussed in the DEIR. Specifically, whether the cumulative effect of multiple PV projects will foreclose employment and earning opportunities from certain (e.g., agricultural) uses of the land to the extent that disinvestment occurs and residential and commercial structures deteriorate.

This section addresses concerns that are discussed in the DEIR: cumulative impacts on land; and, a proposed mitigation measure.

2.1 Introduction

The DEIR (Section 4.9) notes that this PV project coupled with other PV projects presents risks of widespread abandonment because of business failure or obsolescence. This outcome could result from any one of a number of common causes such as changes in technology, changes in state or national energy policy, or economics. Failed or
obsolete PV facilities have no alternative use. If abandoned they would deteriorate, perhaps creating a hazard to human health and the environment.

According to the DEIR (Section 4.9), the cumulative effect of widespread project abandonment would result in significant land use impacts. To mitigate the risk of adverse land use impacts and to protect surrounding landowners, a mitigation measure -- a financially assured decommissioning plan -- is proposed.

Three observations follow. First, the existence of a decommissioning plan does not imply that Beacon's impacts will be temporary. Beacon is intended to be a permanent feature of the high desert landscape, ecology and economy. Second, the decommissioning plan applies only to Beacon; it does not apply to the other facilities that may also fail. Third, this decommissioning plan is only as effective as the financial assurances that support it.

2.2 The facility is permanent.

Although the Executive Summary (Section 1.5) states:

At the end of the lifespan of the proposed project, the panels and all above ground equipment would be removed, restoring the visual character of the proposed project site to its pre-construction state, which would also restore potential foraging habitat for golden eagle and other raptors.

This statement is not indicating that Beacon will only last for a few years or is temporary. It is envisioned to be permanent. The loss of land for other uses (e.g., habitat, agriculture) will be permanent. The DEIR states in Section 3.5 that:

The project proponent expects to sell the renewable energy produced by the product under the terms of a long-term Power Purchase Agreement (PPA). It is anticipated that the life of the PPA is between 20 to 25 years, while the life of the solar facility is at least 35 years. Following the expiration of a PPA for the project, the project proponent may, at its discretion, (emphasis added) choose to enter into a subsequent PPA, update technology and re-commission, or (emphasis added) decommission and remove the system and its components. The solar site could then be converted to other uses in accordance with applicable land use regulations in effect at that time.
2.2 The decommissioning plan applies only to Beacon not all projects.

The DEIR (Section 4.9-16, 17) acknowledges that there are widespread risks of abandonment from common causes such as changes in technology, energy policy, or, economics. Moreover, these common causes could influence all or most PV projects in the region. Yet, the decommissioning plan called for in this mitigation measure applies only to the Beacon facility.\textsuperscript{14}

How the County addresses widespread abandonment of PV facilities is a serious question but it may be a question outside of the scope of this DEIR. Formally, widespread abandonment will either be addressed: case-by-case by requiring decommissioning plans for each PV facility;\textsuperscript{15} broadly by developing a comprehensive response (e.g., levy a tax on all PV facilities to build a trust fund to decommission the facilities); or by ignoring widespread abandonment.

2.3 The decommissioning plan needs strong financial assurances.

Mitigation measure (MM 4.9-1) requires that a financially assured decommissioning plan be submitted to the Kern County Planning and Community Development Department prior to the issuance of a building permit. Required elements of the plan, \textit{inter alia}, are that it be written; be kept up to date; contain a cost estimate for carrying out the tasks involved in removing the facility; and, be financially assured.

The characteristics of the financial assurance instrument the permittee must provide are important because an inadequate (perhaps worthless) financial assurance may mean inadequate (or no) mitigation.

An adequate financial assurance should:

- Attach to all transfers of site ownership;

\textsuperscript{14} Of course the Beacon facility might fail for reasons particular to it such as: inefficiency, poor management, unable to secure a favorable future contract, unreliability and the like. If it fails for a particular rather than a common cause the decommissioning plan could be used if there are financial resources available to implement it.

\textsuperscript{15} Other solar projects in Kern County have mitigation measures that call for a financially assured mitigation plans. See for example Antelope Valley Solar (April 2011). Unfortunately, they have the same defects (discussed below) as the plan offered in Beacon.
- Make all responsible parties jointly liable;
- Be assured by an entity at arms length from the site owner;
- Be able to withstand any responsible party's bankruptcy;
- Be clear about what signals the start of restoration, (e.g., a date certain; output falls below a threshold);
- Be payable to an entity capable of managing the restoration;
- and,
- Provide in cash the purchasing power needed to restore the site.

The mitigation measure contains a 'trigger' that states:

Should any portion of the solar field not be in operational condition for a consecutive period of twenty four (24) months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the County a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Community Development Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field, which has been deemed abandoned, be permitted to remain in place for more than forty-eight (48) months from the date the solar facility was first deemed abandoned.

Three specific comments on the mitigation measure follow.

- First, the County appears to have no power to require compliance with the mitigation measure once the building permit(s) are issued. This must be corrected.

- Second, the financial assurance instrument must be able to withstand bankruptcy and attach to all future owners of the site. I do not see how the requirement to maintain a decommissioning plan is transferred from owner to owner.

- Third, the mismatch between the time the trigger allows for appealing a compulsory decommissioning and the length of time a financial assurance instrument is in force reduces if not completely eliminates the value of this mitigation measure. This is because the mismatch may result in the County not receiving any funds.
2.3.1. How are the decommissioning plan's requirements enforced after the building permits are issued?

The mitigation measure that calls for a decommissioning plan assumes a high level of good faith cooperation among the County and Beacon's owners. Even if this trust exists today, there is no reason to believe that the same level of trust will exist tomorrow or that today's owner of the facility will be tomorrow's owner.

There is little experience with utility scale PV facilities so their useful life is a matter of conjecture. Utility scale PV facilities are likely to have an economic life that depends on many variables including but not limited to: the wholesale price of electricity; the relative efficiency of other solar installations; and, the relative efficiency of providing the services of electricity that can be self-produced by the residential and commercial sectors.\(^{16}\)

The data show that thirty years is a long time in the economic life of a firm. The U.S. Department of Commerce, Center for Economic Studies tracks, *inter alia*, the life of U.S. firms.\(^{17}\) For 2010, the latest year for which data has been published, the US economy consisted of five million firms with employees. These data show that there is a 17% chance that a firm will survive to the twenty-sixth year.\(^{18,19}\)

\(^{16}\) Residential scale hot water heating competes with utility provided electricity, residential scale pv production competes with utility provided electricity, commercial entities are place panels on the roof to provide electricity for lighting and temperature control. This competes with utility provided electricity.

\(^{17}\) See the Business Dynamics Statistics (BDS) produced by the Center for Economic Studies of the U.S. Census Bureau maintains the database of establishments with paid employees.

\(^{18}\) See also the Prologue to Arie de Graus's, *The Living Company*. He reports that the life expectancy at birth of all companies is 12.5 years; multinational corporations last only 40 to 50 years; and, one third of 1970 Fortune 500 companies disappeared by 1983 (a rate consistent with a 40 year life for a Fortune 500 company).

\(^{19}\) A company may cease to exist for many reasons including liquidation, acquisition, and multiple types of bankruptcy. All cessations of business jeopardize the continuation and completion of a pledge of decommissioning and removal unless there is an adequate and independent assurance instrument. The data show cessation is a common occurrence and that it is highly likely after twenty-five years.
So, even if useful life is shorter than some expect and does not exceed thirty years, thirty years is beyond the lifetime of most U.S. firms. The data on firm life indicate that it is highly likely that even if the PV facility is short-lived, the County will not know the entity with whom they will be dealing even a few years from now. Accordingly, the mitigation measure must require ongoing compliance with the mitigation measure by all current and future owners.

Perhaps there are permits issued by the county -- in addition to building permits -- than can be conditioned. What the County or citizens need is the authority:

- To shut down the facility if the County does not have an approved, financially assured plan; and,

- To confiscate all revenues earned during the time the facility operated without a financially assured decommissioning plan.

Absent this authority, mitigation measure (MM 4.9-1) appears to be inadequate to mitigate the impact that it claims to address.

2.3.2 Will the financial assurance instrument be able to withstand bankruptcy? Will it attach to future owners of the site? How?

Not all financial instruments are capable of providing adequate financial assurances.

A trust fund that builds over time, for example, is by itself an inadequate assurance. An accumulating trust fund would be unable to pay for the restoration if the solar facility fails or becomes obsolete earlier than expected. So, if an accumulating trust fund is used to financially assure the restoration then it must be complemented with another instrument, such as a letter of credit, until the trust builds to an amount that can provide the purchasing power to implement the restoration plan. Finally, to withstand bankruptcy, the trust must be irrevocable. That is, the funds in the trust are never returned to Beacon’s owners.

A fully funded, irrevocable trust can provide the necessary funds and can survive bankruptcy.

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20 Title to some or all of the parcels that make up the site Beacon has proposed may, in the future, be sold to another firm.
A surety bond may be impractical. These instruments are more commonly used for a shorter term than envisioned in this instance; have not proved to be effective to assure coal mine reclaims; and place a burden on the receiver of the funds (the County) to show whether the site is ready to be restored or should be restored. In a bankruptcy petition the funds for decommissioning may be withheld at the request of creditors.

A stand-by, evergreen letter of credit is a better instrument to use to assure restoration. These instruments are in use to assure the remediation of Resource Conservation and Recovery Act sites.\(^ {21} \) The amount of the letter is tied to the restoration cost estimate. Typically, a letter lasts for a year. When renewed its amount may change depending on increases or decreases in the restoration cost estimate.\(^ {22} \) The permittee may be given the option to supplement the letter of credit by establishing an arm's length trust fund.\(^ {23} \) In this event the amount of the letter plus the amount of the trust must meet the engineering cost estimate for restoration.

Most importantly, a letter of credit is not the property of the owner of the PV facility and in the event of a bankruptcy is not counted as part of the property of the failing company. The County will be able to collect the funds and will be in a much stronger bargaining position about the use of the funds.

No other financial instrument is appropriate. Pledges will not withstand bankruptcy. Pledges make the County dependent upon the good will of a troubled company. Generally, instruments or statements that are not guaranteed by a third party (e.g., self insured) or not at arms length from the current operator (e.g., parent corporation) will not withstand bankruptcy.

Finally, while requiring the receiver of a building permit to submit a financially assured decommissioning plan is important, it is insufficient.

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\(^ {21} \) Responsible parties in RCRA cases that fail to provide financial assurances are in contempt of a court and are subject to additional fines and loss of liberty.

\(^ {22} \) The mitigation measure might be rewritten so that PV owners who do not renew the letter of credit would face the same penalty as owners who fail to pay property taxes.

\(^ {23} \) This is analogous to the post-closure liability trust fund required of operators or owners of solid waste disposal facilities.
The costs of the decommissioning plan and it assurance must attach to the site so that any and all future owners of the site have this obligation.\textsuperscript{24}

2.3.4 The financial assurance instrument is made worthless by the proposed trigger.

The trigger outlines a process where if the facility or a portion of the facility is out of use it can be decommissioned. Yet the process it outlines may last four years. The financially assurance instruments -- save for a fully-funded trust fund -- are renewable, one-year instruments or in the case of an accumulating trust an instrument that requires annual payments. If a portion of the project is not being used, the issuer of the financially assurance instrument -- if it does any due diligence -- will realize that the assurance instrument will be used. If so it may simply decline to renew and no other issuer will be willing to assure the funds. In that event the County will not be receiving any financial assurance and decommissioning may not occur. This makes the mitigation measure ineffective.

I do not see a way of using this trigger with a letter of credit or surety bond. If the trigger stays as written; then, the decommissioning plan must be assured with fully-funded trust that is at arms-length from the owner and is kept up to date during the appeal.

\textsuperscript{24} Deed restrictions or covenants, for example, might be a way.
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PRESENT POSITION: Private Practice since 1985

PREVIOUS POSITIONS:  
• Senior Economist, ICF Incorporated, 1983-85, Washington DC  
• Research Director, Public Interest Economics, 1976-1983, Washington DC and San Francisco, CA  
• Assistant Professor, Northern Kentucky University, 1975-76

EDUCATION:  
• Ph.D., Economics, University of Cincinnati, 1975  
• BA. Economics, Xavier University, 1970

EXPERIENCE

• An independent research economist with many years of experience;  
• A national expert in the economic aspects of environmental enforcement and policies for municipal and industrial pollutions sources;  
• Experienced in damage assessments to residential and commercial enterprises;  
• Experienced in natural resource damage assessments and regional economic impact assessment; and,  
• An author of groundwater management and climate change papers.

Short descriptions of selected projects follow.

ECONOMICS & FINANCE
I applied economics to many of the environmental changes of the last thirty years including:  
• Estimating the ability of defendants to pay a penalty and the financial effects of penalties in enforcement cases;  
• Estimating the benefits of cleaner beaches and rivers;  
• Developing methods to determine the effects of water quality policies on agricultural output, employment and income;  
• Developing methods to estimate the benefits of preserving groundwater quality;
• Advised on the adequacy of financial assurance mechanisms;
• Estimating expected and realized benefits of irrigation projects; and,
• Critiquing efforts to regulate effluents from several industries.

Designed and used financial after-tax, cash flow models to:
• Measure the ability to pay a penalty and the effects of penalties on financial position;
• Estimate the benefit gained by entities that violate law and regulation; and,
• Estimate the burden on the residential sector from municipal compliance with law and regulation.

Provided expert economic and litigation support services to the United States (and others) in Clean Water Act, Clean Air Act, Superfund, RCRA and groundwater quality cases.

Exxon Valdez – Estimated the employment and income effects from spending the civil settlement. The work involved characterizing the options in the restoration plan in term of input/output models.

Natural resource damage assessments

• Ohio River – valued public resource damages from spills from tugs and barges. The work combined results from Natural Resource Damage Assessment models, studies of the costs of reducing risks to drinking water, and restoration costs.
• Kailua Beach State Park – valued a three-mile beach based on recreational use and estimated the damage from wastewater treatment plant effluent. The work involved reviewing, updating and synthesizing a variety of studies that valued recreation.
• Florida Beaches – valued beach closures from pollution at several beaches. The work involved extensive use of the Natural Resource Damage Assessment models for coastal and marine environments.
• Advised environmental groups on the use of contingent valuation to value natural resource damages and commented on the Federal Register notice on the use of contingent valuation to value damage

Energy & Environment

• Conducted several analyses of U.S. energy industry to estimate current and future production in wetlands and in the artic.
• Estimated consequences of oil and gas leasing in the North Aleutian Basin.
• Estimated the cost effectiveness of technologies to control produced water discharges in wetlands,
• Estimated the impact of produced water controls on production, royalties and returns from coal bed methane production.
• Estimated the change in rates needed to pay for adopting cooling water intake controls at a nuclear power plant.
• Advised environmental groups on methods to fund the WV acid mine drainage reclamation fund.
• Design team member to size and fund the Superfund.
• Estimated onshore economic impacts of outer continental shelf oil and gas development in California.
• Examined the efficiency and equity of federal leasing policies for oil and gas on public lands.

Global Climate

• Estimated current and future greenhouse gas emissions by fuel, sector and region. The work involved estimating long-term energy using an economic model based on prices, income and combustion technology.
• Estimated greenhouse gas emissions by jets at altitude by region and the change in emissions from adopting advanced jet technology.
• Modeled current and future emission from the US automobile fleet under various assumptions about future fuel efficiency.
• Analyzed the benefits of substituting hydrocarbon propellants for CFC propellants in aerosol products. The results showed the same level of consumer satisfaction could be obtained without CFCs and without increasing prices.

SELECTED PUBLICATIONS


Estimates of future CO, N20 and NOx emissions from energy combustion, Atmospheric Environment, March 1987


Regional economic impacts of OCS oil and gas development, with Susan Little and Rob Wolcott. Governor’s Office of Planning and Research, California, November 1976.

**Federal Court Trial Testimony Since 1/91**

NRDC v. Texaco — Wilmington — 2/91, 88—263—JRR  
U.S. v. City of San Diego — San Diego — 2/91, 88—1101—B(IEG)

SCLDF v. City/County of Honolulu — Honolulu - 1/93, 90—00218—HMF  
Friends of Earth v Laidlaw — Columbia SC — 11/93, DSC 3—92-1697—17  
PIRG v, MEI - Newark — 1/94, DNJ 89—3193

Friends of Earth v Laidlaw — Columbia SC — 7/95, DSC 3—92-1697—17  
Friends of Earth v. Gaston Recycling 7/95, DSC 3—92—2574—0

PIRG v, Hercules — Camden NJ — 2/97, DNJ 89—2291  


**Deposition Testimony since 1/91**

U.S. v. San Diego 1/91, 2/91, 88—l101—B(IEG)  
SCLDF v. C&C Honolulu (Sand Island) 2/91, 90-00219 ACK  
PIRG v. Hercules 7/91, DNJ 99—2291  
U.S. v. Corning 9/91, 3:CV—90—207

NRDC v. Total Petroleum 5/92  
PIRG v. Witco 5/92, DNJ 89—3146  
Hawaii’s Thousand Friends v. C&C Honolulu (Honouliuli) 6/92, 90—00218—HMF  
PIRG v. Circuit Foil 12/92, DNJ 89—5371

Arkansas Wildlife Fed v. Hudson Food 5/93  
U.S. v. Lawrence County 5/93, C—l—91—302
PIRG v. Essex County 6/93, DNJ 92—4465

TN. Environmental Council v. Dana 4/94, 1—92—0074

Friends of the Earth v. Gaston Recycling 1/95, DSC 3—92—2574—0
Stevens v. McGinnis, Inc., et al, 2/95, C—I—93—442
Save Our Beaches v. C&C Honolulu (Kaneohe/Kailua) 3/95, 92—00263
DAE

City of Independence, Mo. v. Amoco 8/96
California Sport Fishing Alliance v. El Dorado 9/96, CV—S—95—699

SF Bay Keeper v. Dow Chemical Co., 9/98, C97—0I988
American Canoe Association v. Green Valley—Greenwood PSD, City of St. Albans and Dunbar PSD, WVA 10/98, 97—0949

Interfaith Community Organization v. Shinn et al., 2/00, 93—4774, 94—3434, 9 4—37 93
U.S. v. Rapanos et al., 9/00, 94—CV—70788DT
American Littoral Society v. Rahway Valley Sewerage Authority 10/00, UNN 163—9 8

American Canoe Association v. WASA 4/02, 1:99cv02798(HHK)
U.S. et al. v. Hamilton County 4/03, 1—02—107

Northern Plains Resource Council v. Fidelity Exploration and Production Company 7/04 CV 00-105-BLG-SHE

Adams et al. v. Teck Cominco Alaska Inc., 2/05, A04—49 CV (JWS)

In re: Flood Litigation (1/06), CV 02-C-797, Upper Guyandotte Watershed (Judge Hutchison)
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Colorado Springs Utility (8/06) CV—019994-WBM-BDD

Assoc. of Irritated Residents v. C&R Vanderham Dairy, et al. (6/07) 1:05-CV-01593-OWW-SMS

Assoc. of Irritated Residents v. South Lakes Dairy, et al. (2/08) 1:05-CV-01593-OWW-SMS 1:05-CV-00707-OWW-SMS
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Humboldt Bay Keeper et al. v. Union Pacific Railroad et al. (5/08) C 06-02560
JSW WDB

New Jersey Municipal Authorities et al. v. Honeywell International et al.
(9/09) 05-5955 DMC
Ohio Valley Environmental Coalition, et al. v. Apogee Coal Company LLC—(8/10) 3:07-cv-00413-RCC

Ohio Valley Environmental Coalition, et al. v. Arch Coal (5/11)
San Francisco Baykeeper v. West Bay Sanitation (7/11)
September 25, 2012

Jaymie L. Brauer.
Kern County Planning and Community Development Department
2700 M Street, Suite 100
Bakersfield, CA 93301

Subject: Comments on the Final Environmental Impact Report and Response to Comments for the Beacon Photovoltaic Project, Kern County

Dear Ms. Brauer:

We submitted comments on the July 2012 Draft Environmental Impact Report (DEIR) for the Beacon Photovoltaic Project (“Project”). The County published a September 2012 Final Environmental Impact Report (FEIR) and Response to Comments (“Responses”). We find the FEIR and Responses to inadequately address our comments in failing to disclose and evaluate issues associated with air quality, hydrology, and hazards and hazardous materials. Prior to certification, the County should disclose and mitigate these issues as necessary in a recirculated FEIR.

AIR QUALITY

Particulate Matter Emissions

Our comments noted that the DEIR did not provide: (1) an adequate explanation of the Project’s PM10 emissions estimate; and (2) an evaluation of potential health effects of the Project’s PM10 emissions on workers, nearby residents, and schoolchildren. The FEIR does not adequately address these comments; therefore, we have the following supplemental comments.

1. Emissions Calculations:

The Responses state that the implementation of Eastern Kern Air Pollution Control District (EKAPCD) Rule 402 and its measures¹ would reduce the Project’s fugitive dust, or PM10, emissions by 68%

¹ [Link to source](http://www.kernair.org/Rule%20Book/4%20Prohibitions/402_Fugitive_Dust.pdf)
(Responses, p. 7-200). However, this is just an assumption on the part of Applicant and they, themselves, note that “Rule 402 does not provide a control efficiency for these measures” (Appendix C1, p. 1). The Responses state that the application of the control efficiency can be substantiated by the findings in the Western Regional Air Partnership’s Fugitive Dust Handbook (Responses, p. 7-200). Our review of the Handbook does not reveal any evidence for this claim.

The Responses state that the control efficiency of 68% is reasonable for the Project’s fugitive PM10 emissions (Responses, p. 7-202). The Applicant cannot claim this reduction in fugitive PM10 emissions as reasonable without providing any modeling results or calculations. The Applicant cannot simply list the efficiency of the mitigation measures (Responses, p. 7-201) and assume a 68% reduction in emissions. Instead, the Applicant should provide calculations to specifically show how implementation of the mitigation measures will result in a 68% reduction in fugitive PM10 emissions.

2. Health Effects of Emissions:

Our comments noted the detrimental health effects of exposure to PM10. As stated, exposure to PM10 can cause and exacerbate asthma, especially in children, as well as cause bronchitis, lung tissue damage, cancer, and even death. Research identifies that dust from construction is a major contributor to PM10 and that PM10 exposure is associated with asthma. A report by Imperial County, California states that PM10 inhalation can exacerbate asthma and children are susceptible to higher risks from exposure to PM10.

Red Rock Elementary School is located three miles north of the Project site (DEIR, p. 4.7-1). Four residences are located within 0.5 miles of the Project boundary (DEIR, p. 4.2-2). Construction activities at the 3.6 square mile Project site -- including excavation, filling, and grading -- will result in dust generation. Dust, or PM10, generated from these activities can be transported by wind toward adjacent residences and the school. The Project site is already a “large source of windblown dust” (Fact Sheet, p. 5). The Project’s emissions of PM10, in conjunction with the area’s existing windblown dust, are likely to result in significant health effects to workers, residents, and schoolchildren – an impact not evaluated in the FEIR.

The FEIR should be revised and recirculated to acknowledge the adverse health effects and potentially significant impacts from exposure to dust and PM10 generated from Project construction. The Applicant should also prepare a dust control plan, routinely provided as mitigation for fugitive dust impacts in other Kern County EIRs. For example, the DEIR prepared for the North Sky Wind Energy project in Kern County states that “the project proponents shall develop a Fugitive Dust Control Plan in compliance with

http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20documen nt.pdf
http://www.epa.gov/airtrends/aqtrnd95/pm10.html and http://www.arb.ca.gov/html/brochure/pm10.htm
http://www.co.imperial.ca.us/airpollution/attainment%20plans/final%20ic%202009%20pm10%20sip%20documen t.pdf, p. 1-2
http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Body/Tables/Table%20ES-6.pdf, p. 1
East Kern County Air Pollution District Rule 402 to reduce PM10 and PM2.5 emissions during construction. The FEIR does include dust control measures as mitigation (MM 4.2-1 and MM 4.2-4). However, a dust control plan, in accordance with EKAPCD Rule 402’s “Special Requirement for Large Operations” must also be prepared.

The Applicant should prepare a Rule 402-compliant dust control plan to ensure that dust exposure and the potential health effects to workers, nearby residents, and schoolchildren are minimized to the maximum extent feasible. The plan should be included in a recirculated FEIR.

**HYDROLOGY**

PV panels containing cadmium telluride (CdTe) are being considered as a possible technology for the Project (DEIR, p. 4.9-6). Our original comments noted that the DEIR does not consider the potentially significant impacts to humans and the environment from panel breakage and subsequent release of CdTe. Catastrophic breakage of some of the 972,000 panels was not considered in the Responses. Breakage of and CdTe release from the panels on a large scale may result from earthquake shaking, flooding, or fire damage.

1. Impacts to the environment

We previously cited a study that found that cadmium, from broken panels, can leach into the groundwater at concentrations exceeding Environmental Screening Levels (ESLs). The Responses states that these concentrations are below human health screening levels and that health effects to on-site workers or off-site residents are highly unlikely (Responses, p. 7-203). As our comment focuses on environmental impacts to groundwater and surface water from cadmium leachate, comparison to human health screening levels is non-responsive and irrelevant. The FEIR should be revised to address and respond to our intended comment on the impacts to groundwater and surface water from cadmium leachate releases from broken panels.

The FEIR also does not address or respond to our comments on the potential for panel breakage due to flooding or earthquakes. Our original comments cited the flooding that occurred in the Genesis Solar project area and resulted in the breakage of 200 parabolic trough mirrors. If a similar event were to occur on the Project site, it is reasonable to assume that panel breakage and subsequent releases of CdTe would occur, potentially resulting in impacts to groundwater and surface water. We also previously noted that the Garlock Fault is located on the Project site...

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8 [http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_jawbone/DEIR/Subsections/4.3-4.pdf](http://www.co.kern.ca.us/planning/pdfs/eirs/northsky_jawbone/DEIR/Subsections/4.3-4.pdf), pp. 4.3-12, 13
11 [Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater.](http://www.earthtechling.com/2012/08/big-desert-solar-project-hit-by-wind-flood/)
and panel breakage is likely to occur during an earthquake along the fault, resulting in potential CdTe release.

In the event of panel breakage (via flooding or earthquake), cadmium leachate, at concentrations exceeding ESLs, will potentially be released to groundwater and surface water, a potentially significant ecological impact. The FEIR should be revised and recirculated to disclose and thoroughly evaluate this impact.

2. Impacts to humans

The County should evaluate impacts to workers, nearby residents, and schoolchildren if CdTe panels will be used for the Project. Workers, nearby residents, and schoolchildren can be exposed to CdTe if panel breakage were to result from fire – a scenario not evaluated fully in the FEIR. The FEIR simply states that fire damage would not result in the release of CdTe (Responses, p. 7-203). This is contrast with recent research that identifies fire damage to potentially result in cadmium exposure. The study states that fire can consume the PV modules and “releases cadmium from the material into the air.”

People can also be exposed to CdTe through inhalation of dust or ingestion of flakes and dust particles. A 2009 Silicon Valley Toxics Association White Paper states that the “potential for dust and fumes creates potential hazards for workers during the preparation of materials, from the scraping and cleaning of CdTe products, and from fugitive emissions.”

Other CEQA documents for projects who have proposed to use CdTe technology have disclosed the potential inhalation and ingestion risks. For example, the Environmental Impact Statement (EIS) for the Ocotillo Sol solar project states that release of CdTe could occur if pitting of the panels occurred and human exposure could occur if the panels generated flake or dust particles. The EIS mitigates for these potential impacts by implementing “routine monitoring and inspection activities by the Applicant to identify any potentially damaged panels. If a damaged panel is discovered, the panel would be replaced prior to any degeneration that may result in the release of CdTe.”

If the Applicant chooses to use CdTe panels, potential impacts to workers, nearby residents, and schoolchildren through all potential pathways of exposure (inhalation of emissions, ingestion of dust or flake particles) should be evaluated and appropriate mitigation measures, as identified in other EIRs, must be provided to ensure public health.

14 Ibid.
15 Ibid.
16 [http://www.greencollar.org/UserFiles/ads-media/12526955654aaa9e0d799db.pdf]
18 Ibid.
Using CdTe panels can result in potentially significant impacts from: (1) release of cadmium during earthquakes or floods to groundwater and surface water as a result of panel breakage; and (2) exposure of onsite workers, nearby residents, and schoolchildren from inhalation and ingestion of dust particles, flakes, and particulate emissions from fire damage. If the Applicant decides to use CdTe panels, these impacts should be disclosed and evaluated prior to certification of the FEIR.

HAZARDS AND HAZARDOUS WASTE

We previously stated the DEIR provided only general information on baseline soil conditions at the Project site that may be harmful to construction workers. According to the DEIR, “pesticides, herbicides, and associated metals may be present in near-surface soils at residual concentrations” (Responses, p. 4.7-4). The DEIR further stated that “older pesticides can linger in the soil for many years” (Responses, p. 4.7-4). Our comments on the DEIR noted that a Phase I Environmental Site Assessment (ESA) was not included in the DEIR to assess these potentially hazardous conditions and that without such an evaluation, construction workers might be at risk during earthwork activities.

In response, a number of Phase I ESAs, prepared in 2007 and 2008, were produced. The Phase I ESAs found no “recognized environmental conditions” to be associated with former pesticide use. Kern County concluded, in response to our comment, that “project impacts related to hazard and hazardous materials have been fully disclosed, adequately analyzed and appropriately mitigated” (Responses, p. 7-206).

We take exception with this conclusion on two counts: (1) the Phase I ESAs that were produced are more than five years old and are unreliable for decision making; and (2) failure to find pesticide use a recognized environmental condition is inconsistent with other Phase I ESA findings in Kern County.

1. Phase I ESAs have a shelf life

The Response relies on the findings from Phase I Environmental Site Assessments (ESAs) completed in 2007 and 2008. A Phase I ESA, according to the American Society for Testing and Materials, Phase I are valid for 180 days following acquisition of the property.19

Because the Phase I ESAs are dated, they are unreliable in evaluating conditions that are potentially hazardous to construction workers and future site personnel. Therefore, the FEIR’s analysis of the Project site based on these Phase I ESAs is inadequate. An FEIR should be recirculated to include a new Phase I ESA that evaluates current Project site conditions.

2. Failure to find a recognized environmental condition

The finding in the Phase I ESAs that potential pesticide residues were not a recognized environmental condition is contrary to findings made in other Kern County Phase I ESAs where

19 http://www.astm.org/Standards/E2247.htm
agricultural use was noted.\textsuperscript{20} In the three footnoted examples, agricultural use and pesticide application were cited as recognized environmental conditions that warranted follow-up soil sampling.

The Responses state that “soil sampling pursuant to a Phase II ESA is not warranted” (p. 7-205). Contrary to this response, pesticide use in Kern County may be considered to be a recognized environmental condition, one that requires updated Phase I ESAs and soil sampling to determine health impacts. The FEIR should be recirculated to include updated Phase I ESAs and provide for soil sampling to determine if residual concentrations of pesticides are present that would present risks to construction personnel involved in earthmoving activities.

Sincerely,

\[signature\]

Matt Hagemann, P.G., C.Hg.

\[signature\]

Uma Bhandaram

By e-mail

Ms. Jaymie L. Brauer  
Planner 3/Advance Planning Section  
Kern County Planning and Community Development Department  
2700 M Street, Suite 100  
Bakersfield, CA 93301-2323  

Email: brauerj@co.kern.ca.us

Reply to Comments: Draft Environmental Impact Report of Beacon Photovoltaic Project

Dear Ms. Brauer:

Thank you for responding to my comments on the Beacon Solar project (Beacon) Draft Environmental Impact Report (DEIR).¹ I read your responses and have a few comments.

First, I address your remarks in opposition to an investigation about whether this project will exacerbate the potential for physical deterioration of existing structures. Second, I address your comparison between project size measured in megawatts and land measured in acres. Third, I accept the clarification you made as to how a decommissioning plan will attach to future owners. I note that you did not address my comments on the adequacy of financial assurances. Finally, I suggest an alternative to characterizing impacts as temporary or permanent.

1. The project and physical deterioration

The Kern County Planning and Community Development Department (The Department) in opposing an investigation of Beacon's role in the future abandonment of structures and ways to mitigate the impact says such an investigation is unsupported by case law and is speculation.

I leave it to others to comment on whether an investigation of a project's impact on physical structures is supported by case law. I disagree with your characterization of my argument as speculation. What I argued is not guesswork. It is based on theory,

¹ The responses specific to my comments are found in the document at Sections 7-J and 7-K at pages 7-193 to 7-197.
historical events and began with an observation from a NextEra report published by The Department.

NextEra Energy Resources conducted architectural resource inventories and resource evaluations. They did this to comply with existing law and regulation. A report of their findings, *The Beacon Photovoltaic Solar Project Cultural Resources Report*, in Chapter 1 at page 1 notes that, "...there are several abandoned structures in the area...near the site access point".

This is evidence of the area’s vulnerability to vacancy, structural deterioration and abandonment. It is a fair question to ask whether this PV project will accelerate the area's existing vacancy, deterioration, and abandonment problem and to ask if there is a way to mitigate any aggravation. For example, should a trust fund be created by Beacon to acquire, repair or demolish abandoned buildings?

The argument that there are no workers displaced by the project is insufficient to exclude Beacon's contribution to structural deterioration from consideration in a DEIR. What matters is that Beacon needs no workers and that is why the structures that are in the area will face a continuing threat perhaps an increased threat of becoming vacant and falling into disrepair.

I maintain my opinion that this issue should be investigated in the DEIR and its possible mitigation should be addressed.

2. Project size measured in megawatts and acres

Using publicly available data I suggested that Beacon when compared to other projects in the area is less efficient in its use of land. The consequences are: this project is more likely to contribute to structural deterioration in the local area; and, has increased vulnerability to policy or economic changes. As a possible mitigation I suggested that perhaps Beacon could be reconfigured to use less land.

The Department responded that the Beacon site has a gulch and railroad tracks and if you remove them then Beacon scores improve. This suggestion fails to recognize that all PV projects have areas unsuitable for PV panels. It is not a fair comparison to edit out the unsuitable land from Beacon, compare it with projects that have not been adjusted for their unsuitable land and then conclude that Beacon is acceptable.

My opinion is that some PV projects are going to be more efficient than others. I used a basic measure to reveal that Beacon does not rank high on its use of land. Inefficient land use may lead to other problems. This suggests that The Department might develop performance and operating standards to help anticipate problems and develop ways to mitigate them.

3. Decommissioning plans and financial assurances

I read the DEIR to say that the plan and assurances were required to get building permits and asked how the county could enforcement the requirement for keeping the plan up to date and financially assured after the building permits were issued.

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2 See:
http://www.co.kern.ca.us/planning/pdfs/eirs/beacon_solar/Appx%20F1%20Cultural Resources%20Survey%20and%20Report.pdf
The Department explained that a decommissioning plan and adequate financial assurances are part of a conditional use permit. Accordingly, the requirements to keep the decommissioning plan up-to-date and adequately assured attaches to the property and thus to all future owners.

I also argued that the financial assurances as described in the DEIR were inadequate. These concerns are not addressed in your response and these concerns bear repeating.

An adequate financial assurance should:

- Attach to all transfers of site ownership; (The Department says that they do)
- Make all responsible parties jointly liable; (no response)
- Be assured by an entity at arms length from the site owner; (no response)
- Be able to withstand any responsible party’s bankruptcy; (no response)
- Be clear about what signals the start of restoration, (e.g., a date certain; output falls below a threshold); (no response)
- Be payable to an entity capable of managing the restoration; (no response) and,
- Provide in cash the purchasing power needed to restore the site. (no response).

In addition there is a lengthy trigger mechanism in the proposed assurance that will make the financial assurance of little or no value.

I believe the financial assurances for decommissioning as described in the DEIR are inadequate. Even though the requirement for a plan and assurances attaches to future owners, the assurances are unlikely to provide cash to future generations to remove this installation when it is no longer needed.

4. Temporary or permanent

Opinions may vary over the meaning of temporary and permanent. To astrophysicists or geologists thirty years is an inappropriately short period of time in which to conduct an analysis, economists have been cautioned that examining too long of a period of time is a misleading guide to examining human affairs. I do not think that it is useful to fence words with The Department over the difference between a permanent change and a change that lasts one or more useful lives of equipment where each life is thirty years or more.

It is, nevertheless, a tautology to say that there are no permanent impacts because the land conversion is temporary. It makes more sense to say that a project’s long-term impacts end or are reduced when the land conversions are reversed. Decision makers can then judge whether it is in the public’s interest to wait a long time for relief. The DEIR, however, is vague about the timing of restoration and, unfortunately, leaves that judgment solely to the permittee or its successor(s).

3 "... this long run is a misleading guide to examining current affairs. In the long run we are all dead, economists set themselves too easy a task, too useless a task if in the tempestuous season they can only tell us that when the storm is long past the ocean is flat again." Keynes, J.M. A Tract on Monetary Reform, 1923, p.80
I think a date certain for restoration should be set. Absent a date certain a process to determine the date should be defined and made a part of the conditional use permit.

Respectfully,

*McKavanaugh*

Michael Kavanaugh
Memorandum of Understanding
MEMORANDUM OF UNDERSTANDING AND AGREEMENT
FOR
PERFORMANCE OF ZONING ORDINANCE AND MITIGATION MEASURES
AS ENVIRONMENTAL RESTRICTIONS
(Kern County – Property Owner- Lessee-Operator)

THIS AGREEMENT, made and entered into this ___ day of ___________ 2012 by and between the COUNTY OF KERN, a political subdivision of the State of California (hereinafter “County”) and Beacon Solar, LLC (hereinafter collectively referred to as “Property Owner-Operator”).

WITNESSETH:

WHEREAS, in consideration of the COUNTY’s approval of the Beacon Photovoltaic commercial solar project, Conditional Use Permit No. 11, Map No. 152, and in satisfaction of the condition of Project approval requiring a contractual mechanism to assure that all provisions of the zoning ordinance and project approval CEQA mitigation measures, will be implemented, County and Property Owner-Operator now desires to enter into this Agreement.

NOW, THEREFORE, IT IS MUTUALLY AGREED between County and Property Owner-Operator as follows:

1. The Property Owner-Operator agrees to perform all mitigation measures that are contained in the adopted Mitigation Measure Monitoring Program, attached hereto as Exhibit “A”, as they relate in any way to the development of a commercial solar project described above. The Property Owner-Operator obligations under this Agreement shall apply regardless of whether any other permits or entitlements are issued, except to the extent performance of such obligations is expressly prohibited under state or federal law. The obligations under this agreement, which shall not be amended absent prior written agreement of County and the Property Owner-Operator, shall be binding on all successors and assigns of the property described in Exhibit “B” hereto, and Property Owner-Operator agrees that they shall so obligate all successors, assigns, transferees, and lessees. The provisions of all exhibits attached hereto are hereby incorporated in this Agreement by this reference as through fully set forth herein.

2. The Property Owner-Operator, successors, assigns, transferees, and lessees agree to be bound by all the requirements of the A (Exclusive Agriculture) and A-1 (Limited Agriculture) Zoning ordinance and all other provisions of the Kern County Zoning Ordinance (Title 19), the adopted Final
Environmental Impact Report, and the adopted Mitigation Measure Monitoring Program and Conditional Use Permit conditions (Exhibit A) regardless of any exemption under California Law.

3. All notices to Property Owner-Operator under this Agreement shall be deemed valid and effective five (5) calendar days following deposit in the United States mail, postage prepaid, by certified and/or registered mail, addressed to:

Beacon Solar, LLC  
c/o Brandon Stankiewicz  
700 Universe Boulevard  
Juno Beach, FL 33408

All notices to County under this Agreement shall be deemed valid and effective when personally served upon the Department of Planning and Community Development Director or upon deposit in the United States mail, postage prepaid, by certified and/or registered mail, addressed to the Director, Kern County Planning and Community Development Department, 2700 “M” Street, Suite 100, Bakersfield, California 93301.

4. This Agreement represents the complete understanding between the parties with respect to matters set forth herein.

5. The persons executing this Agreement on behalf of the Property Owner-Operator warrant and represent that they have the authority to execute this Agreement on behalf of the Property Owner-Operator Beacon Solar, LLC and warrants and represents that they have the authority to bind Property Owner-Operator to their performance hereunder.

6. Failure by a party to insist upon the strict performance of any of the provisions of this Agreement by the other party, or the failure by a party to exercise its rights upon the default of the other party, shall not constitute a waiver of such party’s right to insist and demand strict compliance by the other party with the terms of this Agreement thereafter.

7. Time is of the essence in the performance of the provisions of this Agreement as to which time is an element. Further, the rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in interpreting this Agreement, all parties having been represented by counsel in the negotiation and preparation hereof.

8. The obligations of Property Owner-Operator’s successors, assigns, transferees, and lessees shall arise upon acquisition of any interest in real property in the Beacon Photovoltaic project site that will allow them to engage in any of the land uses allowed under Conditional Use Permit No. 11, Map No. 152.
IN WITNESS WHEREOF, the parties hereto have duly caused this Agreement to be executed on the date hereinabove first written.
RECOMMENDED FOR APPROVAL:
Kern County Planning and Community Development Department

By: __________________________
Lorelei H. Oviatt, AICP, Director

Operator – Beacon Solar, LLC
By: __________________________
Gregory Schneck, Vice President

Owner – Beacon Solar, LLC
By: __________________________
Gregory Schneck, Vice President

APPROVED AS TO FORM:
Office of County Counsel

By: __________________________
County Counsel

COUNTY OF KERN

By: __________________________
Chairman, Board of Supervisors
Exhibit A

Findings of Fact in Support of
Findings Relating to Significant Environmental Impacts

State CEQA Guidelines Section 15091
**Exhibit A**

**FINDINGS OF FACT IN SUPPORT OF FINDINGS RELATED TO SIGNIFICANT ENVIRONMENTAL IMPACTS**

State CEQA Guidelines Section 15091

for

Beacon Photovoltaic Project by Beacon Solar LLC

Conditional Use Permit 11, Map 152

Final Environmental Impact Report
SCH# 2012011029

Lead Agency: Kern County Planning and Community Development Department

**SECTION I. INTRODUCTION**

The following findings of fact are based in part on the information contained in the Draft and Final Environmental Impact Report (EIR) for the Beacon Photovoltaic Project by Beacon Solar LLC, as well as additional facts found in the complete record of proceedings. The Final EIR is hereby incorporated by reference and is available for review at the Kern County Planning and Community Development Department (Planning Department), 2700 M Street, Suite 100, Bakersfield, California 93301, during normal business hours, and is also available on the Planning and Community Development Department’s website.

**SECTION II. FINDINGS REGARDING THE POTENTIAL ENVIRONMENTAL EFFECTS OF THE PROJECT**

The Planning and Community Development Department issued a notice of preparation of a Draft EIR on January 13, 2012. Based on the initial study and notice of preparation, a determination was made that the Final EIR would contain a comprehensive analysis of environmental issues identified in Appendix G of the California Environmental Quality Act (CEQA) Guidelines and not screened out during the notice of preparation. With respect to all impacts identified as “less than significant” or as having “no impact” in the Final EIR, the Planning Commission finds that those impacts have been described accurately and are less than significant or have no impact. Despite concluding that certain impacts would be less than significant or would have no impact, the Final EIR nonetheless incorporates mitigation measures in the form of complying with the goals, policies, and implementation measures of the Kern County General Plan, applicable Specific Plans, Conditional Use Permit (CUP) requirements, or other adopted regulations. The Planning Commission finds that these effects are less than significant or have no impact before and after implementation of these mitigation measures.
In addition, some impacts in the Final EIR were found to be "significant" but were able to be mitigated to less-than-significant levels, and others were found to be "significant and unavoidable." The Planning Commission finds that those impacts have been described accurately and are less than significant with the implementation of mitigation or are significant and unavoidable.

AESTHETICS

A. *Environmental Effects of the Project Found to Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.*

The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (Impact 4.1-2).

B. *Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.*

**Significant Effect**

The project would create a new source of substantial light or glare that could adversely affect day or nighttime views in the area. (Impact 4.1-4)

**Description of Significant Impact**

The proposed project would create a new source of lighting within the project site to provide for nighttime security (a vehicle-activated light at the main gate), and glare could potentially occur from reflection off the solar panels. Increased truck traffic and the transport of the equipment and construction materials to the project site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal and temporary. Therefore, construction of the proposed project would not create a new source of substantial glare that would affect daytime views in the area.

**Finding**

The project would create a new source of glare that could adversely affect views in the area. These impacts would be reduced to a less-than-significant level with the implementation of the mitigation measures described below.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts. Implementation of Mitigation Measures MM 4.1-4 through 4.1-6 would reduce impacts to less-than-significant levels.

**MM 4.1-4:** Project facility lighting shall comply with "Dark Sky" lighting guidelines, and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not extend below the shields.

**MM 4.1-5:** Where appropriate, proposed on-site buildings shall use non-reflective materials as approved by the Kern County Planning and Community Development Department.
**MM 4.1-6:** Solar panels and hardware shall be designed to minimize glare and spectral highlighting. To the extent feasible, emerging technologies shall be utilized that introduce diffusion coatings and nanotechnological innovations that will effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient at converting incident sunlight into electrical power, but have the tertiary effect of reducing the amount of light that escapes into the atmosphere in the form of reflected light, which would be the potential source of glare and spectral highlighting.

**C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**

**Significant Effect**

The project would have a substantial adverse impact on a scenic vista (Impact 4.1-1), and would substantially degrade the existing visual character of the site or quality of the site and its surroundings (Impact 4.1-3).

**Description of Specific Impact**

Implementation of the proposed project would ultimately result in the placement of photovoltaic solar panels and associated infrastructure on the project site. The utility-scale solar facilities would alter the existing undeveloped character of the project site by introducing a unique energy-generation element into the landscape. There would be significant impacts to views from scenic vistas within the nearby BLM lands. The proposed facility would be visually dominant in an area that is currently undeveloped. Specifically, there would be potentially significant impacts associated with “cultural modifications,” or manmade features which strongly impact the area’s visual resources, “vegetation” and “color” due to the replacement of open space with solar panels, and “adjacent scenery”. The area’s visual character would be significantly altered at the site.

**Finding**

The features that create significant aesthetic impacts (solar panels) are an inherent and necessary part of the project. While mitigation measures have been included to reduce aesthetic impacts as identified below, impacts are considered significant and unavoidable.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts. Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would serve to reduce the overall visual impact of the proposed project by ensuring regular clearance of debris and other visual clutter, and by providing a visual shield of the site to nearby KOPs. While these measures would reduce the overall aesthetic impact, they would not preserve the existing open space landscape character, and impacts to visual resources would be significant and unavoidable.

**MM 4.1-1:** The project operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities. The project operator shall erect signs with contact information for the project operator’s maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Community Development Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris.
MM 4.1-2: The project operator shall install metal fence slats or similar view-screening materials as approved by the Kern County Planning and Community Development Department in all on-site perimeter fencing adjacent to parcels zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential], R-2 [Medium-Density Residential], R-3 [High-Density Residential] or PL [Platted Lands] zoning), unless the adjacent property is owned by the project operator (to be verified by the Kern County Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Planning and Community Development Department requesting this requirement be waived. Should the project operator sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.

MM 4.1-3: a) Drought-tolerant plants, species to be determined through consultation with landscape experts with local knowledge and approved by the Kern County Planning and Community Development Department, shall be planted along the fence line at 500-foot intervals where the adjoining property is zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential], R-2 [Medium-Density Residential], R-3 [High-Density Residential] or PL [Platted Lands] zoning), unless the adjacent property is owned by the project operator (to be verified by the Kern County Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Community Development Department requesting this requirement be waived. Should the project operator or agency sell the adjacent property, drought-tolerant shall be planted prior to the sale. Landscaping must be continuously maintained on the project site(s) by the project operator in accordance with Section 19.86 (Landscaping Standards) of the Kern County Zoning Ordinance.

b) Prior to the commencement of operations, the project operator must submit a landscape re-vegetation and restoration plan for the project site. Ground cover shall include native seed mix and shall be spread as needed where earthmoving activities have taken place to establish re-vegetation. Seed mix shall be determined through consultation with local experts and shall be approved by the Kern County Planning and Community Development Director prior to planting. The plan must include the approved native seed mix, a timeline for seeding the site, percentage of the site to be covered, detail the consultation efforts completed and the methods and schedule for installation of fencing that complies with wildlife agency regulations, and prohibition on the use of rodenticides. Ground cover must be continuously maintained on the project site by the project operator. The re-vegetation and restoration of the site shall be monitored annually for a three-year period with an annual evaluation report submitted to the Kern County Planning and Community Development Director for the three-year period. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, consistent with site conditions prior to implementation of the project.

Significant Effect

The project would substantially degrade the existing visual character or quality of the site and its surroundings (Impact 4.1-3).

Description of Specific Impact

Implementation of the proposed project would ultimately result in the placement of photovoltaic solar panels and associated infrastructure on the project site. The utility-scale solar facilities could degrade the existing visual character of the project site by introducing a unique energy-generation element into the landscape. The proposed facility would be visually dominant in an area that is currently undeveloped. Specifically, there would be potentially significant impacts associated with “cultural modifications,” or manmade features which strongly impact the area’s visual resources, “vegetation” and “color” due to the replacement of open space with solar panels, and “adjacent scenery”. The area’s visual character would be significantly altered at the site.
Finding

The features which create significant aesthetic impacts (solar panels) are an inherent and necessary part of the project. While mitigation measures have been included to reduce aesthetic impacts as identified below, impacts are considered significant and unavoidable.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts. Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would serve to reduce the overall visual impact of the proposed project by ensuring regular clearance of debris and other visual clutter, and by providing a visual shield of the site to nearby KOPs. While these measures would reduce the overall aesthetic impact, they would not entirely preserve the existing open space landscape character, and impacts to visual resources would be significant and unavoidable.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

The project would not have any cumulative effects on the aesthetics impacts that would be less than significant.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

Significant Effect

The project would result in a significant cumulative aesthetic impact.

Description of Significant Impact

Multiple projects, including several utility-scale solar energy production facilities, are proposed in the project vicinity. These projects would cover at least 20,300 acres in the vicinity of the project site. These projects have the potential to result in cumulative impacts to aesthetics when considered together with the proposed project. As the discussion provided above indicates, the project would have significant and unavoidable impacts related to aesthetics after implementation of mitigation. Other projects in the region would also be required to implement various mitigation measures to reduce impacts. However, the conversion of thousands of acres in a presently rural area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant.

Finding

The project’s cumulative aesthetic impact is considered cumulatively considerable. Implementation of Mitigation Measures 4.1-1 through 4.1-6 would reduce cumulative impacts.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts caused by the project that results in a cumulative aesthetic impact. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, implementation of the proposed projects would result in cumulatively considerable significant aesthetics impacts related to visual character of the site and its surroundings.
AIR QUALITY


The project would not conflict with or obstruct implementation of an applicable air quality plan. (Impact 4.2-1) The following mitigation measures are implemented to further reduce project-related emissions:

MM 4.2-1: The project operator shall ensure that construction and operation of the proposed project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District. Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive and any other measures to reduce fugitive dust emissions not listed shall be encouraged:

a) Land Preparation, Excavation and/or Demolition. The following dust control measures shall be implemented:

i. All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative.

ii. All disturbed areas on the project site and proposed transmission corridor shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods. The frequency of watering can be reduced or eliminated during period of precipitation.

iii. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.

iv. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures or neighboring property, or as identified in a plan approved by the Eastern Kern Air Pollution Control District.

v. All trucks entering or leaving the project site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of six inches.

vi. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.

vi. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.

vii. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.

viii. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.

ix. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of discing, thereby, leaving the ground undisturbed and with a mulch covering.
b) **Site Construction.** After clearing, grading, earth moving and/or excavating is completed within any portion of the project site, the following dust control practices shall be implemented:

i. Once initial leveling has ceased, all inactive soil areas within the construction site shall be immediately treated with a dust palliative.

ii. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas so planned as soon as practical after installation of the solar panels.

iii. All unpaved road areas shall be treated with a dust palliative or gravelled to prevent excessive dust.

c) **Vehicular Activities.** During all phases of construction, the following vehicular control measures shall be implemented:

i. No vehicle shall exceed 10 miles per hour on unpaved areas within the project site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.

ii. Visible speed limit signs shall be posted at the project site entrance(s).

iii. All areas with vehicle traffic, especially the main entrance roadway to the project site, shall be gravelled or treated with dust palliatives so as to prevent track-out onto public roadways.

iv. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.

v. Streets adjacent to the project site shall be kept clean and project related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.

vi. Access to the project site shall be by means of an apron into the facility site from adjoining surfaced roadways. The apron shall be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of vehicles, a grizzly, wheel washer, or other such device shall be used on the road exiting the facility site, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires.

**MM 4.2-2:** The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project on the project site:

a) All equipment shall be maintained in accordance with the manufacturer’s specifications.

b) Equipment shall be shut down when not in use for extended periods of time.

c) No individual piece of construction equipment shall operate no longer than eight cumulative hours per day.

d) Electric equipment shall be used whenever feasible in lieu of diesel- or gasoline-powered equipment.

e) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.

f) On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer’s guidelines.
MM 4.2-3: The project operator shall continuously comply with the following measures during construction and operation to control NOx emissions from on-road heavy-duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and materials for the proposed project:

a) 2006 engines or pre-2006 engines with California Air Resources Board certified Level 3 diesel emission controls will be used to the extent possible.

b) All on-road construction vehicles, except those meeting the 2006/California Air Resources Board certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to worker personal vehicles.

c) The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications.

MM 4.2-4: The project operator shall continuously comply with the following during operation to control fugitive dust emissions:

a) The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.

b) The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.

c) Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.

The project would not violate an air quality standard or contribute substantially to an existing or projected air quality standard. (Impact 4.2-2).

The project would not expose sensitive receptors to substantial pollutant concentrations. (Impact 4.2-4).

B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.

The project would not have any environmental effects on air quality that cannot be mitigated to a less-than-significant level.

C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant

The project would not have any environmental effects on air quality that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

The project would not have any cumulative effects on air quality that would be less than significant.
E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

Significant Effect

The proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). (Impact 4.2-3). Cumulative impacts to air quality during the construction period of the project would be significant and unavoidable.

Description of Significant Impact

Significant cumulative impacts from the proposed project, when considering the potential for overlapping construction as well as the potential for other nearby reasonably foreseeable planned projects to be in construction simultaneously, would have the potential to occur during project construction. This is particularly true for the emissions of NOx and PM10. After completion of construction, there would be minimal emissions and insignificant cumulative impacts during operation of the proposed project.

Finding

Implementation of Mitigation Measures MM 4.2-1 through MM 4.2-5 would reduce cumulative air quality impacts. Due to the uncertainty of the timing of other projects that may be constructed within the Mojave Desert Air Basin, it is assumed that temporary cumulative impacts from construction of the proposed project would remain significant and unavoidable.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts. Even after the implementation of Mitigation Measures MM 4.2-1 through MM 4.2-5, impacts related to cumulative air quality construction impacts would remain significant and unavoidable.

BIOLOGICAL RESOURCES


The project would not have any environmental effects on biological resources that have no impact, or have a less than significant impact.

B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.

Significant Effect

The project would have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Game or US Fish and Wildlife Service. (Impact 4.3-1).
Description of Significant Impact

The proposed project has the potential for impacts on special-status plants and wildlife through the loss of habitat as well as direct and indirect impacts on wildlife, such as mortality of individuals or interference with reproductive success.

Finding

The project would have a substantial adverse impact, either directly or through habitat modifications, on species identified as a Candidate, Sensitive, or Special-Status species in local or regional plans, policies, or regulations, or by California Department of Fish and Game or US Fish and Wildlife Service. These impacts would be reduced to a less-than-significant level with the implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would have a substantial adverse impact, 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 US Fish and Wildlife Service. In consideration of the potential use of the project site by special-status wildlife species, impacts on special-status wildlife species would be significant. Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-20, and MM 4.1-4, MM 4.5-2, MM 4.8-1 and MM 4.8-2 would reduce impacts from Impact 4.3-1 to these species to less-than-significant levels.

MM 4.3-1: Prior to the issuance of grading or building permits, the project operator shall provide evidence to the Kern County Planning and Community Development Department that a Section 2081 Incidental Take Permit from California Department of Fish and Game (CDFG) for Desert Tortoise and/or Mohave Ground Squirrel has been obtained. If it is determined that such a permit is not required, the project operator shall provide a letter describing the consultation process and wildlife agency determination, indicating that a permit is not required. The letter shall also identify the CDFG point of contact and contact information.

MM 4.3-2: Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by United States Fish and Wildlife Service to oversee compliance with the protection measures for desert tortoise and other special species. The project Lead Biologist shall be onsite during all fencing and ground disturbance activities throughout the construction phase. The project Lead Biologist shall have the right to halt all activities that are in violation of the desert tortoise or other special species protection measures. Work shall proceed only after hazards to desert tortoise or other special species are removed and the species is no longer at risk. The project biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted onsite.

MM 4.3-3: Prior to the issuance of grading or building permits, and for the duration of construction activities, within one week of employment and prior to participating in any ground or vegetation disturbing activities, all new construction workers at the project site, laydown area and/or transmission routes shall attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified Lead Biologist.

MM 4.3-4: The program shall be presented by the Lead Biologist and shall include information on the life history of the desert tortoise, as well as other wildlife and plant species that may be encountered
during construction activities, their legal protections, the definition of “take” under the Endangered Species Act, measures the project operator is implementing to protect the desert tortoise and other species, reporting requirements, specific measures that each worker shall employ to avoid take of the desert tortoise and other wildlife species, and penalties for violation of the Act. Identification and information regarding sensitive plants such as the Alkali mariposa lily, Charlotte’s phacelia and creamy blazing star or other special status plant species shall also be provided to construction personnel.

i. An acknowledgement form signed by each worker indicating that environmental training has been completed.

ii. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;

iii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department.

iv. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

MM 4.3-5: The anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.

MM 4.3-6: New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.

MM 4.3-7: Spoils shall be stockpiled in disturbed areas presently lacking native vegetation. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.

MM 4.3-8: Fueling of equipment shall take place within existing paved roads, and not within or adjacent to drainages or native desert habitats. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

MM 4.3-9: Construction activity shall be monitored by the qualified Lead Biologist or by biological monitors under the Lead Biologist’s supervision to ensure compliance with avoidance and minimization measures.

MM 4.3-10: The introduction of exotic plant species shall be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention. Preventing exotic plants from entering the site via vehicular sources shall include measures such as implementing Trackclean or other
method of vehicle cleaning for vehicles coming and going from the site. Earth-moving equipment shall be cleaned prior to transport to the project area. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced into the site during construction shall be eliminated by chemical and/or mechanical means approved by California Department of Fish and Game and the United States Fish and Wildlife Service.

**MM 4.3-11:** Implement the following measures:

In the event ground disturbance does not commence on the transmission line corridor within two (2) years of the last rare plant surveys (May 2011), project operator and/or contractor shall conduct transmission line preconstruction rare plant survey(s) during the appropriate blooming period in accordance with the guidelines established by California Department of Fish and Game (2009), for Alkali mariposa lily, Charlotte's phacelia and creamy blazing star or other special status plant species. If no special-status plant species are observed during the focused surveys, no further actions would be required.

If any of these plant species is found during the preconstruction surveys, project operator and/or contractor shall delay ground disturbance activities and contact CDFG for consultation. If required, in consultation with CDFG, a Habitat Mitigation Plan shall be prepared that includes, at a minimum, the following:

a) If Alkali mariposa lily, Charlotte's phacelia and creamy blazing star or other special status plant species are observed within the proposed project footprint, the proposed project shall be designed by the Lead Biologist, to reduce impacts to the species through the establishment of preservation areas and buffers. If avoidance or minimization measures are implemented onsite, a Habitat Mitigation Plan shall be developed to ensure adequate management and conservation of botanical resources on-site over the long term. A copy of the Habitat Mitigation Plan shall be submitted to the Kern County Planning and Community Development Department.

b) If the proposed project would eliminate more than 10 percent of the local population of Alkali mariposa lily, Charlotte's phacelia and creamy blazing star or other special status plant species, the Habitat Mitigation Plan would also include the following:

   i. The area of occupied habitat to be preserved and removed;
   ii. Identification of on-site or off-site preservation, restoration, or enhancement location(s);
   iii. Methods for preservation, restoration, enhancement, and/or population translocation;
   iv. A replacement ratio and success standard of 1:1 for occupied habitat lost;
   v. A five year monitoring program to ensure mitigation success;
   vi. Adaptive management and remedial measures in the event that performance standards are not achieved;
   vii. Financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity

Prior to the commencement of ground disturbance activities, a final set of focused botanical surveys for Alkali mariposa lily, Charlotte's phacelia and creamy blazing star or other special status plant species, shall be conducted The surveys shall be conducted within potentially suitable habitat along the transmission line alignment that would be directly affected by the proposed project. Copies of all surveys
and communications with the appropriate wildlife agencies shall be submitted to the Kern County Planning and Community Development Department.

**MM 4.3-12:** The project operator and/or contractor shall implement the following:

i. Prior to issuance of grading or building permits and after receipt of a project Section 2081 permit for incidental take, if one has been issued by the California Department of Fish and Game, the entire solar facility site (east of SR 14) shall be fenced with a permanent desert tortoise exclusion fence to keep any desert tortoise that may be using habitat adjacent to the facility from entering during construction, operations and maintenance, and dismantling and restoration (decommissioning) phases. The fencing type shall follow current fence specifications established by U.S. Fish and Wildlife Service. Desert tortoise-proof gates shall be established at all photovoltaic solar facility entry points. Workers installing the exclusion fencing shall have undergone the worker training program mandated in Mitigation Measure 4.3-3 and a biological monitor under the authority of the project Lead Biologist will be present during exclusion fencing installation.

ii. The fencing shall be inspected monthly and immediately after all major rainfall events. Any damage to the fencing shall be repaired immediately or no later than two days of the observation.

iii. Following the construction of Tortoise exclusion fencing, around the solar facility perimeter (east of SR 14), clearance surveys shall be conducted by the Lead Biologist to ensure that no desert tortoises or other listed wildlife are trapped within the fenced area. The Lead Biologist may be assisted by biological monitors under the supervision of the Lead Biologist. Clearance surveys shall adhere to the current United States Fish and Wildlife Service clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes to be completed after desert tortoise-proof fencing is installed, which shall coincide with heightened desert tortoise activity from late March through May and September through October.

iv. If a desert tortoise is found on the site during project construction or operations, active construction or operations shall cease in the vicinity of the animal and the desert tortoise shall be passively restricted to the area encompassing its observed position on the construction site and its point of entry shall be determined if possible. The Lead Biologist shall install a temporary tortoise-proof fence around this area. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Game shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the desert tortoise is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the activities of the desert tortoise within the site; all fence construction, modification, and repair efforts; and movements of the desert tortoise once again outside the permanent tortoise-proof fence. This report shall be submitted to wildlife and resource agency representatives and the Kern County Planning and Community Development Department.

v. Outside permanently fenced desert tortoise exclusion areas, the project operator shall limit the areas of disturbance in desert tortoise habitat. Parking areas; new roads; pulling sites; and staging, storage, excavation, and disposal site locations shall be confined to the smallest areas
possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.

vi. The Lead Biologist or biological monitor will monitor any ground-disturbance activities that occur outside the desert tortoise exclusion fencing. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours. Prior to conducting brushing or grading activities in desert tortoise habitat outside the permanently fenced area, a Lead Biologist or biological monitor under the supervision of a Lead Biologist shall survey the area immediately prior to conducting these activities to ensure that no desert tortoises are present.

vii. At the end of each work day, the Lead Biologist shall ensure that all trenches, bores, and other excavations outside the permanently fenced area have been inspected for the presence of desert tortoise and backfilled, if no tortoise is present. If backfilling is not feasible, these excavations shall be modified to ensure that they cannot potentially entrap desert tortoises (e.g., equipped with desert tortoise escape ramps, covered to prevent desert tortoise access, enclosed with a desert tortoise exclusion fence).

viii. Any construction pipe, culvert, or similar structure stored within desert tortoise habitat (i.e., outside areas with desert tortoise exclusion fencing) shall be inspected for desert tortoise before the material is moved, buried, or installed.

ix. Water used for dust abatement shall be minimized, as allowed by Kern County, to prevent the formation of puddles that could attract common ravens and other desert tortoise predators to the site and nearby.

x. No vehicle or equipment parked outside the fenced areas shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of desert tortoise. If present, the desert tortoise shall be left to move on its own.

xi. Vehicular traffic to and from the project site shall use existing routes of travel (e.g., SR 14). Cross country vehicle and equipment use outside designated work areas shall be prohibited. Vehicle speeds within the project site shall not exceed 25 miles per hour on roads within desert tortoise habitat (e.g., west of SR 14).

xii. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills within 24 hours. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly disposed of at a licensed facility.

xiii. A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

xiv. Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.
xv. Intentional killing or collection of either plant or wildlife species, including listed species such as desert tortoise, in the survey area and surrounding areas shall be prohibited. The Lead Biologist, wildlife and resource agency representatives and Kern County Planning and Community Development Department shall be notified of any such occurrences within 24 hours.

xvi. Ongoing monitoring shall be conducted by either the Lead Biologist or by biological monitors under the Lead Biologist’s supervision. The biological monitors shall have experience in monitoring for desert tortoise.

xvii. During construction daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report for the wildlife and resource agencies and Kern County Planning and Community Development Department on a monthly basis, documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report would also provide information on the overall biological-resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed desert tortoise or other special-status species, including injuries and fatalities.

xviii. The project operator shall develop a site-specific Common Raven Management Plan in accordance with United States Fish and Wildlife Service guidelines and shall implement management measures for ravens in the project area. These measures may include but is not limited to designing structures to eliminate perches, waste management, roadkill management, management of ponded water during construction and operations, and nest removal on structures within the photovoltaic facility site and along the transmission line.

**MM 4.3-13:** The project operator and/or contractor shall implement the following during Operation and Maintenance:

i. Desert tortoise exclusion fencing and gates shall be maintained on a regular basis.

ii. A 25 mile-per-hour speed limit shall be applied for travel during maintenance activities. Travel shall be confined to existing roads and previously disturbed areas.

iii. Desert tortoise-proof secure gates shall be installed where access roads leave State Route 14 and enter the photovoltaic solar facility; no access roads outside of the photovoltaic solar facility shall be fenced. Roads west of SR 14 that access transmission lines on project property shall be gated to deter unauthorized vehicle use.

iv. Work occurring outside areas with desert tortoise exclusion fencing shall only occur during daylight hours.

**MM 4.3-14:** The project operator and/or contractor shall implement the following during project decommissioning:

i. All applicable construction phase general protection measures shall be implemented during decommissioning.
ii. A 25-mile-per-hour speed limit on paved or stabilized unpaved roads shall be applied for travel during decommissioning activities. Travel shall be confined to existing roads and previously disturbed areas.

iii. If a desert tortoise is detected in the work area during decommissioning activities, no work shall be conducted until the desert tortoise moves on its own outside of the work area.

iv. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours.

**MM 4.3-15:** The following measures shall be implemented during project construction, operations, and decommissioning activities with respect to western burrowing owls.

a) A project Lead Biologist shall be onsite during all construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction and/or prior to desert tortoise exclusion fencing installation. The survey methodology shall be consistent with the methods outlined in the California Department of Fish and Game Staff Report (March 2012), and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with desert tortoise pre-construction surveys). As burrows are searched, biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Game and the Kern County Planning and Community Development Department.

b) If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted within the distances specified in Table 2 of the California Department of Fish and Game Staff Report from an active burrow during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively), unless otherwise authorized by California Department of Fish and Game. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with Table 2 (see below) of the Staff Report and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by California Department of Fish and Game, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).

<table>
<thead>
<tr>
<th>Location</th>
<th>Time of year</th>
<th>Level of disturbance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nesting sites</td>
<td>April 1-Aug 15</td>
<td>656 ft</td>
</tr>
<tr>
<td>Nesting sites</td>
<td>Aug 16-Oct 15</td>
<td>656 ft</td>
</tr>
<tr>
<td>Any occupied burrow</td>
<td>Oct 16-Mar 31</td>
<td>164 ft</td>
</tr>
</tbody>
</table>

Table 2: Burrowing Owl Burrow Buffers (CDFG Staff report)

For the nonbreeding (winter) season (October 16 to March 31), consistent with Table 2 (see above) of the Staff Report, ground-disturbing work shall maintain a distance ranging from 164...
feet to 1,640 feet from any active burrows depending on the level of disturbance. If active winter
burrows are found that would be directly affected by ground-disturbing activities, owls can be
displaced from winter burrows according to recommendations made in the Burrowing Owl
Mitigation Staff Report (2012).

d) Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion
Plan is developed by the Lead Biologist and approved by the applicable local California
Department of Fish and Game office and submitted to the Kern County Planning and Community
Development Department. The plan shall include, at a minimum:

i. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other
   species preceding burrow scoping;

ii. Type of scope and appropriate timing of scoping to avoid impacts;

iii. Occupancy factors to look for and what shall guide determination of vacancy and
    excavation timing (one-way doors should be left in place 48 hours to ensure burrowing
    owls have left the burrow before excavation, visited twice daily and monitored for evidence
    that owls are inside and can’t escape i.e., look for sign immediately inside the door).

iv. How the burrow(s) shall be excavated. Excavation using hand tools with refilling to prevent
    reoccupation is preferable whenever possible (may include using piping to stabilize the
    burrow to prevent collapsing until the entire burrow has been excavated and it can be
determined that no owls reside inside the burrow);

v. Removal of other potential owl burrow surrogates or refugia onsite;

vi. Photographing the excavation and closure of the burrow to demonstrate success and
    sufficiency;

vii. Monitoring of the site to evaluate success and, if needed, to implement remedial measures
    to prevent subsequent owl use to avoid take;

viii. How the impacted site shall continually be made inhospitable to burrowing owls and
    fossorial mammals (e.g., by allowing vegetation to grow tall, heavy diskimg, or immediate
    and continuous grading) until development is complete.

e) Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their
burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week to confirm
young of the year have fledged if the exclusion shall occur immediately after the end of the
breeding season.

f) Excluded burrowing owls are documented using artificial or natural burrows on an adjoining
mitigation site (if able to confirm by band re-sight).

g) In accordance with the Burrowing Owl Exclusion Plan a qualified wildlife biologist shall
excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be
inserted into the tunnels during excavation to maintain an escape route for any animals inside
the burrow. One-way doors shall be installed at the entrance to the active burrow and other
potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the
installation of the one-way doors, the doors can be removed, and ground-disturbing activities
can proceed. Alternatively, burrows can be filled to prevent reoccupation.
h) During construction activities, monthly and final compliance reports shall be provided to California Department of Fish and Game, the Kern County Planning and Community Development Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

**MM 4.3-16:** a) Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented onsite or off-site in accordance with burrowing owl Staff Report guidance and in consultation with California Department of Fish and Game. At a minimum, the following recommendations shall be implemented:

i. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including decompacting soil and revegetating.

ii. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include:

   a. Permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.

iii. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Game approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.

b) Develop and implement a mitigation land management plan in accordance with burrowing owl Staff Report guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.

i. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.

ii. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Game-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.

iii. Mitigation lands should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present.

iv. Consult with the California Department of Fish and Game when determining off-site mitigation acreages.

**MM 4.3-17:** Prior to issuance of grading or building permits, the project operator shall:
a) Purchase a minimum of 9.9 acres of suitable habitat as compensatory mitigation for permanent impacts to desert tortoise and Mohave ground squirrel habitat west of State Route 14, as well as an additional 100 acres of suitable habitat to compensate for the incidental take of 2 individual Mohave ground squirrels east of SR 14, or

b) Enter into any other arrangement deemed acceptable to California Department of Fish and Game, to cover the costs of acquisition, maintenance and enhancement of the compensation lands. Compensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined and acquired as required by the wildlife or resource agency. If possible compensatory mitigation lands purchased shall provide habitat for all three species, as well as rare plants and State Waters. Verification of compliance shall be submitted to the Kern County Planning and Development Department.

c) Prepare a Habitat Mitigation and Monitoring Plan that outlines all project compensatory mitigation for desert tortoise, western burrowing owl and Mohave ground squirrel, in coordination with California Department of Fish and Game, and the Regional Water Quality Control Board.

i. Compensatory lands shall be of similar or better quality than habitat lost and preferably be located in the vicinity of the site.

ii. Compensatory lands shall be permanently preserved through a conservation easement.

iii. The Plan shall identify conservation actions to ensure that the compensatory lands are managed to ensure the continued existence of the species.

iv. The Plan shall identify an approach for funding assurance for the long term management of the conserved land.

**MM 4.3-18:** Prior to the issuance of grading or building permit the following shall be implemented:

i. Not more than 14 days prior to site clearing, a qualified biologist shall conduct a preconstruction avian nesting survey. Copies of the completed surveys shall be submitted to Kern County Planning and Community Development Department.

ii. Surveys shall not be conducted for the entire project site at one time; they shall be phased so that surveys occur shortly before that portion of the site is disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey shall cover all reasonably potential nesting locations on and within 250 feet of the project site—this includes ground nesting species.

iii. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys or additional measures are required.

iv. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before construction begins again.

v. If active nests are found a 250-foot, no-disturbance buffer (or as otherwise determined in consultation with California Department of Fish and Game) shall be created around the active nests. If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the
area until a qualified wildlife biologist has determined that the birds have fledged or by re-
locating the project component(s) to avoid the area.

vi. All vertical tubes used in project construction, such as solar mounts and chain link fencing
poles shall be temporarily or permanently capped at the time they are installed to avoid the
entrapment and death of special-status birds.

**MM 4.3-19:** Prior to the issuance of grading or building permit the following shall be implemented:

i. Preconstruction surveys shall be conducted by a qualified biologist for the presence of American
badger or desert kit fox dens prior to installation of desert tortoise exclusion fencing. Copies of
the completed surveys shall be submitted to Kern County Planning and Community Development
Department.

ii. The survey shall be conducted in areas of suitable habitat for American badger and desert kit fox,
which includes fallow agricultural land and scrub habitats. If no potential American badger or
desert kit fox dens are present, no further mitigation is required.

iii. If potential dens are observed, the following measures are required to avoid potential adverse
effects to American badger and desert kit fox:

   a. If the qualified biologist determines that potential dens are inactive, the biologist shall
      excavate these dens by hand with a shovel to prevent badgers or foxes from re-use during
      construction.

   b. Passive relocation shall be prohibited during the pupping season, which is February 15 to
      June 1 for both species. If the qualified biologist determines that potential dens outside the
      breeding season may be active, the biologist shall notify the California Department of Fish
      and Game. Entrances to the dens shall be blocked with one-way doors or soil, sticks, and
      debris for three to five days to discourage use of these dens prior to project disturbance. The
den entrances shall be blocked to an incrementally greater degree over the three- to five-day
period. After the qualified biologist determines that badgers and foxes have stopped using
active dens within the project boundary, the dens shall be hand-excavated with a shovel to
prevent re-use during construction. The collapsing of active desert kit fox dens shall not occur
without prior consultation with the California Department of Fish and Game. A biologist
shall remain on-call throughout construction in the event a badger or desert kit fox wanders
onto the site.

   c. Construction activities shall not occur within 50 feet of active badger dens. The project
      operator shall contact California Department of Fish and Game immediately if natal badger
dens are detected to determine suitable buffers and other measures to avoid take.

   d. Construction activities shall not occur within 100 feet of active kit fox dens. The project
      operator shall contact California Department of Fish and Game immediately if natal kit fox
dens are detected to determine suitable buffers and other measures to avoid take.

**MM 4.3-20:** Prior to the issuance of a final certificate of occupancy, a Raven Management Plan shall be
developed for the project site in consultation with the US Fish and Wildlife Service and CA Department
of Fish and Game. This plan shall include but is not limited to:

   i. Identification of all raven nests within the project area during construction;
ii. Weekly inspection under all nests in the project area for evidence of desert tortoise predation (scutes, shells, etc.), and, if evidence of predation is noted, submit a report to California Department of Fish and Game, US Fish and Wildlife Service, and Kern County Planning and Community Development Department within five calendar days; and

iii. Provisions for the management of trash that could attract common ravens during the construction and operation phases of the project.

iv. Should the US Fish and Wildlife Services determine it is necessary for the proposed project to participate in the regional comprehensive raven management plan, to address biological resources; the project operator shall be subject to compensation through the payment of fees not to exceed $150 per disturbed acre. Evidence of the US Fish and Wildlife Service and/or CA Department of Fish and Game determination and payment of any required fees shall be submitted to the Kern County Planning and Community Development Department.

Significant Effect

The project would have a substantial adverse impact on one sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service. (Impact 4.3-2).

Description of Significant Impact

The proposed project has the potential for impacts on the scale broom association belonging to the Mojave Desert Wash Scrub alliance, which occurs only within the bed and banks of Pine Tree Creek within the project site.

Finding

The project would have a substantial adverse impact on Mojave Desert Wash Scrub near a streambed in Pine Tree Creek, which would be permanently impacted by crossing improvements that include paving, and construction of perimeter fencing. These impacts would be reduced to a less-than-significant level with the implementation of the mitigation measures described below.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would have a substantial adverse impact 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 the U.S. Fish and Wildlife Service. The impacts to scale broom, a sensitive plant community, would be considered significant but implementation of Mitigation Measures MM4.3-17, and MM 4.3-21 through MM 4.3-22 would reduce impacts from Impact 4.3-2 to less-than-significant levels.

MM 4.3-21: Prior to the issuance of grading or building permits, the project operator shall provide evidence to the Kern County Planning and Community Development Department that a Section 1600 Streambed Alteration Agreement has been obtained from California Department of Fish and Game (CDFG).

MM 4.3-22: The following measures shall be implemented within the project area to ensure that direct or indirect effects to riparian habitat and jurisdictional waters are minimized:
1. To the extent feasible, the following avoidance/minimization measures shall be implemented:

   a. Any laydown areas and/or material and spoils from project activities shall be located away from jurisdictional areas or sensitive habitat and protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.

   b. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.

   c. Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed of. For all spills the project foreman or designated environmental representative shall be notified.

2. All work within the washes shall be conducted to avoid periods of flowing water. Construction shall be timed to occur during the dry season (generally April 15 – October 15) and shall avoid periods in the summer when convective thunderstorms are predicted.

3. Compensatory mitigation for the Arizona-style crossings shall occur either on-site or offsite, and would occur at a ratio no less than 1:1 for the impact to jurisdictional waters. As outlined in Mitigation Measure MM 4.3-17, a Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the Regional Water Quality Control Board and California Department of Fish and Game.

   If on-site mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site that contain suitable characteristics (e.g., hydrology) for restoration or enhancement of desert wash scale broom scrub habitat. Determination of mitigation adequacy shall be based on comparison of the restored or enhanced habitat with similar, undisturbed habitat in the site vicinity (such as up or downstream of the site). If mitigation is implemented offsite, mitigation lands shall be comprised of similar or more well-developed desert wash and preferably be located in the vicinity of the site or watershed. Off-site land shall be preserved through a conservation easement and the Plan shall identify an approach for funding assurance for the long-term management of the conserved land.

   Copies of correspondences and determinations by the Regional Water Quality Control Board and California Department of Fish and Game shall be submitted to the Kern County Planning and Community Development Department. It is noted that the final mitigation ratio required by the Regional Water Quality Control Board and California Department of Fish and Game for acquisition of regulatory permits may differ from that proposed in this environmental impact report.

**Significant Effect**

The project would have a substantial adverse impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal wetlands), or waters of the State through direct removal, filling, hydrological interruption, or other means. (Impact 4.3-3)

**Description of Significant Impact**

The proposed project has the potential to impact isolated washes that are considered jurisdictional Waters of the State at four locations including two low water crossings and two fence crossings and to indirectly
impact Waters of the State on the project site as a result of sedimentation due to grading and surface runoff and introduction of pollutants to the washes during construction and operations.

**Finding**

The project would have a substantial adverse impact on Waters of the State, either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, sedimentation or other means. These impacts would be reduced to a less-than-significant level with the implementation of the mitigation measures described below.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would have a substantial adverse impact on Waters of the State, either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means. Implementation of Mitigation Measures MM 4.3-1, 4.3-10, MM 4.3-17, MM 4.3-21, MM 4.3-22, MM 4.5-2, MM 4.7-1, MM 4.8-1, and MM 4.8-2 would reduce impacts from Impact 4.3-3 to less-than-significant levels.

**Significant Effect**

The project would 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. (Impact 4.3-4)

**Description of Significant Impact**

The proposed project has the potential to interfere substantially with the movement of native wildlife species or with established native resident or migratory wildlife corridors.

**Finding**

The project has the potential to interfere substantially with the movement of native wildlife species or with established native resident or migratory wildlife corridors, due to the presence of a migratory flyway for shorebirds and to the risk of avian collisions posed by the project's introduction of new buildings and lighting on the project site and transmission lines that could result in avian collisions and electrocution risks. These impacts would be reduced to a less-than-significant level with the implementation of the mitigation measures described below.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would 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. Implementation of Mitigation Measures MM 4.3-23, and MM 4.1-4 would reduce impacts to less-than-significant levels.

**MM 4.3-23:** Prior to issuance of a grading or building permit, the project operator shall provide evidence that the following measures will be implemented with respect to the construction and installation of power lines:
a) Construct all power transmission lines to the 2006 Avian Power Line Interaction Committee Guidelines specifications to protect birds from electrocution and collision. Appropriate notes regarding these specifications shall be included on any grading permit, building permit or final map.

b) Submit written documentation to the Kern County Planning and Community Development Department verifying that all power lines are constructed to Avian Power Line Interaction Committee Guidelines. The project operator shall conform to the latest practices (as outlined in the 2006 Avian Power Line Interaction Committee Guidelines document) to protect birds from electrocution and collision.


C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.

The project would not have any environmental effects on biological resources that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

The project would not result in cumulative biological effects that would have a less than significant impact on the environment.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

Significant Effect

The project would result in significant cumulative biological resource impacts.

Description of Significant Impact

As urbanization pressures increase within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with other past, present, and probable future projects, the proposed project would result in a cumulatively significant loss of biological resources, including the loss and/or fragmentation of existing wildlife habitat in the region even with the implementation of mitigation.

Finding

The project would have an incremental contribution to a cumulative loss of low-quality foraging habitat for golden eagles and other special-status raptors, as well as the loss of existing and potential transient wildlife habitat and foraging opportunities for species that currently utilize the project area, even with the implementation of mitigation measures including avoidance, minimization and compensation.
Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would lead to habitat loss. With the implementation of Mitigation Measures MM 4.1-4, MM 4.3-1 through MM 4.3-23, MM 4.5-2, MM 4.7-1, MM 4.8-1, MM 4.8-2, and MM 4.8-3, cumulative biological impacts would be reduced, but would remain significant and unavoidable.

CULTURAL RESOURCES


None of the project’s cultural environmental effects have been found to result in no impacts or only less-than-significant impacts.

B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.

Significant Effect

The project would cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. (Impact 4.4-1)

Description of Significant Impact

Cultural resources surveys revealed significant historical and archaeological resources in the site area. There is a potential for the project to affect known historical and/or archaeological resources. However, there is also a potential for the proposed project to impact additional, unidentified, significant archaeological deposits.

Finding

The project’s potential to damage or destroy known and previously unknown significant historical and archaeological resource is considered significant; however, potential adverse effects caused by the project could be mitigated to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would damage or destroy significant archaeological or historical resources. The project impacts are considered significant but would be reduced to a level that is less than significant for known resources with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-11. Project impacts to previously unknown resources would be reduced to a level that is less than significant with implementation of MM 4.4-1, MM 4.4-11 and MM 4.4-12.

MM 4.4-1: Prior to issuance of grading permits, the project operator shall:

  a) Retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards as published in Title 36, Code of Federal
Regulations, part 61 (36 CFR Part 61) to carry out all mitigation measures related to archaeological and historical resources.

b) The services of a qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor all ground-disturbing activities associated with the construction of the proposed project. The Native American monitor shall be selected from a list of Native American contacts with traditional ties to the project area, provided by the Native American Heritage Commission and/or consultation with Native American tribal groups who may have interest in the project area. The archaeological monitor shall work under the supervision of the qualified archaeologist.

c) The qualified archaeologist, archaeological monitor and Native American monitor shall be provided all project documentation related to cultural resources prior to commencement of ground disturbance activities. Project documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the qualified archaeologist, archaeological monitor and Native American monitor.

**MM 4.4-2:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-8156. If avoidance is feasible, the area within 50 feet of CA-KER-8156 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-8156 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-8156 is not feasible, prior to the issuance of any grading or building permits a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-3:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7853. If avoidance is feasible,
the area within 50 feet of CA-KER-7853 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-7853 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-7853 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-4:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7854. If avoidance is feasible, the area within 50 feet of CA-KER-7854 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-7854 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-7854 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports
documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-5:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7855. If avoidance is feasible, the area within 50 feet of CA-KER-7855 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-7855 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-7855 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-6:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7848. If avoidance is feasible, the area within 50 feet of CA-KER-7848 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-7848 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-7848 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.
shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-7:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-3366H. Avoidance of CA-KER-3366H shall be documented on construction plans.

If avoidance of CA-KER-3366H is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-3366H is not feasible, prior to the issuance of any grading or building permits, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-8:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7852/H. If avoidance is feasible, the area within 50 feet of CA-KER-7852/H shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.
If avoidance of CA-KER-7852/H is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance within 50 feet of CA-KER-7852/H is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4.9:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-8286. If avoidance is feasible, the area within 50 feet of CA-KER-8286 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-8286 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-8286 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.
If project phasing allows, multiple resources can be included in a single treatment plan document.

**MM 4.4-10:** Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the project site, laydown area and/or transmission routes. The training shall be prepared and conducted by the qualified archaeologist and may include participation of the Native American Monitor. The training may be in the form of a video. The qualified archaeologist shall be available to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to:

i. A discussion of applicable cultural resources statues, regulations and related enforcement provisions;

ii. An overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups, provided by the Native American Monitor or tribal leader;

iii. A summary of the effects of the proposed project on cultural resources;

iv. Samples or visuals of artifacts that might be found in the project area;

v. A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed;

vi. A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction;

vii. Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified archaeologist, in consultation with the Planning and Community Development Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance;

viii. An informational guide that identifies the reporting procedures in the event of a discovery;

ix. Other information as deemed necessary by the qualified archaeologist or Native American Monitor;

x. An acknowledgement form signed by each working indicating that environmental/ cultural training has been completed.

xi. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental/ cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;
xii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department.

**MM 4.4-11:** Prior to issuance of a grading permit, a qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor ground-disturbing activities including, but not limited to, brush clearance and grubbing, grading, trenching, excavation, installation of panel support structures, and the construction of fencing and access roads. Monitoring shall include, at a minimum, all ground-disturbing activities, as defined above, within landforms Hf1, Hf1d, Hf2, and Hf4 (as defined in the geoarchaeological report prepared for the project (Landform Structure and Archaeological Sensitivity in the Beacon Solar Energy project Area [Far Western. May 2009]), and within unknown landforms; and within 100 feet of all significant or un evaluated historical resources (CA-KER-8156, CA-KER-7853, CA-KER-7854, CA-KER-7855, CA-KER-7848, CA-KER-7852/H, and CA-KER-8286) except CA-KER-3366/H (Union Pacific Railroad, Jawbone Branch). The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with the lead agency and based on the grading plans.

In the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified Archaeologist, in consultation with the Planning and Community Development Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance. The archaeological monitor shall keep daily logs and shall submit quarterly written updates to the Kern County Planning and Community Development Department. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring, which shall be submitted to the Planning and Community Development Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

**MM 4.4-12:**If cultural resources are encountered during the course of ground disturbing activities, the project operator shall cease any ground disturbing activities within 100 feet of the find until it can be evaluated by the qualified archaeologist. Cultural resource materials may include, but are not limited to, prehistoric lithic artifacts, groundstone, fire-affected rock, midden (culturally-modified soil), historic-era household debris, ceramics, industrial materials, glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the resources may be significant, he or she shall notify the Planning and Community Development Department and shall develop an appropriate treatment plan for the resources. Treatment measures may include avoidance, preservation, removal, data recovery, protection, or other measures developed in consultation with the Planning and Community Development Department. Avoidance or preservation in place shall be the preferred means of mitigating impacts to cultural resources. The Planning and Community Development Department shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curational facility, if curation is deemed appropriate. A curation agreement between and project operator and accredited curational facility shall be executed prior to the issuance of a grading permit.

**Significant Effect**
The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Impact 4.4-2)

Description of Significant Impact

The analysis of paleontological records states that grading or shallow excavations in the uppermost few feet of the younger Quaternary fan and fluvial deposits in the project area would probably not uncover significant fossil vertebrate remains. However, deeper excavations in the proposed project area that extend down into older Quaternary deposits are more likely to encounter significant vertebrate fossils.

Finding

The project's potential to damage or destroy paleontological resources is considered significant; however, potential adverse effects caused by the project could be mitigated to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would damage or destroy a paleontological resource. The project impacts are considered significant but would be reduced to a level that is less than significant with implementation Mitigation Measure 4.4-13.

MM 4.4-13: Prior to the issuance of grading permits, a qualified paleontologist shall be retained to monitor all ground-disturbing activity that occurs at a depth of five feet or deeper below ground surface. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Community Development Department, and be based on the grading plans. Initially, all ground-disturbing activities deeper than five feet shall be monitored. However, during the course of monitoring, if the paleontologist can demonstrate that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Community Development Department, may adjust the level of monitoring to circumstances, as warranted.

Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. The qualified paleontologist shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis.

Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Kern County Planning and Community Development Department and to the Natural History Museum of Los Angeles County.

Significant Effect

The project would disturb any human remains, including those interred outside of formal cemeteries. (Impact 4.4-3)

Description of Significant Impact
There is no indication, either from the archival research results or the archaeological survey, that any particular location in the project area has been used for human burial purposes in the recent or distant past. However, in the event that human remains are inadvertently discovered during project construction activities, the human remains could be inadvertently damaged, which could be a significant impact.

Finding

The project's potential to uncover buried archaeological deposits including human remains is considered significant; however, potential adverse effects caused by the project could be mitigated to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to buried archaeological resources including human remains. The project impacts are considered significant but would be reduced to a level that is less than significant with implementation of Mitigation Measure MM 4.4-14.

MM 4.4-14: If human remains are uncovered during project construction, the project operator shall immediately halt work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. The Kern County Planning and Community Development Department shall also be notified of the discovery. If the County Coroner determines that the remains are Native American, the project operator shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the project operator shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.

The project would not have any environmental effects on cultural resources that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

Significant Effect

The project would contribute to cumulative impacts to cultural resources.

Description of Significant Impact

The project area contains a significant archaeological and historical record that, in many cases, has not been well-documented or recorded. Thus, there is the potential for ongoing and future development projects in the vicinity to disturb landscapes that may contain known or unknown cultural resources.
The potential construction impacts of the proposed project, in combination with other projects in the area, could contribute to a cumulatively significant impact on cultural resources. Future projects with potentially significant impacts to cultural resources would be required to comply with federal, State, and local regulations and ordinances protecting cultural resources through implementation of similar mitigation measures during construction. Nonetheless, excavation activities associated with the proposed project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geological and geographic data, and fossil bearing strata.

Finding

The project has the potential to result in cumulatively considerable impacts related to cultural resources, specifically in regards to the progressive loss of historical, archaeological, and paleontological resources resulting from excavation activities associated with projects in the cumulative impacts scenario. The implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce cumulative impacts caused by the project. With the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14, these cumulative cultural resource impacts would be considered less than significant.

E. **Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.**

The project would not have any cumulative effects on cultural resources that would have a significant impact.

**GEOLOGY AND SOILS**

A. **Environmental Effects of the Project Found to Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.**

The project does not have any environmental effects related to geology and soils that have no impact or have a less than significant impact.

B. **Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.**

**Significant Effect**

The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong 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. (Impact 4.5-1).

**Description of Significant Impact**
As with most of California, the project site is located in seismically active area known for its active faulting and history of seismic events. Kern County is located in a Seismic Zone 4 per the UBC, which denotes the highest risk to earthquake ground motion. As a result, the site is subject to seismic shaking and strong ground shaking in the event of seismic activity. The effects of this shaking could have a damaging impact on structures within the project site.

Finding

The project has the potential to result in significant impacts related to loss, injury, or death involving earthquake activity. The implementation of Mitigation Measure MM 4.5-1 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to seismic activity to less-than-significant. With the implementation of Mitigation Measure MM 4.5-1, these impacts would be considered less than significant.

MM 4.5-1: Prior to the issuance of grading permits, the project operator shall retain a qualified geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the sites. All grading and construction on site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered professional engineer. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Community Development Department.

Significant Effect

The project would expose people or structures to potential substantial adverse effect, including the risk of loss, injury, or death, involving strong seismic ground shaking. (Impact 4.6-2).

Description of Significant Impact

As with most of California, the project site is located in seismically active area known for its active faulting and history of seismic events, as a result, the site is subject to ground shaking in the event of seismic activity. The effects of this shaking could have a damaging impact on structures within the project site.

Finding

The project has the potential to result significant impacts related to loss, injury, or death involving seismic ground shaking. The implementation of Mitigation Measure MM 4.5-1 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding
CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to seismic ground shaking to less-than-significant. With the implementation of Mitigation Measure MM 4.5-1, these impacts would be considered less than significant.

Significant Effect

The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic related ground failure, including liquefaction. (Impact 4.5-3).

Description of Significant Impact

Shallow groundwater is not generally present in the vicinity of the project site (between 210 and 436 feet bgs), and thus the potential for liquefaction at the surface is low. With adherence to all applicable regulations, the project would avoid potential impacts to structures resulting from liquefaction at the project site and with implementation of MM 4.5-1, impacts would be less than significant.

Finding

With adherence to all applicable regulations, the project would avoid potential impacts to structures resulting from liquefaction at the project site and implementation of MM 4.5-1, impacts would be less than significant.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to liquefaction to less-than-significant. With the implementation of Mitigation Measure MM 4.5-1, these impacts would be considered less than significant.

Significant Effect

The project would result in substantial soil erosion or the loss of topsoil. (Impact 4.5-4).

Description of Significant Impact

Ground-disturbing activity, including grading, would be required on the site. The PV panel supports would include posts that are driven into the soil, without excavation. Additionally, installation of the underground electrical circuits, inverter and switchgear enclosure foundations, and transformer foundation would require excavations. Electrical conduits and electrical wiring would be installed and buried in designated areas throughout the site. Trenching would be required in order to bury underground conduits and wiring. Installation of the generation tie-lines at each site would also include some ground-disturbing activity, including installation of support poles. This grading and ground disturbing activity would have the potential to result in substantial erosion due to wind and rain on the project site.

Finding

The project has the potential to result in significant impacts related to the loss of topsoil. The implementation of Mitigation Measures MM 4.5-2 through 4.5-4, 4.8-1 and 4.8-2 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding
CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to erosion and loss of topsoil to less-than-significant. With the implementation of Mitigation Measures MM 4.5-2 through 4.5-4, 4.8-1 and 4.8-2, these impacts would be considered less than significant.

**MM 4.5-2:** The project operator shall limit grading to the minimum area necessary for construction. The operator shall retain a California registered professional engineer to review the final grading earthwork and foundation plans prior to construction.

**MM 4.5-3** The project operator shall prepare a Soil Erosion and Sedimentation Control Plan to mitigate potential loss of soil and erosion. The plan shall be prepared by a California registered civil engineer or other professional and submitted for review and approval by the Kern County Engineering, Surveying and Permit Services Department. The plan shall include, but is not limited to, the following:

i. Best Management Practices to minimize soil erosion consistent with Kern County grading requirements and the California Regional Water Quality Control Board requirements pertaining to the preparation and approval of a Stormwater Pollution Prevention Plan (Best Management Practices recommended by the Kern County Engineering, Surveying and Permit Services Department shall be reviewed for applicability);

ii. Provisions to maintain flow in washes, should it occur, throughout construction;

iii. Provisions for site revegetation using native plants;

iv. Sediment collection facilities as may be required by the Kern County Engineering and Survey Services Department;

v. A timetable for full implementation, estimated costs, and a surety bond or other security as approved by the County; and

vi. Other measures required by the County during permitting, including long-term monitoring (post-construction) of erosion control measures until site stabilization is achieved.

**MM 4.5-4:** The project operator shall conduct grading activities pursuant to Kern County Grading Ordinance, Chapter 17.28 and as follows:

i. Grade sites near slopes and embankments in a way that would prevent or minimize erosion damage to the slope;

ii. Seed or otherwise revegetate complete slopes;

iii. On steeper slopes, including wash embankments as necessary, use mulching or biodegradable erosion control blankets as appropriate to stabilize the topsoil until vegetation can be reestablished; and

iv. On slopes where unusual flow conditions (e.g., flooding) are expected, employ more substantial erosion protection measures such as grouted cobble slope facings or manufactured slope protection.

**Significant Effect**

The project is located on a geologic unit or soil that is unstable, or that would become unstable as result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. (Impact 4.5-5).
Description of Significant Impact

The project site is located on an alluvial fan, and collapsible soils have been observed on-site, the project could have the potential to become unstable as result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Finding

The potential for damage due to collapsible or expansive soils is considered to be low provided that the appropriate foundation design features and/or subgrade soil improvements are implemented. The implementation of Mitigation Measure MM 4.5-1 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to unstable soils to less-than-significant. With the implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, these impacts would be considered less than significant.

Significant Effect

The project is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. (Impact 4.5-6).

Description of Significant Impact

The project site is located on an alluvial fan, and collapsible soils have been observed on-site, the project could have the potential to create risks to life or property.

Finding

The proposed project would be designed to comply with applicable building codes and structural improvement requirements to withstand the effects of expansive soils. Implementation of MM 4.5-1 would avoid locating project infrastructure on unstable or potentially unstable geologic units or soils.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to expansive soils to less-than-significant. With the implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4, these impacts would be considered less than significant.

Significant Effect

The project has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater. (Impact 4.5-7).

Description of Significant Impact

The project includes development of a septic system and leach line for the operation and maintenance facility. If not designed correctly, septic systems could result in health impacts, adversely affect natural habitat, and pollute groundwater. There is a potential for soils incapable of adequately supporting the use
of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

Finding

The septic system and leach field would be constructed to comply with applicable requirements of the Kern County Environmental Health Services Division. As such, the proposed septic system and leach field are anticipated to be located away from surface drainages and protected from potential surface runoff. Proper siting and design of the leach field would minimize potential for a health impact from flooding. Implementation of MM 4.5-5 would reduce impacts related to construction of a septic system to less-than-significant.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to septic tanks to less-than-significant. With the implementation of Mitigation Measure MM 4.5-5, these impacts would be considered less than significant.

MM 4.5-5: Prior to the issuance of any building permit for the operation and maintenance facility, the project operator shall obtain all required permits and approvals from Kern County Environmental Health Services Division, and shall implement all required conditions regarding the design and siting of the septic system and leach fields.

C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.

The project would not have any environmental effects related to geology and soils that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

Cumulative impacts related to geology and soils would result in a less-than-significant impact on the environment.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

There would be no cumulative impacts on geology and soils that would have a significant impact on the environment.

GREENHOUSE GAS EMISSIONS


Construction and operation of the proposed project would result in a very small amount of GHG emissions. The project would generate GHG emissions during construction, routine operational activities,
and indirectly as a result of electricity consumption. It is anticipated that these emissions would be offset from the solar energy generated by the project. This impact would be less than significant. (Impact 4.6-1)

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. (Impact 4.6-2)

**B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.**

The project would not have any environmental effects related to greenhouse gas emissions that are potentially significant but can be mitigated to less-than-significant levels.

**C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**

The project would not have any environmental effects related to greenhouse gas emissions that cannot be mitigated to a less-than-significant level.

**D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.**

Cumulative impacts related to greenhouse gas emissions would result in a less-than-significant impact on the environment.

**E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.**

There would be no cumulative impacts on greenhouse gas emissions that would have a significant impact on the environment.

**HAZARDS AND HAZARDOUS MATERIALS**

**A. Environmental Effects of the Project Found to Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.**

The project would not be located within the vicinity of a private airstrip resulting in a safety hazard for people residing or working in the project area. (Impact 4.7-4)

**B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.**

*Significant Effect*

The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Impact 4.7-1)

*Description of Significant Impact*
Most of the hazardous waste generated by the project would occur during the construction period and would consist of liquid waste, including cleaning fluids, dust palliative, herbicides, and solvents. Some solid hazardous waste, such as welding materials and dried paint, may also be generated during construction. The handling and presence of these potentially hazardous materials would have a significant impact.

Finding

The proposed project has the potential to result significant impacts related to the transport, use, or disposal of hazardous materials. The implementation of Mitigation Measure MM 4.7-1 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to hazardous materials to less-than-significant. With the implementation of Mitigation Measure MM 4.7-1, these impacts would be considered less than significant.

MM 4.7-1: The project operator shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The hazardous materials business plan shall delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies including fires. The project operator shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Community Development Department.

Significant Effect

The project would 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. (Impact 4.7-2)

Description of Significant Impact

Removal and/or maintenance of vegetation during construction and operation may require the use of herbicides to control vegetation. This could result in release of hazardous materials. It is possible that irrigation lines on the property from historical agricultural activities may contain asbestos or be wrapped in asbestos, and uncovering asbestos-containing materials may result in the release of hazardous materials.

Finding

The proposed project has the potential to result in significant impacts related to hazardous materials. The implementation of Mitigation Measures MM 4.7-2 and MM 4.7-3 would reduce impacts to a less-than-significant level.
Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to hazardous materials to less-than-significant. With the implementation of Mitigation Measures MM 4.7-2 and MM 4.7-3, these impacts would be considered less than significant.

**MM 4.7-2:** The contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Game and U.S Fish and Wildlife Service. Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use. Herbicides shall be mixed and applied in conformance with the manufacturer’s directions. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife; products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

**MM 4.7-3:** In the event that suspect asbestos-containing materials are uncovered during project construction, work at the project sites shall immediately halt and a qualified hazardous materials professional shall be contacted and brought to the project sites to make a proper assessment of the suspect materials. All potentially friable asbestos-containing materials shall be removed in accordance with Federal, State, and local laws and the National Emissions Standards for Hazardous Air Pollutants guidelines prior to ground disturbance that may disturb such materials. All demolition activities shall be undertaken in accordance with California Occupational Safety and Health Administration standards, as contained in Title 8 of the California Code of Regulations, Section 1529, to protect workers from exposure to asbestos. Materials containing more than 1% asbestos shall also be subject to South Coast Air Quality Management District regulations. Demolition shall be performed in conformance with Federal, state, and local laws and regulations so that construction workers and/or the public avoid significant exposure to asbestos-containing materials.

**Significant Effect**

The project is located within the adopted Kern County Airport Land Use Compatibility Plan and would result in a safety hazard for people residing or working in the project area. (Impact 4.7-3)

**Description of Significant Impact**

Though the project site is not considered to result in an inconsistency with the ALUCP that would result in safety or operational hazards to aircraft from the California City Municipal Airport, there are two military aviation installations in the general vicinity of the project site and the project may result in electronic interference of radio signals as noted in Section 4.9.

**Finding**

The project has the potential to result in significant impacts related to the safety of people working in the vicinity of the project area. The implementation of Mitigation Measure MM 4.9-2 (provided below) would reduce impacts to a less-than-significant level.
Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to the safety of people working in the vicinity of the project area. With the implementation of Mitigation Measure MM 4.9-2, this impact would be considered less than significant.

C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.

The project would not have any environmental effects related to hazards and hazardous materials that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

Cumulative impacts related to hazards and hazardous materials would result in a less-than-significant impact on the environment.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

There would be no cumulative impacts on hazards and hazardous materials that would have a significant impact on the environment.

HYDROLOGY AND WATER QUALITY


The project would not 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. (Impact 4.8-2)

B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.

Significant Effect

The project would violate water quality standards or waste discharge requirements. (Impact 4.8-1)

Description of Significant Impact

Construction activities would have the potential to result in soil erosion and discharge of other construction-related pollutants that could contaminate nearby surface waters. This site exceeds the one acre threshold and construction activities would be required to adhere to the NPDES General Construction Permit. However, potentially significant impacts to water quality could still occur.
Finding

The proposed project has the potential to result in significant impacts related to water quality. The implementation of Mitigation Measures MM 4.7-1, MM 4.8-1 and MM 4.8-2 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to degradation of water quality to less-than-significant. With the implementation of Mitigation Measures MM 4.7-1, MM 4.8-1 and MM 4.8-2, these impacts would be considered less than significant.

MM 4.8-1: Prior to issuance of grading permits, the project operator shall submit a Stormwater Pollution Prevention Plan to the Kern County Planning and Community Development Department that specifies Best Management Practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. Recommended Best Management Practices for the construction phase may include the following:

a) Stockpiling and disposing of demolition debris, concrete, and soil properly;

b) Protecting existing storm drain inlets and stabilizing disturbed areas;

c) Implementing erosion controls;

d) Properly managing construction materials; and

e) Managing waste, aggressively controlling litter, and implementing sediment controls.

MM 4.8-2: Prior to issuance of a grading permit, the project operator shall prepare a drainage plan that is designed to minimize runoff and surface water pollution and will include engineering recommendations to minimize the potential for impeding or redirecting 100-year flood flows. The final design of the solar arrays shall include one-foot of freeboard clearance between the bottom of the solar panel and the calculated maximum flood depths Site grading shall be designed to prevent increasing the existing 100-year water surface elevations more than one foot or as required by Kern County’s Floodplain Ordinance. The drainage plan shall be prepared in accordance with the Kern County Grading Code, Kern County Hydrology Manual and policies related thereto and approved by the Kern County Engineering, Surveying and Permit Services Department.

Significant Effect

The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, in a manner than would result in substantial erosion on-site or off-site. (Impact 4.8-3)

Description of the Significant Impact

The proposed project has the potential to result in construction-related soil erosion due to site grading and removal of vegetation for installation of PV panel structures. Alteration of drainage
patterns through placement of solar arrays and installation of concrete pads for buildings could also result in surface erosion and sediment transport during rainfall events.

Finding

The proposed project has the potential to result in substantial impacts related to soil erosion and sediment transport. The implementation of Mitigation Measures MM 4.5-2, 4.7-1, 4.8-1 and 4.8-2 would reduce these impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to soil erosion and sediment transport. With the implementation of Mitigation Measures MM 4.5-2, 4.7-1, 4.8-1 and 4.8-2, these impacts would be considered less than significant.

Significant Effect

The project would substantially alter the existing drainage patterns 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 than would result in substantial flooding on-site or off-site. (Impact 4.8-4)

Description of the Significant Impact

The proposed project would alter site drainage patterns as compared to existing conditions. Operation-related equipment would introduce new impervious surfaces that could potentially increase the rate or amount of runoff. Although the 8-acre impervious surfaces on the site would only represent 0.4 percent of the total site area and drainage and grading plans would be required to comply with Kern County Development Standards that establish specific flood control and on-site drainage flow requirements, drainage patterns could still be altered.

Finding

The proposed project has the potential to result in significant impacts related to the alteration of drainage patterns and stream courses and the increase of substantial flooding caused by surface run-off. The implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to the alteration of drainage patterns and stream courses and the increase of substantial flooding caused by surface run-off to less-than-significant. With the implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2, these impacts would be considered less than significant.

Significant Effect

The proposed project would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (Impact 4.8-5)

Description of the Significant Impact
The proposed project would lead to an overall increase in impervious surfaces as compared to existing conditions. The project is required to adhere to the NPDES General Construction Permit. However, potential significant impacts related to the creation of runoff which exceeds the capacity of stormwater drainage systems or additional polluted runoff could still occur.

**Finding**

The proposed project has the potential to result in significant impacts related to the creation of runoff that exceeds the capacity of stormwater drainage systems or additional polluted runoff. The implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2 would reduce impacts to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related the creation of runoff that exceeds the capacity of stormwater drainage systems or additional polluted runoff to less-than-significant. With the implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2, these impacts would be considered less than significant.

**Significant Effect**

The proposed project would otherwise substantially degrade water quality. (Impact 4.8-6)

**Description of the Significant Impact**

Construction or operation and maintenance of the proposed project could result in soil erosion and the accidental release of hazardous or potentially hazardous materials, resulting in water quality degradation. The site exceeds the one acre threshold of ground disturbance, and therefore the project is required to adhere to the NPDES General Construction Permit. However, potential significant impacts otherwise degrading water quality could still occur.

**Finding**

The proposed project has the potential to result in significant impacts that would otherwise substantially degrade water quality. The implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2 would reduce impacts to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts that would otherwise substantially degrade water quality. With the implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2, these impacts would be considered less than significant.

**Significant Effect**

The proposed project would place within a 100-year flood hazard area structures that would impede or redirect flood flows. (Impact 4.8-7)

**Description of the Significant Impact**
A portion of the project site is along Pine Tree Creek Wash and is located in “Zone A” which is defined by FEMA as subject to inundation by the one percent annual chance flood (AECOM, 2012c). Although the project site plan indicates that PV panels would avoid the jurisdictional extent of Pine Tree Creek, significant impacts related to structures impeding or redirecting 100-year flood flows could still occur.

**Finding**

The proposed project has the potential to result in significant impacts relating to the placement of structures within a 100-year flood hazard that would impede or redirect flood flows. The implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2 would reduce impacts to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation relating to the placement of structures within a 100-year flood hazard that would impede or redirect flood flows be applied to the project. With the implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, MM 4.8-1 and MM 4.8-2, these impacts would be considered less than significant.

**C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**

The project would not have any environmental effects on hydrology and water quality that cannot be mitigated to a less-than-significant level.

**D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.**

**Significant Effect**

The project would result in cumulative impacts to hydrological resources.

**Description of Significant Impact**

In addition to the project site, several other projects are located in Kern County, and more specifically, in the Mojave Desert. According to a cumulative impact assessment undertaken to evaluate the effects from groundwater withdrawal by proposed projects within the Koehn subbasin, the total water use during the construction period of the proposed project would not represent a cumulatively considerable contribution to the water resource impacts on the subbasin. Like the proposed project, all other related projects in the County would also be subject to the same federal, state, and local regulations regarding drainage plans and flooding potential as well as drafting and implementing a SWPPP. Nonetheless, the proposed project could still contribute to an overall cumulative decrease in available groundwater supply, degradation of water quality, and increase in or altering of flooding events.

**Finding**

The project has the potential to result in cumulatively considerable impacts related to hydrological resources, specifically in regards to the progressive loss of groundwater supply and degradation of water quality resulting from project construction and operation. The implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, 4.8-1, and 4.8-2 would reduce impacts to a less-than-significant level.
Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce cumulative impacts caused by the project. With the implementation of Mitigation Measures MM 4.5-2, MM 4.7-1, 4.8-1, and 4.8-2, these cumulative hydrological resource impacts would be considered less than significant.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

The project would not have any cumulative effects on hydrology and water quality that would have a significant impact.

LAND USE AND PLANNING


The project would not conflict with 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. (Impact 4.9-1)

B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.

The project would not have any environmental effects on land use that are potentially significant and that cannot be mitigated to less-than-significant levels.

C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.

The project would not have any environmental effects on land use and planning that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

Significant Effect

The project would result in cumulative land use and planning impacts.

Description of Significant Impact

The anticipated project impacts in conjunction with cumulative development in the project area would increase urbanization and result in the loss of open space within the desert region of the County. With regard to cumulative effects of utility-sized solar power generation facilities, there is a potential that outside factors—such as the development of newer technology, change in state or national policy that encourages the construction of such facilities, or other economical factors—could result in the
abandonment of such facilities by the applicant. There is also the potential that the future use of newer technology or equipment may contribute to unanticipated environmental impacts, including potential frequency conflicts with military operations resulting from uncoordinated telemetry.

Finding

The project has the potential to result in cumulatively considerable impacts related to land use consistency, specifically in regards to abandonment and compatibility with military uses. The following mitigation measures are proposed and would reduce impacts to a less-than-significant level. The implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce cumulative impacts caused by the project. With the implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2 included below, these cumulative land use impacts would be considered less than significant.

MM 4.9-1: Prior to issuance of any building permit, the project operator shall provide for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting of a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company’s best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

a) An irrevocable letter of credit;

b) A surety bond;

c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or

 d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Community Development Department.

The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County-contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance. Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any
funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twenty-twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Community Development Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Community Development Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date the solar facility was first deemed abandoned.

**MM 4.9-2:** Prior to the operation of the solar facility, the project operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

**E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.**

The project would not have any cumulative effects on land use and planning that would have a significant impact.

**MINERALS**

**A. Environmental Effects of the Project Found to Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.**

The project would not have any environmental effects on minerals that have no impact or a less than significant impact.

**B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.**

The project would not have any environmental effects on minerals that are potentially significant and that cannot be mitigated to less-than-significant levels.

**C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**

**Significant Effect**

The proposed project could 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. (Impact 4.10-1)

**Description of Significant Impact**
The project site is not designated as mineral recovery area or mineral resource zone, and would not interfere with mining operations at the P.V. Clay Mine located five miles northwest of the site. However, portions of the project site have mineral rights owners who may require access and drill areas in order to conduct exploration and/or recovery activities.

Finding

The proposed project has the potential to result in significant impacts relating to the loss of availability of a known mineral resource that would be of value to the region and residents of the state. The implementation of Mitigation Measure MM 4.10-1 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project related to the loss of availability of a known mineral resource that would be of value to the region and residents of the state. With the implementation of Mitigation Measure MM 4.10-1 these impacts would be considered less than significant.

MM 4.10-1: Prior to issuance of building permits, if a mineral rights holder submits written documentation of their legal right of surface entry to the Planning and Community Development Department, the following shall apply:

a) The project operator or its successor-in-interest (project operator) shall provide evidence of 1) the mineral owner’s written agreement with the project operator as to the location of the drilling area and the easements or 2) other documents confirming the mineral owner’s interest in the drilling area and right of access to the drill area, as well as sufficient pipeline and power line corridors from the drill site to a point exiting the property and right of access to the drill area, shall be submitted by project operator to the Kern County Planning and Community Development Department for verification and approval. The drilling areas shall be located in such a manner as to allow complete and efficient access to, and the exploration and/or extraction of, underlying oil reserves or other minerals.

b) The project operator shall record or cause to be recorded easements or other documents confirming the mineral owner’s interest in the drilling area and its right of ingress and egress to the drill area.

c) Should an alternative agreement to part a) and/or b) above, be reached between the mineral owner and the project operator, written documentation shall be submitted to the Kern County Planning and Community Development Department for verification prior to final site plan approval and the issuance of any grading or building permits for the development of solar facilities on the project sites.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

The project would not have any cumulative effects on mineral resources that would have a less than significant impact.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.
There would be no cumulative impacts on minerals that would have a significant impact on the environment.

NOISE


The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. (Impact 4.11-3)

B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.

Significant Effect

The project would expose persons to or generate noise in excess of the standards established in a local general plan, noise ordinance, or applicable standards of other agencies. (Impact 4.11-1)

Description of Significant Impact

The project site and its surrounding areas consist of primarily undisturbed lands that were formerly used for agricultural activities. During construction the rural residences located within one half mile of the project site would be the nearest sensitive receptors to be exposed to increased noise levels associated with construction and construction traffic; the nearest sensitive receptor is 0.3 mile to the regional access point of the project site. However, construction activities would only occur at that distance for a short period of time, and the majority of the construction would take place at increasing distances away from the receptor. During the noisiest phase of construction (earthmoving/excavation activities during site preparation), this residence would be exposed to construction noise of up to 58 dBA L eq. Although this would not exceed the established threshold and would likely not be an appreciable increase over existing ambient noise levels (stemming from proximity to SR 14 and the Union Pacific Railroad), a conservative approach concludes that the residence may be exposed to a significant increase in ambient noise levels. There would be no long-term effects on existing ambient noise levels from operations and maintenance of the proposed project.

Finding

The project has the potential to result in significant noise increases during construction. The implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to noise to less-than-significant. With the implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, these impacts would be considered less than significant.
MM 4.11-1: To reduce temporary construction related noise impacts, the following shall be implemented by the project operator during on-site construction activities that would occur within 0.5 mile of any residence:

a) To the extent practicable, the construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

b) To the extent practicable, the construction contractor shall locate the pile driver such that the rear of the machine faces toward the noise sensitive receptors when the vibratory pile driver is being utilized.

c) A “noise disturbance coordinator” shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.

d) The construction contractor shall ensure proper maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers approved mufflers and baffles.

e) The construction contractor shall install and/or maintain sound-control devices in all construction and impact equipment, no less effective than those provided on the original equipment.

f) Construction contracts shall specify that notices shall be sent out to all residences immediately adjacent to the construction areas at least 15 days prior to commencement of construction. The notices shall include the construction schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be posted at the construction site throughout construction, which includes the same details as the notices.

MM 4.11-2: Project construction hours shall comply with the Kern County Noise Ordinance (Municipal Ordinance Code 8.36.020).

Significant Effect

The proposed project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels. (Impact 4.11-2)

Description of Significant Impact

Construction activity would include truck mounted pile drivers, which create vibration impacts similar to those of a sonic pile driver, producing ground-borne vibration levels of 93 VdB (0.17 inches per second peak particle velocity) at 25 feet from the source. However, vibration levels would attenuate rapidly from the source and would not be generally perceptible outside of the construction areas within the project site. At the nearest rural residence to the project site, which is located approximately 0.3 mile from the site, vibration levels would be reduced to less-than-significant levels.

Findings

Though the project would not result in significant ground-borne vibration or ground-borne noise levels, with the implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, these impacts would be further reduced.
Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to noise to less-than-significant. With the implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, these impacts would be considered less than significant.

Significant Effect

The project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels exiting without the project. (Impact 4.11-4)

Description of Significant Impact

The project would result in a temporary increase in noise levels during construction. As discussed under Impact 4.11-1, due to the proximity of some residences to SR 14 and the Union Pacific Railroad the acoustical environment that the receptors experience would likely not increase appreciably over existing ambient noise levels at a sensitive receptor. However, noise generated during temporary construction is anticipated, and a conservative approach concludes that the residence may be exposed to an increase in ambient noise levels from site preparation, construction traffic, and construction of the PV panels and the substation. The proposed project would adhere to all applicable Kern County noise regulations and ordinances.

Findings

The project has the potential to result in significant noise increases during construction. The implementation of Mitigation Measures MM 4.11-2 and MM 4.11-2 would reduce impacts to a less-than-significant level.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to noise to less-than-significant. With the implementation of Mitigation Measures MM 4.11-1 and MM 4.11-2, these impacts would be considered less than significant.

C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.

The project would not have any environmental effects related to noise that cannot be mitigated to a less-than-significant level.

D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.

Cumulative impacts related to noise would result in a less-than-significant impact on the environment after implementation of MM 4.11-1 and MM 4.11-2.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

There would be no cumulative impacts on noise that would have a significant impact on the environment.
PUBLIC SERVICES

A. *Environmental Effects of the Project Found to Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.*

The project would not have any environmental effects related to public services that result in no impacts or only less-than-significant impacts.

B. *Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.*

**Significant Effect**

The project would result in 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 fire protection services or police protection and law enforcement services. (Impact 4.12-1)

**Description of Significant Impact**

Since no residents or residential structures would occupy the site, the proposed project would not induce substantial population growth on the sites or in the surrounding areas. Temporary construction personnel and a small long-term operational staff are not expected to significantly impact the capacity of the existing public services in the area. However, construction of the proposed project would generate truck and employee traffic along haul routes and at the project site, which could temporarily increase the accident potential in these areas. Furthermore, although vegetation is sparse, construction activities associated with the proposed project could also increase the potential for wildfire ignitions and the spread of wildfires. Also, the proposed project may attract vandals or other security risks that could increase demand on law enforcement services at the project site, when compared to existing conditions.

**Finding**

The proposed project has the potential to result in significant impacts relating to 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 fire protection services or police protection and law enforcement services. The implementation of Mitigation Measures MM 4.12-1 and 4.12-2 would reduce impacts to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project related to 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 fire protection services or police protection and law enforcement services. With the implementation of Mitigation Measures MM 4.12-1 and MM 4.12-2, these impacts would be considered less than significant.
**MM 4.12-1:** In order to reduce impacts to public services including police and fire protection, the following shall be implemented:

a) The project operator shall pay for impacts to countywide public protection, sheriff patrol and investigation, and fire services at a rate of $28.84 per 1,000 square feet of panel-covered ground for the facility operation for the entire covered area of the project. The total amount shall be divided by the number of years of operation and paid on a yearly basis. The annual amount will be based on the square footage of ground covered by April 30 of each year, if completed in phases. The amount will be paid for each and all years of operation. The fee will be paid to the Kern County Auditor/Controller by April 30 of each calendar year.

b) Written verification of ownership of the project shall be submitted to the Kern County Planning and Community Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company that pays assessed taxes that equal less than $1,000 per megawatt per year, than they will pay those taxes plus an amount necessary to equal the equivalent of $1,000 per megawatt. The amount shall be paid for all years of operation. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year.

c) The project operator shall work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. This process shall include, but is not necessarily limited to, the project operator: obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, registering this address with the State Board of Equalization, using this address for acquisition, purchasing and billing purposes associated with the proposed project. The project operator shall allow the County to use this sales tax information publicly for reporting purposes.

**MM 4.12-2:** The project operator shall develop and implement a fire safety plan for use during construction and operation. The applicant will submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval prior to the issuance of any building permit or grading permits. The fire safety plan will contain notification procedures and emergency fire precautions including, but not limited to, the following:

a) All internal combustion engines, stationary and mobile, will be equipped with spark arresters. Spark arresters will be in good working order.

b) Light trucks and cars with factory-installed (type) mufflers will be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.

c) Fire rules will be posted on the project bulletin board at the contractor’s field office and areas visible to employees.

d) Equipment parking areas and small stationary engine sites will be cleared of all extraneous flammable materials.

e) Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.

f) The project operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official
fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

C. **Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**

The project would not have any environmental effects on public services that cannot be mitigated to a less-than-significant level.

**D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.**

**Significant Effect**

The project would result in cumulative impacts to public services.

**Description of Significant Impact**

Because the proposed project would not induce population growth in the area, implementation would not result in the need to construct new, or physically alter or expand, existing sheriff’s office and fire protection facilities. However, significant cumulative impacts on public services would occur if the public agencies were overburdened and unable to provide adequate services, thereby resulting in significant combined impacts related to the development of new facilities.

**Finding**

The project has the potential to result in cumulatively considerable impacts related to public services. Implementation of Mitigation Measures MM 4.12-1 and MM 4.12-2 would reduce impacts to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce cumulative impacts caused by the project. With the implementation of Mitigation Measures MM 4.12-1 and MM 4.12-2, these cumulative public services impacts would be considered less than significant.

**E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.**

The project would not have any cumulative effects on public services that would have a significant impact.

**TRANSPORTATION AND TRAFFIC**

**A. Environmental Effects of the Project Found to Have No Impact on the Environment, or Have a Less Than Significant Impact on the Environment.**
The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. (Impact 4.13-1)

**B. Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.**

**Significant Effect**

The proposed project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the County congestion management agency for designated roads or highways. (Impact 4.13-2)

**Description of Significant Impact**

The proposed project would result in a temporary increase in traffic during construction, which could reduce the LOS and conflict with an applicable congestion management program.

**Finding**

The project is expected to comply with all applicable congestion management programs and impacts are expected to be less than significant; however, implementation of MM 4.13-1 would further reduce the project’s impacts to traffic and transportation.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to applicable congestion management programs to less-than-significant. With the implementation of Mitigation Measure MM 4.13-1, impacts would be considered less than significant.

**MM 4.13-1:** Prior to the issuance of construction or building permits, the project operator shall:

- Prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 office for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:
  - Timing of deliveries of heavy equipment and building materials;
  - Directing construction traffic with a flag person;
  - Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
  - Ensuring access for emergency vehicles to the project site;
  - Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
  - Maintaining access to adjacent property;
vii. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the project site, and avoiding residential neighborhoods to the maximum extent feasible.

b) Obtain all necessary permits for the work within the road right of way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department.

c) Enter into a secured agreement with Kern County to ensure that any county roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department and the Kern County Roads Department.

d) Submit documentation that identifies the roads to be used during construction. The project operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Roads Department and the Planning and Community Development Department.

e) Subsequent to completion of construction, submit a post-construction video log and inspection report to the county. This information shall be submitted in DVD format. The County, in consultation with the project operator's engineer, shall determine the extent of remediation required, if any.

**Significant Effect**

The proposed project would substantially increase hazards due to a design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (Impact 4.13-3)

**Description of Significant Impact**

During construction, the proposed project would require the delivery of heavy construction equipment and PV solar components using area roadways, some of which may require transport by oversize vehicles. The use of oversize vehicles during construction can create a hazard to the public by limiting motorist views on roadways and by the obstruction of space.

Additionally, the portion of SR 14 that would be utilized by the project currently has no northbound or southbound acceleration lane to accommodate traffic, and speeds along SR 14 are typically around 70 miles per hour. The speed differentials could cause potential conflicts, especially for the evening commute vehicles crossing northbound SR 14 to then merge into southbound through-traffic.

The project would also require crossing the Union Pacific Lone Pine Branch of the railroad, during construction which could cause congestion and traffic conflicts for both the construction traffic and the trains that travel on this portion of the railroad.

**Finding**

The project is not expected to substantially increase hazards due to a design feature; however implementation of Mitigation Measures MM 4.13-2 and MM 4.13-3 would further reduce impacts to a less than significant level.
Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to hazards created by a design feature to less-than-significant. With the implementation of Mitigation Measures MM 4.13-2 and MM 4.13-3, these impacts would be considered less than significant.

**MM 4.13-2:** The project operator shall consult with Caltrans - District 9, and construct a southbound acceleration lane that meets state highway standards, along the identified portion of SR 14, as required by Caltrans. Work shall be performed prior to or in conjunction with initial site grading work. Work must be completed prior to installation of any permanent buildings, equipment, or solar collector structures. Evidence of compliance shall be submitted to the Kern County Planning and Community Development Department.

**MM 4.13-3:** Prior to the issuance of grading or building permits, the project operator shall obtain the necessary permits and approvals from the Union Pacific Railroad for the construction of a crossing arm, or other crossing improvements to the Lone Pine Branch rail line. Copies of all permits and approvals shall be submitted to the Kern County Planning and Community Development Department.

**Significant Effect**

The proposed project would result in inadequate emergency access. (Impact 4.13-4)

**Description of Significant Impact**

During the construction phase of the project, heavy construction-related traffic could interfere with emergency response to the project site or emergency evacuation procedures in the event of an emergency such as a wildfire, or a chemical spill at the site.

**Finding**

The project is not expected to substantially impact emergency access to the site; however, implementation of Mitigation Measure MM 4.13-1 is expected to further reduce impacts to a less than significant level.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to adequate emergency access to less-than-significant. With the implementation of Mitigation Measure MM 4.13-1, these impacts would be considered less than significant.

**C. Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**

The project would not have any environmental effects on transportation and traffic that cannot be mitigated to a less-than-significant level.

**D. Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.**

**Significant Effect**
The project would result in cumulative traffic and transportation impacts.

Description of Significant Impact

Future development of Kern County would contribute to congestion on area roadways that could be traveled by construction- and operation-related traffic associated with the proposed project. Future development within the County, such as other large solar energy projects, would generate a large number of trips to and from the respective project sites, using local roadways. In addition, future residential development of Kern County would also increase the overall number of vehicle trips within the County. Construction of these projects would result in an increase in temporary delays and construction vehicle trips on the local roadway network.

Finding

The project would have an incremental contribution to a cumulative impact on traffic and transportation in Kern County but with the implementation of Mitigation Measures MM 4.13-1 and MM 4.13-3 would reduce the cumulative impact to less than significant.

Brief Explanation of the Rationale for the Finding

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts. After the implementation of Mitigation Measures MM 4.13-1 and MM 4.13-3, impacts related to cumulative transportation and traffic impacts would be less than significant.

E. Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.

There are no cumulative impacts on transportation and traffic that would have a significant impact on the environment.

UTILITIES


The project would not exceed wastewater treatment requirements of the applicable regional water quality control board. (Impact 4.14-1)

The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects. (Impact 4.14-2)

The project would comply with federal, state, and local statutes and regulations related to solid waste. (Impact 4.14-6)
B. **Environmental Effects of the Project that Are Potentially Significant, but that Can Be Mitigated to Less Than Significant Levels.**

**Significant Effect**

The proposed project could require or result in the construction of new water or stormwater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects. (Impact 4.14-3)

**Description of Significant Impact**

The project would create a small amount of impervious surfaces and would require water for dust suppression during construction activities and panel washing during operations, which could alter the pattern and concentration of runoff. Additionally, the pattern and concentration of runoff would be altered by project activities, such as grading of the site and roads.

**Finding**

Operation and maintenance of the project would change stormwater runoff concentration and patterns which could be mitigated through the implementation of MM 4.8-1 and MM 4.8-2.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied if a project results in the construction of new water or stormwater treatment facilities that causes a significant environmental impact. While the project is not expected to substantially alter stormwater patterns or runoff, the project would reduce its impact through the implementation of mitigation measure MM 4.8-1 and MM 4.8-2.

**Significant Effect**

The proposed project has sufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded entitlement is not needed. (Impact 4.14-4)

**Description of Significant Impact**

Construction activity at the site would require the use of water for a variety of activities, including but not limited to grading and hydro-consolidation of soils, dust control, cleaning of construction equipment, and general use. Operation of the solar facilities would require water consumption as well, primarily related to the need for washing of the PV panels and other ancillary activities to ensure project efficiency. The proposed operational use of 15 AFY which would be drawn from existing wells on site that source water from the Koehn Sub-basin.

**Finding**

The operation and maintenance of the project is not expected to substantially impact water supplies but the implementation of Mitigation Measure MM 4.14-1 would reduce potential adverse effects caused by the project to a less-than-significant level.

**Brief Explanation of the Rationale for the Finding**
CEQA requires that all feasible and reasonable mitigation be applied to projects that result in substantial adverse physical impacts associated with water supply. Project impacts to water supply for the site would be reduced to a level that is less than significant with implementation of Mitigation Measure 4.14-1.

**MM 4.14-1:**

a) The project operator shall submit to the Kern County Environmental Health Services Division a revised site plan illustrating the location of all water wells on the project site, and a 10 foot no-build area radius around each known well. Copies of the site plan shall be submitted to the Kern County Planning and Community Development Department.

b) Prior to issuance of grading or building permits, the project operator shall obtain reactivated well permits from the Kern County Environmental Health Services Division for those wells that will be used to monitor groundwater and provide water supply to the project. Copies of the issued permits for the reactivated well shall be submitted to the Kern County Planning and Community Development Department.

**Significant Effect**

The project would be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs. (Impact 4.14-5).

**Description of Significant Impact**

The project would generate solid waste during construction and operation that would require disposal in regional landfills, and could impact landfill capacity.

**Finding**

The project would generate solid waste during construction and operation that would require disposal in regional landfills, Although the project would be served by a landfill with sufficient capacity, the project would further reduce its impact on landfill capacity by implementing Mitigation Measure MM 4.14-2.

**Brief Explanation of the Rationale for the Finding**

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce impacts related to landfill capacity to less-than-significant. With the implementation of Mitigation Measure MM 4.14-2, these impacts would be considered less than significant.

**MM 4.14-2:** During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. An on-site recycling coordinator shall be designated by the project operator to facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to state and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Waste Management Department prior to issuance of building permits.

**C.  Environmental Effects of the Project that Cannot Be Mitigated to a Level Less Than Significant.**
The project would not have any environmental effects on utilities that cannot be mitigated to a less-than-significant level.

D. **Cumulative Environmental Effects of the Proposed Project that Would Have a Less Than Significant Impact on the Environment.**

Cumulative impacts related to utilities and service systems would result in a less-than-significant impact on the environment. Although the project’s impact would be less than significant, implementation of Mitigation Measures MM 4.8-1, MM 4.8-2, MM 14.4-1 and MM 4.14-2 would further reduce the project’s overall impact.

E. **Cumulative Environmental Effects of the Proposed Project that Would Have a Significant Impact on the Environment.**

The project would not have any cumulative effects on utilities that would have a significant impact.

**SECTION III. FINDINGS REGARDING CONSIDERATIONS, WHICH MAKE CERTAIN ALTERNATIVES, ANALYZED IN THE FINAL ENVIRONMENTAL IMPACT REPORT INFEASIBLE.**

The following findings and brief explanation of the rationale for the findings regarding project alternatives identified in the EIR are set forth to comply with the requirements of Section 15091(a)(3) of the **CEQA Guidelines.**

The consideration of alternatives is an integral component of the CEQA process. The selection and evaluation of a reasonable range of alternatives provides the public and decision-makers with information on ways to avoid or lessen environmental impacts created by a proposed project. When selecting alternatives for evaluation, CEQA requires alternatives that meet most of the basic objectives of the project, while avoiding or substantially lessening the project’s significant effects. Thus, objectives for the proposed project were considered by this board in evaluating the alternatives. These objectives are to:

- Develop a solar power generating facility that would provide clean, renewable, solar powered electricity to the citizens of California.
- Develop a site with an excellent solar resource.
- Develop a previously disturbed site with close proximity to transmission infrastructure in order to minimize environmental impacts.
- Interconnect directly to the LADWP electrical transmission system.
- Use proven and established PV technology.
- Create 385 temporary construction jobs and 5-10 permanent operations jobs.
- Provide an investment in California and Kern County that would create jobs and other economic benefits.
- Assist California utilities in meeting their obligations under California’s Renewable Portfolio Standard (RPS) Program. In April 2011, Governor Brown signed into law Senate Bill X1-2, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewable by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirements being met by the end of 2020.
- Assist an off-taker in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.
- Address local mandates that California’s electric utilities have adopted for the provision of renewable energy. Substantial State legislation has been passed related to renewable energy that is relevant to the project.
In making these findings, the County bears in mind the following:

- The discussion of alternatives shall focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project, even if these alternatives would impede to some degree the attainment of the proposed project objectives, or would be more costly.

- The No Project Alternative shall be evaluated, along with its impacts. The no project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved based on current plans and consistent with available infrastructure and community services.

- The range of alternatives required in an EIR is governed by a “rule of reason;” therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the proposed project need be considered for inclusion in the EIR.

- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The applicant has requested approval of the proposed project in lieu of any of the alternatives.

**ALTERNATIVE A: NO PROJECT**

Under the No Project Alternative, the existing land uses on the site would continue to operate as they do under current conditions. The existing land use of the site is undeveloped land, which would continue. In addition, existing ancillary structures, such as the roadways providing access to the project area, would remain in their current capacity. The undeveloped setting of the project site would continue for an indefinite period and no physical changes within the project site would occur. The No Project Alternative would maintain the current zoning and land use designations.

**Finding**

The No Project Alternative would avoid all of the impacts associated with the proposed project’s short-term, long-term, and cumulative impacts. However, Alternative A would not meet any of the project objectives. Alternative A does provide employment opportunities for highly trained workers. Alternative A also does not meet the County’s policy goal of encouraging renewable energy as evidenced in the Energy Element of the Kern County General Plan. There, the Board has announced its intent to “promote and facilitate energy development” (p. 183) and, with respect to solar development in particular, “to identify and remove disincentives to domestic and commercial solar energy development.” (p. 209-Energy Element). Alternative A is rejected as infeasible for these reasons.

**ALTERNATIVE B: GENERAL PLAN BUILDOUT**

Under Alternative B, no solar development would occur on the project site. The site would be developed to the maximum intensity allowed under the Kern County General Plan, Kern County zoning, and other
existing applicable restrictions. The existing designations would allow agricultural operations on the site or construction of up to 115 residential dwellings (1 dwelling per 20-acre parcel). Alternative B would avoid the need for a CUP.

**Finding**

Alternative B would have similar or slightly fewer project related impacts associated with aesthetics, biological resources, cultural resources, geology and soils, hazards, land use, mineral resources, and noise, when compared to the proposed project. However, several environmental impacts would have a greater impact, including air quality, greenhouse gases, hydrology, public services, traffic and utilities.

This alternative would avoid significant and unavoidable aesthetics and biological resources impacts but would not realize the same benefit of GHG emissions reductions because it would not reduce the need for energy generation at a fossil fuel power plant by replacing it with a clean energy source like solar. It is also likely to require substantially more water for either farming or residential uses than needed for operation of the project. This alternative, while reducing the severity of aesthetics impacts, would result in potentially significant traffic and utilities and services systems impacts. Alternative B would not meet any of the project objectives. Alternative B does provide as many employment opportunities for highly trained workers. The General Plan Buildout Alternative also does not meet the County's policy goal of encouraging renewable energy, as evidenced in the Energy Element of the Kern County General Plan. There, the Board has announced its intent to "promote and facilitate energy development" (p. 183) and, with respect to solar development in particular, "to identify and remove disincentives to domestic and commercial solar energy development." (p. 209-Energy Element). Alternative B is rejected as infeasible for these reasons.

**ALTERNATIVE C: NO UTILITY-SCALE SOLAR DEVELOPMENT—DISTRIBUTED COMMERCIAL AND INDUSTRIAL ROOFTOP SOLAR ONLY**

Alternative C would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatts to one MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout Kern County. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 22,298 acres of total rooftop area) may be required to attain proposed project's capacity of 250 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. This objective would enable the generation of 250 MW of electricity, but it would be for on-site use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Alternative C would avoid the need for a CUP for the project site, but may require other entitlements, such as a CUP or variance on other sites).

**Finding**

Alternative C would reduce impacts associated with aesthetics, air quality, biological resources, cultural resources, GHGs, geology and soils, hydrology, mineral resources, noise, public services, and traffic when compared to the proposed project. Impacts related to land use and planning and utilities would be similar to those of the proposed project.
This alternative would reduce the level of significance compared to the proposed project impacts relative to aesthetics, air quality, and biological resources as well as reduce impacts to biological, cultural and other resources.

Alternative C would not meet the following project objectives:

- Develop a previously disturbed site with close proximity to transmission infrastructure in order to minimize environmental impacts. Develop a site with an excellent solar resource.
- Interconnect directly to the LADWP electrical transmission system.
- Address local mandates that California’s electric utilities have adopted for the provision of renewable energy. Substantial State legislation has been passed related to renewable energy that is relevant to the project.

This alternative includes a number of drawbacks, including, but not limited to the following:

- There would be difficulties with respect to buildout of the system within a timeframe that would be similar to that of the proposed project.
- Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.
- This alternative is not within the current applicant’s power to implement in a reasonable period of time.

Alternative C is rejected as infeasible for these reasons.

**ALTERNATIVE D: Reduced Project Alternative**

Because the Reduced Project Alternative does not avoid or substantially lessen any of the project’s significant impacts, CEQA does not require the County to analyze and make findings about this alternative. However, Alternative D was nonetheless analyzed in the EIR for informational purposes. Although not legally required, findings of infeasibility are also included here for informational purposes. Under the Reduced Project Alternative, development would involve a 34.4 percent reduction in project size, thereby avoiding all five archaeological resources identified as eligible for listing in the California Register of Historical Resources (CRHR) as well as one of the three archaeological resources treated as significant. (Cultural impacts were not identified as significant and unavoidable impacts of the project.) The project under this alternative would consist of a 165 MW solar PV generating facility on 1,509 acres. This alternative would continue to require a CUP.

**Finding**

Alternative D would reduce impacts associated with aesthetics, air quality, biological resources, cultural resources, geology and soils, noise, and traffic when compared to the proposed project, however, the proposed project’s impacts in these areas are also mitigable to less than significant level. Impacts related to GHGs, hazards and hazardous materials, hydrology, land use and planning, mineral resources, public services, and utilities would be similar to those of the proposed project.
This alternative would not reduce the level of significance compared to the proposed project’s significant and unavoidable impacts relative to aesthetics, air quality, and biological resources nor would it reduce impacts to biological, cultural and other resources.

Alternative D, the Reduced Project Alternative, would meet many of the project objectives. However, it would meet these objectives to a lesser degree than the proposed project. Among these are:

- Assist California utilities in meeting their obligations under California’s Renewable Portfolio Standard (RPS) Program. In April 2011, Governor Brown signed into law Senate Bill X1-2, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewable by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirements being met by the end of 2020.

- Assist an off-taker in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.
- Develop a solar power generating facility that would provide clean, renewable, solar powered electricity to the citizens of California.
- Develop a site with an excellent solar resource.
- Develop a previously disturbed site with close proximity to transmission infrastructure in order to minimize environmental impacts.
- Create 385 temporary construction jobs and 5-10 permanent operations jobs.
- Provide an investment in California and Kern County that would create jobs and other economic benefits.
- Address local mandates that California’s electric utilities have adopted for the provision of renewable energy. Substantial State legislation has been passed related to renewable energy that is relevant to the project.

Alternative D does provide as many employment opportunities for highly trained workers. Alternative D would also not meet the County’s goal of encouraging renewable energy to the same degree as the proposed project as evidenced in the Energy Element of the Kern County General Plan. There, the Board has announced its intent to “promote and facilitate energy development” (p. 183) and, with respect to solar development in particular, “to identify and remove disincentives to domestic and commercial solar energy development.” (p. 209-Energy Element). Alternative D is rejected as infeasible for these reasons.

**ALTERNATIVE E: Flood and Seismic Hazard Avoidance Alternative**

This alternative would avoid development on any portion of the project site with flood hazard or seismic hazard zoning classifications or general plan designations. Specifically, this alternative would avoid any portion of the site that has a general plan designation of 2.1 (Seismic Hazard) or 2.5 (Flood Hazard) and any portion of the site that has zoning classification of GH (Geologic Hazard) or FPS (Floodplain Secondary Combining). Avoidance of these areas would result in a 32.4 percent reduction in project size. The project under this alternative would consist of a 170 MW solar PV generating facility on 1,555 acres. This alternative would continue to require a CUP.

**Finding**

Alternative E would reduce impacts associated with aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology, and traffic when compared to the proposed project. Impacts related to GHGs, land use and planning, mineral resources, noise, public services, and utilities would be similar to those of the proposed project.
This alternative would not reduce the level of significance compared to the proposed project impacts relative to aesthetics, air quality, and biological resources as well as reduce impacts to biological, cultural and other resources.

Alternative E, the Reduced Project Alternative, would meet many of project objectives. However, it would meet certain objectives to a lesser degree than the proposed project. Among these are:

- Assist California utilities in meeting their obligations under California’s Renewable Portfolio Standard (RPS) Program. In April 2011, Governor Brown signed into law Senate Bill X1-2, which establishes a new RPS for all electricity retailers in the state. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewable by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirements being met by the end of 2020.

- Assist an off-taker in reducing its greenhouse gas (GHG) emissions as required by the California Global Warming Solutions Act.

- Develop a solar power generating facility that would provide clean, renewable, solar powered electricity to the citizens of California.

- Develop a site with an excellent solar resource.

- Develop a previously disturbed site with close proximity to transmission infrastructure in order to minimize environmental impacts.

- Create 385 temporary construction jobs and 5-10 permanent operations jobs.

- Provide an investment in California and Kern County that would create jobs and other economic benefits.

- Address local mandates that California’s electric utilities have adopted for the provision of renewable energy. Substantial State legislation has been passed related to renewable energy that is relevant to the project.

Alternative E does provide as many employment opportunities for highly trained workers. Alternative E would also not meet the County’s goal of encouraging renewable energy to the same degree as the proposed project as evidenced in the Energy Element of the Kern County General Plan. There, the Board has announced its intent to “promote and facilitate energy development” (p. 183) and, with respect to solar development in particular, “to identify and remove disincentives to domestic and commercial solar energy development.” (p. 209-Energy Element). Alternative E is rejected as infeasible for these reasons.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines require the identification of an environmentally superior alternative to the project (CEQA Guidelines, Section 15126.6[e][2]). An environmentally superior alternative is an alternative to the project that would reduce and/or eliminate the significant environmental impacts associated with the project without creating other significant impacts and without substantially reducing and/or eliminating the environmental benefits attributable to the project.

Selection of an environmentally superior alternative is based on an evaluation of the extent to which the alternatives reduce or eliminate the significant impacts associated with the project on a comparison of the remaining environmental impacts of each alternative. In conducting this comparative evaluation, it can be difficult to make a determination of relative significance because some categories are relatively more or less important and cannot be simply summed. In some cases, these categories do not create a picture of the nuances of the alternatives.

Finding
The Environmentally Superior Alternative to the proposed project would be Alternative C: No Utility-Scale Solar Development—Distributed Commercial and Industrial Rooftop Solar Only. This alternative would avoid all significant and unavoidable impacts that would occur under the proposed project. No substantially adverse and long-term impacts would occur to the environment as a result of this alternative. However, this project would not meet many of the project’s objectives (as explained above) and it is also considered to be impracticable and infeasible to implement within the same or even a reasonable timeframe and/or with the same efficiency. The environmentally superior alternative is rejected as infeasible for these reasons.
Exhibit B

Statement of Overriding Considerations

State CEQA Guidelines Section 15093
Exhibit B

STATEMENT OF OVERRIDING CONSIDERATIONS

State CEQA Guidelines Section 15093

for

Beacon Photovoltaic Project by Beacon Solar LLC

Conditional Use Permit 11, Map 152

Final Environmental Impact Report
(SCH No. 2012011029)

Lead Agency: Kern County Planning and Community Development Department

The California Environmental Quality Act (CEQA) requires a public agency to balance the benefits of a proposed project against its significant unavoidable adverse impacts in determining to approve the project. The Beacon Photovoltaic Project would result in environmental effects that, although mitigated to the extent feasible by the implementation of mitigation measures required for the project, would remain significant and unavoidable adverse impacts, as discussed in the final environmental impact report (EIR) and CEQA findings of fact. These impacts are summarized below and constitute those impacts for which this statement of overriding considerations is made.

1) Impact 4.1-1 (The project would have a substantial adverse effect on a scenic vista). The proposed project would introduce an industrial element within scenic vistas in the region as viewed from hiking trails in local hills located to the west of the proposed project. Implementation of the proposed project would ultimately result in the placement of approximately 2,301 acres of solar panels and associated infrastructure, and a new substation on the project site. Proposed mitigation includes regular site maintenance to reduce the collection of debris, the installation of visually-shielding fencing, and the placement of landscaping at intervals along the site perimeter. However, impacts to visual resources would be considered significant and unavoidable.

2) Impact 4.1-3 The project would substantially degrade the existing visual character or quality of the site and its surroundings. The industrial nature of the facility, when introduced into the project viewshed, would substantially change the visual character of the landscape from sensitive receptors for the life of the project. In addition, there would be significant impacts to views from scenic vistas within the nearby BLM lands. The proposed facility would be visually dominant in an area that is currently undeveloped. Therefore, impacts to visual resources would remain significant and unavoidable despite implementation of these mitigation measures.

3) The project would result in cumulative aesthetics impacts. The proposed project would result in a cumulatively significant and unavoidable impact on aesthetics. Multiple projects, including several utility-scale solar energy production facilities, are proposed in the project vicinity.
Combined, these projects have the potential to result in cumulative impacts to aesthetics when considered together with the proposed project. The project would have significant and unavoidable impacts related to aesthetics after implementation of mitigation measures including regular site maintenance to reduce the collection of debris, the installation of visually-shielding fencing, and the placement of landscaping at intervals along the site perimeter. Other projects in the region would also be required to implement various mitigation measures to reduce impacts. However, the conversion of thousands of acres in a presently rural area to solar energy production uses cannot be mitigated to a degree that impacts are no longer significant.

4) The project would result in cumulative air quality impacts. Construction of the proposed project together with simultaneous construction of nearby, reasonably foreseeable planned projects in the area would result in significant cumulative air quality impacts. The majority of project emissions would occur temporarily during the construction phase, which is expected to be completed over a 22-month period. After that construction period, there would be minimal emissions and insignificant cumulative impacts during operation of the proposed project. Due to the uncertainty of other projects that may be constructed within the Mojave Desert Air Basin, it is assumed that temporary cumulative impacts from construction would remain significant and unavoidable.

5) The project would result in cumulative biological resources impacts. Development of the proposed project together with simultaneous development of nearby, reasonably foreseeable planned projects in the area would result in significant cumulative biological resources impacts. Development of the proposed project would contribute to a cumulative loss of low-quality foraging habitat for golden eagles and other special-status raptors, as well as the loss of existing and potential transient wildlife habitat and foraging opportunities for species that currently utilize the project area, even with the implementation of mitigation measures including avoidance, minimization and compensation.

Findings

This Planning Commission finds and determines that it has considered the identified means of lessening or avoiding the project’s significant effects and that to the extent any significant direct or indirect environmental effects, including cumulative project impacts, remain unavoidable or not reduced to below a level of significance after mitigation, such impacts are at an unacceptable level in light of the social, legal, economic, environmental, technological, and other project benefits discussed below, and such benefits override, outweigh, and make "acceptable" any such remaining environmental impacts of the project (CEQA Guidelines Section 15092(a) and (b)).

The following benefits and considerations outweigh the identified significant and unavoidable adverse environmental impacts. All of these benefits and considerations are based on the facts set forth in the findings, the final EIR, and the record of proceedings for the project. Each of these benefits and considerations is a separate and independent basis that justifies approval of the project, so that if a court were to set aside the determination that any particular benefit or consideration would occur and justifies project approval, this Commission would otherwise stand by its determination that the remaining benefit(s) or considerations are sufficient to justify and substantiate project approval.

Facts

Each benefit set forth below constitutes an overriding consideration warranting approval of the project, independent of the other benefits, and the Planning Commission determines that the adverse
environmental impacts of the project are “acceptable” if any of these benefits would be realized. The project would provide benefits as follows:

1) Implementation of the project would produce 250 megawatts of electricity from a renewable source for delivery to the regional power grid in accordance with the California Renewables Portfolio Standard goals. Energy produced by the project will also assist the State of California in complying with the mandates established by Executive Order S-14-08 requiring public utilities to purchase 33% of their energy portfolio from renewable energy sources by 2020. The production of energy from solar facilities has the added benefit of reducing air quality impacts and greenhouse gas emissions that would be produced by fossil-fuel based generation facilities.

2) The proposed project would establish solar PV power-generating facilities that are of sufficient size and configuration to produce up to 250 MW of clean electricity, which would supply the energy needs of about 100,000 residences, assuming average California residential usage rates.

3) The proposed project would assist the State of California in achieving the 33 percent renewable portfolio standard for 2020 by providing a significant new source of renewable energy.

4) The proposed project would generate electricity that emits minimal amount of criteria air pollutants in the Eastern Kern Air Pollution Control District.

5) The proposed project would help California meet the standards imposed under Assembly Bill 32 for reducing greenhouse gas (GHG) emissions to 1990 levels by 2020 in accordance with rules promulgated by the California Air Resources Board.

6) Electricity generated from the proposed project will reduce the amount of electricity generated using fossil fuels, and therefore, result offset of an estimated 213,020 MTCO2e annually, which results in a net reduction of 212,740 MTCO2e of GHGs per year.

7) The proposed project would generate approximately 385 construction jobs and up to 10 full time staff on site, and provide increased business for local contractors and vendors. It is expected that the construction and permanent workers will primarily come from Rosamond, Mojave and Bakersfield, thereby benefiting the local economy. The project operator estimates the construction labor (construction manager, electricians, engineers, metal workers, and other skilled labor) would earn an average wage of $23.30 (excluding benefits); and the full-time employees for the life operation of the project would earn $28.25.

8) The proposed project would result in the contribution of money calculated on a per acre basis in accordance with the Public Service Mitigation Program to support public safety and protection services of an estimated $603,252 over a 25 year period, which is $24,130 per year. The project in turn, achieves the program’s objective to ensure that new solar development pays the capital costs associated with public protection and safety services.

9) The project operator will obtain a local street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and register this address with the State Board of Equalization, using this address for acquisition, purchasing and billing purposes associated with the proposed project. The project operator shall allow the county to use this sales
tax information publicly for reporting purposes. Initial economic analysis conservatively estimate that the project would generate a total of approximately $8 million in new property tax, property tax in-lieu of vehicle license fees, and local sales tax revenues for the County and other agencies.

10) The proposed project would use a reliable and proven solar technology with minimal disturbance to or depletion of natural resources as compared to alternative types of energy development. Once operational, photovoltaic solar panels use no fuel source other than the energy from the sun, as opposed to natural gas or coal plants.

11) The proposed project would minimize environmental effects by:
   a) Using existing electrical distribution facilities, rights-of-way, roads, and other existing infrastructure, where practicable;
   b) Minimizing impacts to threatened species and/or endangered species, and other sensitive biological resources;
   c) Locating the project facilities in an area with compatible zoning and land uses to the extent possible;
   d) Minimizing water use;
   e) Reducing greenhouse gas emissions; and,
   f) Using technology that is available, proven, efficient, easily maintained, recyclable, and environmentally sound.

12) The project proposes to reuse undeveloped, idle land that has not been put to a productive use for the past nearly thirty years.

13) Implementation of the proposed project would be consistent with the stated goals and policies of Section 5.4.5 Solar Energy Development, as outlined in the Energy Element of the Kern County General Plan.
Exhibit C

Mitigation Measure Monitoring Program
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<th>Impact</th>
<th>Mitigation Measure</th>
<th>Time Frame for Implementation</th>
<th>Responsible Monitoring Agency</th>
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<td>4.1</td>
<td>Aesthetics</td>
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<td>#1</td>
<td>MM 4.1-1: The project operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities. The project operator shall erect signs with contact information for the project operator’s maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Community Development Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris.</td>
<td>Prior to final occupancy approval and during ongoing facility operation</td>
<td>Planning and Community Development Department</td>
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<td>#2</td>
<td>MM 4.1-2: The project operator shall install metal fence slats or similar view-screening materials as approved by the Kern County Planning and Community Development Department in all on-site perimeter fencing adjacent to parcels zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential], R-2 [Medium-Density Residential], R-3 [High-Density Residential] or PL (Platted Lands) zoning), unless the adjacent property is owned by the project operator (to be verified by the Kern County Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Planning and Community Development Department requesting this requirement be waived. Should the project operator sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.</td>
<td>Prior to site plan approvals and issuance of grading permits</td>
<td>Planning and Community Development Department</td>
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<td>#3</td>
<td>MM 4.1-3: a) Drought tolerant plants, species to be determined through consultation with landscape experts with local knowledge and approved by</td>
<td>During project operations</td>
<td>Planning and Community Development Department</td>
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### 4.1 Aesthetics

The Kern County Planning and Community Development Department, shall be planted along the fence line at 500-foot intervals where the adjoining property is zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential], R-2 [Medium-Density Residential], R-3 [High-Density Residential] or PL [Platted Lands] zoning), unless the adjacent property is owned by the project operator (to be verified by the Kern County Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Community Development Department requesting this requirement be waived. Should the project operator or agency sell the adjacent property, drought-tolerant shall be planted prior to the sale. Landscaping must be continuously maintained on the project site(s) by the project operator in accordance with Section 19.86 (Landscaping Standards) of the Kern County Zoning Ordinance.

b) Prior to the commencement of operations, the project operator must submit a landscape re-vegetation and restoration plan for the project site. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place as needed to establish re-vegetation. Seed mix shall be determined through consultation with local experts and shall be approved by the Kern County Planning and Community Development Director prior to planting. The plan must include the approved native seed mix, a timeline for seeding the site, percentage of the site to be covered, detail the consultation efforts completed and the methods and schedule for installation of fencing that complies with wildlife agency regulations, and prohibition on the use of rodenticides. Ground cover must be continuously maintained on the project site by the project operator. The re-vegetation and restoration of the site shall be monitored annually for a three-year period with an annual evaluation report submitted to the Kern County Planning and Community Development Director for the three-year period. The three-year monitoring program is intended to ensure the site naturally achieves native plant diversity, consistent with site conditions prior to implementation of the project.

### Steps to Compliance:

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. The project operator shall implement landscaping practices as outlined in mitigation.

C. Project operator shall submit a landscape re-vegetation and restoration plan to the Planning and Community Development Department for approval.
## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<tr>
<td>4.1 Aesthetics</td>
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<td>#4 MM 4.1-4: Project facility lighting shall comply with “Dark Sky” lighting guidelines, and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not extend below the shields.</td>
<td>Prior to site plan approvals and issuance of building permits</td>
<td>Planning and Community Development Department; Kern County Building Inspection Department</td>
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**Steps to Compliance:**
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. The project operator shall ensure all outdoor lighting meet the minimum requirements for safety and security standards as well as provide the minimum illumination needed to achieve safety and security objectives as outlined in mitigation.
C. The Building Inspection Department shall verify compliance in the field.

#5 MM 4.1-5: Where appropriate, proposed on-site buildings shall use non-reflective materials as approved by the Kern County Planning and Community Development Department. | Prior to site plan approvals and issuance of building permits | Planning and Community Development Department; Kern County Building Inspection Department | | |

**Steps to Compliance:**
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. The Kern County Building Inspection Department shall verify compliance in the field.

#6 MM 4.1-6: Solar panels and hardware shall be designed to minimize glare and spectral highlighting. To the extent feasible, emerging technologies shall be utilized that introduce diffusion coatings and nanotechnological innovations that will effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient at converting incident sunlight into electrical power, but have the tertiary effect of reducing the amount of light that escapes into the atmosphere in the form of reflected light, which would be the potential source of glare and spectral highlighting. | Prior to site plan approvals and issuance of building permits | Planning and Community Development Department; Kern County Building Inspection Department | | |

**Steps to Compliance:**
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. The project operator shall ensure that all panels and hardware utilizes advanced technologies utilized to the extent possible to minimize glare and spectral highlighting.
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>4.1</td>
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<td>spectral highlighting as outlined in mitigation.</td>
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**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<td>4.2 Air Quality</td>
<td>#7 MM 4.2-1: The project operator shall ensure that construction and operation of the proposed project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District. Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive and any other measures to reduce fugitive dust emissions not listed shall be encouraged:</td>
<td>During grading and construction</td>
<td>Planning and Community Development Department, Kern County Engineering, Surveying, and Permit Services Department, Eastern Kern Air Pollution Control District</td>
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<td></td>
<td>a) Land Preparation, Excavation and/or Demolition. The following dust control measures shall be implemented:</td>
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<td>i. All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative.</td>
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<td>ii. All disturbed areas on the project site and proposed transmission corridor shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods. The frequency of watering can be reduced or eliminated during period of precipitation.</td>
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<td>iii. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.</td>
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<td>iv. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures or neighboring property, or as identified in a plan approved by the Eastern Kern Air Pollution Control District.</td>
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<td>v. All trucks entering or leaving the project site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of six inches.</td>
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<td>Steps to Compliance: A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.</td>
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<td>B. The project operator shall submit evidence of implementation of dust control practices as outlined in mitigation.</td>
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<td>C. The project operator shall provide the Planning and Community Development Department with a landscape re-vegetation and restoration plan.</td>
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<td>D. The Kern County Building Inspection Department shall verify in the field.</td>
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<td>Air Quality</td>
<td>vi. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.</td>
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<td>vii. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.</td>
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<td>viii. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.</td>
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<td>ix. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.</td>
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<td>x. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of discing, thereby, leaving the ground undisturbed and with a mulch covering.</td>
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<td>b) Site Construction. After clearing, grading, earth moving and/or excavating is completed within any portion of the project site, the following dust control practices shall be implemented:</td>
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<td>i. Once initial leveling has ceased, all inactive soil areas within the construction site shall be immediately treated with a dust palliative.</td>
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<td>ii. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas so planned as soon as practical after installation of the solar panels.</td>
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<td>iii. All unpaved road areas shall be treated with a dust palliative or graveled to prevent excessive dust.</td>
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<td>c) Vehicular Activities. During all phases of construction, the following vehicular control measures shall be implemented:</td>
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<td>i. No vehicle shall exceed 10 miles per hour on unpaved areas within the project site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.</td>
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<td>ii. Visible speed limit signs shall be posted at the project site entrance(s).</td>
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<td>iii. All areas with vehicle traffic, especially the main entrance...</td>
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<td>roadway to the project site, shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.</td>
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<td>iv. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.</td>
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<td>v. Streets adjacent to the project site shall be kept clean and project related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.</td>
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<td>vi. Access to the project site shall be by means of an apron into the facility site from adjoining surfaced roadways. The apron shall be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of vehicles, a grizzly, wheal washer, or other such device shall be used on the road exiting the facility site, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires.</td>
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<td>#8</td>
<td>MM 4.2-2: The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project on the project site:</td>
<td>During grading and construction</td>
<td>Kern County Building Inspection Department</td>
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<td>a) All equipment shall be maintained in accordance with the manufacture's specifications.</td>
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<td>b) Equipment shall be shut down when not in use for extended periods of time.</td>
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<td>c) No individual piece of construction equipment shall operate no longer than eight cumulative hours per day.</td>
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<td>d) Electric equipment shall be used whenever feasible in lieu of diesel- or gasoline-powered equipment.</td>
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<td>e) All construction vehicles shall be equipped with proper emissions control devices.</td>
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<td>Steps to Compliance:</td>
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<td>A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.</td>
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<td>B. The project operator shall submit evidence of implementation of compliance with practices as outlined in mitigation.</td>
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<td>C. The Kern County Building Inspection Department shall verify in the field during the construction phase of the project.</td>
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<td>control equipment and kept in good and proper running order to substantially reduce NOx emissions.</td>
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<td>f) On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer’s guidelines.</td>
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<td>#9</td>
<td>MM 4.2-3: The project operator shall continuously comply with the following measures during construction and operation to control NOx emissions from on-road heavy-duty diesel haul vehicles that are contracted on a continuing basis for use to haul equipment and materials for the proposed project:</td>
<td>Prior to issuance of a grading or building permit</td>
<td>Planning and Community Development Department</td>
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<td>a) 2006 engines or pre-2006 engines with California Air Resources Board certified Level 3 diesel emission controls will be used to the extent possible.</td>
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<td>b) All on-road construction vehicles, except those meeting the 2006/California Air Resources Board certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to worker personal vehicles.</td>
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<td>c) The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacture’s specifications.</td>
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<td>#10</td>
<td>MM 4.2-4: The project operator shall continuously comply with the following during operation to control fugitive dust emissions:</td>
<td>During Construction activities</td>
<td>Planning and Community Development Department</td>
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<td>a) The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation</td>
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<td>b) The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.</td>
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Steps to Compliance:
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. The project operator shall submit evidence of implementation of compliance with practices as outlined in mitigation.
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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#### 4.2 Air Quality

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<td>c) Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.</td>
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<td>during the construction phase of the project.</td>
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**#11 MM 4.2-5**: The project operator shall a) educate construction personnel on the health effects of exposure to criteria pollutant emissions; and b) provide construction workers with information regarding Valley Fever and personal protective equipment such as respiratory equipment (masks), if requested by the worker, to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever.

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<td>Kern County Engineering, Surveying, and Permit Services Department</td>
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**Steps to Compliance:**

A. During construction activities the project operator shall submit evidence of compliance of the use of construction equipment to the Kern County Planning and Community Development Department.

B. Kern County Engineering, Surveying, and Permit Services Department will verify in the field during the construction period.

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td><strong>Biological Resources</strong></td>
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<td>#12</td>
<td><strong>MM 4.3-1:</strong> Prior to the issuance of grading or building permits, the project operator shall provide evidence to the Kern County Planning and Community Development Department that a Section 2081 Incidental Take Permit from California Department of Fish and Game (CDFG) for Desert Tortoise and/or Mohave Ground Squirrel has been obtained. If it is determined that such a permit is not required, the project operator shall provide a letter describing the consultation process and wildlife agency determination, indicating that a permit is not required. The letter shall also identify the CDFG point of contact and contact information.</td>
<td>Prior to issuing of grading and building permits</td>
<td>Planning and Community Development Department Qualified Biologist U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game, (CDFG) if necessary</td>
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<td>#13</td>
<td><strong>MM 4.3-2:</strong> Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by United States Fish and Wildlife Service to oversee compliance with the protection measures for desert tortoise and other special species. The project Lead Biologist shall be onsite during all fencing and ground disturbance activities throughout the construction phase. The project Lead Biologist shall have the right to halt all activities that are in violation of the desert tortoise or other special species protection measures. Work shall proceed only after hazards to desert tortoise or other special species are removed and the species is no longer at risk. The project biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted onsite.</td>
<td>Prior to issuance of grading permits</td>
<td>Planning and Community Development Department; U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG), if necessary</td>
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### Steps to Compliance:

A. If required by California Department of Fish and Game, a copy of the Section 2081 permit for incidental take shall be submitted to the Kern County Planning and Community Development Department. If a Section 2081 permit is not required, the project operator shall submit a statement verifying the determination of the California Department of Fish and Game.

B. Copies of all surveys and communications with the appropriate wildlife agencies shall be submitted to the Kern County Planning and Community Development Department.

### Steps to Compliance:

A. The project operator shall conduct a pre-construction survey that is performed by a qualified biologist for the presence of desert tortoises.

B. The project operator shall submit copies of the survey results to the Kern County Planning and Community Development Department.

C. If desert tortoises are present on site, a qualified biologist shall develop a plan for desert tortoise translocation and monitoring prior to project construction as described in MM 4.4-2.
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</table>
| 4.4    | Biological Resources | D. If desert tortoises are discovered, the Kern County Building Inspection Department shall verify in the field the compliance and implementation of the mitigation set forth in MM 4.4-2  
E. The operator shall conduct annual biological monitoring. The applicant shall submit results of monitoring to the Kern County Planning and Community Development Department and the appropriate wildlife agencies for review and verification of compliance. | Planning and Community Development Department |      |         |
| #14    | MM 4.3-3: Prior to the issuance of grading or building permits, and for the duration of construction activities, within one week of employment all new construction workers at the project site, laydown area and/or transmission routes shall attend a Construction Worker Environmental Awareness Training and Education Program, developed and presented by a qualified Lead Biologist. | Prior to issuance of grading or building permits | Planning and Community Development Department |      |         |
|        | **Steps to Compliance:**  
A. Project operator shall submit copies of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms. | | | | |
| #15    | MM 4.3-4: The program shall be presented by the Lead Biologist and shall include information on the life history of the desert tortoise, as well as other wildlife and plant species that may be encountered during construction activities, their legal protections, the definition of “take” under the Endangered Species Act, measures the project operator is implementing to protect the desert tortoise and other species, reporting requirements, specific measures that each worker shall employ to avoid take of the desert tortoise and other wildlife species, and penalties for violation of the Act. Identification and information regarding sensitive plants such as the Alkali mariposa lily, Charlotte’s phacelia and creamy blazing star or other special status plant species shall also be provided to construction personnel.  
i. An acknowledgement form signed by each worker indicating that environmental training has been completed.  
ii. A sticker that shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction | Prior to issuance of grading and building permits and during construction | Planning and Community Development Department; Kern County Engineering, Surveying, and Permit Services Department | | |
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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| 4.4    | **Biological Resources**  

area unless they have attended the training and are wearing hard hats with the required sticker;  

iii. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department.  

iv. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits. | Prior to issuance of grading permits | Planning and Community Development Department; Kern County Engineering, Surveying, and Permit Services Department | |
| #16    | **MM 4.3-5:** The anticipated impact zones, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with stakes and flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided. | | |
|        | **Steps to Compliance:**  

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.  

B. Kern County Engineering, Surveying, and Permit Services Department will verify in the field during the construction period. | | |
<p>| #17    | <strong>MM 4.3-6:</strong> New and existing roads that are planned for either construction or widening shall not extend beyond the planned impact area. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction. | During construction | Planning and Community Development Department; Kern County Engineering, Surveying, and Permit Services Department | |</p>
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<td><strong>#18</strong> MM 4.3-7: Spoils shall be stockpiled in disturbed areas presently lacking native vegetation. Stockpile areas shall be marked to define the limits where stockpiling can occur. Standard best management practices shall be employed to prevent loss of habitat due to erosion caused by project related impacts (i.e., grading or clearing for new roads). All detected erosion shall be remedied within two days of discovery.</td>
<td>During construction</td>
<td>Planning and Community Development Department Kern County Engineering, Surveying, and Permit Services Department</td>
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<td>B. The project operator shall mark stockpile areas to define the limits where stockpiling can occur.</td>
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<td>C. Kern County Engineering, Surveying, and Permit Services Department will verify in the field during the construction period.</td>
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<td><strong>#19</strong> MM 4.3-8: Fueling of equipment shall take place within existing paved roads, and not within or adjacent to drainages or native desert habitats. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.</td>
<td>Prior to issuance of grading and building permits</td>
<td>Planning and Community Development Department Kern County Engineering, Surveying, and Permit Services Department</td>
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<td>B. Kern County Building Inspectors shall verify in the field prior to and during the construction period.</td>
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<td><strong>#20</strong> MM 4.3-9: Construction activity shall be monitored by the qualified Lead Biologist or by biological monitors under the Lead Biologist's supervision to ensure compliance with avoidance and minimization measures.</td>
<td>During construction</td>
<td>Planning and Community Development Department Kern County Engineering, Surveying, and Permit Services Department</td>
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<td>Biological Resources</td>
<td>Steps to Compliance: A. This mitigation measure shall be incorporated as a condition of approval for any site plan review. B. Kern County Engineering, Surveying, and Permit Services Department will verify in the field during the construction period.</td>
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<td>#21</td>
<td>MM 4.3-10: The introduction of exotic plant species shall be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention. Preventing exotic plants from entering the site via vehicular sources shall include measures such as implementing Track-clean or other method of vehicle cleaning for vehicles coming and going from the site. Earth-moving equipment shall be cleaned prior to transport to the project area. Weed-free rice straw or other certified weed-free straw shall be used for erosion control. Weed populations introduced into the site during construction shall be eliminated by chemical and/or mechanical means approved by California Department of Fish and Game and the United States Fish and Wildlife Service.</td>
<td>During construction</td>
<td>Planning and Community Development Department; Kern County Engineering, Surveying, and Permit Services Department</td>
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<td>#22</td>
<td>MM 4.3-11: Implement the following measures: In the event ground disturbance does not commence on the transmission line corridor within two (2) years of the last rare plant surveys (May 2011), project operator and/or contractor shall conduct transmission line preconstruction rare plant survey(s) during the appropriate blooming period in accordance with the guidelines established by California Department of Fish and Game (2009), for Alkali mariposa lily, Charlotte's phacelia and creamy blazing star or other special status plant species. If no special-status plant species are observed during the focused surveys, no further actions would be required. If any of these plant species are found during the preconstruction surveys, project operator and/or contractor shall delay ground disturbance activities and contact CDFG for consultation. If required, in consultation with CDFG, a Habitat Mitigation Plan shall be prepared that includes, at a minimum, the</td>
<td>During construction and operations</td>
<td>Planning and Community Development Department; Kern County Engineering, Surveying, and Permit Services Department</td>
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<td>Steps to Compliance: A. This mitigation measure shall be incorporated as a condition of approval for any site plan review. B. If necessary, implement site-specific recommendations under the guidance of a qualified biologist, including preparation of a Habitat Mitigation Plan. C. A copy of the Habitat Mitigation Plan shall be submitted to the Planning and Community Development Department D. Kern County Engineering, Surveying, and Permit Services Department will</td>
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#### 4.4 Biological Resources

Following:

a) If Alkali mariposa lily, Charlotte’s phacelia and creamy blazing star or other special status plant species are observed within the proposed project footprint, the proposed project shall be designed by the Lead Biologist, to reduce impacts to the species through the establishment of preservation areas and buffers. If avoidance or minimization measures are implemented onsite, a Habitat Mitigation Plan shall be developed to ensure adequate management and conservation of botanical resources on-site over the long term. A copy of the Habitat Mitigation Plan shall be submitted to the Kern County Planning and Community Development Department.

b) If the proposed project would eliminate more than 10 percent of the local population of Alkali mariposa lily, Charlotte’s phacelia and creamy blazing star or other special status plant species, the Habitat Mitigation Plan would also include the following:

i. The area of occupied habitat to be preserved and removed;
ii. Identification of on-site or off-site preservation, restoration, or enhancement location(s);
iii. Methods for preservation, restoration, enhancement, and/or population translocation;
iv. A replacement ratio and success standard of 1:1 for occupied habitat lost;
v. A five year monitoring program to ensure mitigation success;
vi. Adaptive management and remedial measures in the event that performance standards are not achieved;

vii. Financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity

c) Prior to the commencement of ground disturbance activities, a final set of focused botanical surveys for Alkali mariposa lily, Charlotte’s
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<td>phacelia and creamy blazing star or other special status plant species, shall be conducted The surveys shall be conducted within potentially suitable habitat along the transmission line alignment that would be directly affected by the proposed project. Copies of all surveys and communications with the appropriate wildlife agencies shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>MM 4.3-12: The project operator and /or contractor shall implement the following:</td>
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<td>i. Prior to issuance of grading or building permits but after obtaining a project Section 2081 permit for incidental take, if required by California Department of Fish and Game, the entire solar facility site (east of SR 14) shall be fenced with a permanent desert tortoise exclusion fence to keep any desert tortoise that may be using habitat adjacent to the facility from entering during construction, operations and maintenance, and dismantling and restoration (decommissioning) phases. The fencing type shall follow current fence specifications established by U.S. Fish and Wildlife Service. Desert tortoise-proof gates shall be established at all photovoltaic solar facility entry points. Workers installing the exclusion fencing shall have undergone the worker training program mandated in Mitigation Measure 4.3-3 and a biological monitor under the authority of the project Lead Biologist will be present during exclusion fencing installation.</td>
<td>Prior to issuing building and grading permits</td>
<td>Planning and Community Development Department; Lead biologist; Kern County Engineering, Surveying, and Permit Services Department</td>
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<td>ii. The fencing shall be inspected monthly and immediately after all major rainfall events. Any damage to the fencing shall be repaired immediately or no later than two days of the observation.</td>
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<td>iii. Following the construction of Tortoise exclusion fencing, around the solar facility perimeter (east of SR 14), clearance surveys shall be conducted by the Lead Biologist to ensure that no desert tortoises or other listed wildlife are trapped within the fenced area.</td>
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<td>B. Kern County Engineering, Surveying, and Permit Services Department will verify in the field during the construction period.</td>
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<td>C. If necessary, implement site-specific recommendations under the guidance of a qualified biologist</td>
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### 4.4 Biological Resources

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The Lead Biologist may be assisted by biological monitors under the supervision of the Lead Biologist. Clearance surveys shall adhere to the current United States Fish and Wildlife Service clearance survey protocols described in the Desert Tortoise Field Manual, including a minimum of two clearance passes to be completed after desert tortoise-proof fencing is installed, which shall coincide with heightened desert tortoise activity from late March through May and September through October.

iv. If a desert tortoise is found on the site during project construction or operations, active construction or operations shall cease in the vicinity of the animal and the desert tortoise shall be passively restricted to the area encompassing its observed position on the construction site and its point of entry shall be determined if possible. The Lead Biologist shall install a temporary tortoise-proof fence around this area. Concurrent with this effort, United States Fish and Wildlife Service and California Department of Fish and Game shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the desert tortoise is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the activities of the desert tortoise within the site; all fence construction, modification, and repair efforts; and movements of the desert tortoise once again outside the permanent tortoise-proof fence. This report shall be submitted to wildlife and resource agency representatives and the Kern County Planning and Community Development Department.

v. Outside permanently fenced desert tortoise exclusion areas, the project operator shall limit the areas of disturbance in desert tortoise habitat. Parking areas; new roads; pulling sites; and staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to...
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<td>vi.</td>
<td>The Lead Biologist or biological monitor will monitor any ground-disturbance activities that occur outside the desert tortoise exclusion fencing. Work outside areas with desert tortoise exclusion fencing shall only occur during daylight hours. Prior to conducting brushing or grading activities in desert tortoise habitat outside the permanently fenced area, a Lead Biologist or biological monitor under the supervision of a Lead Biologist shall survey the area immediately prior to conducting these activities to ensure that no desert tortoises are present.</td>
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<td>vii.</td>
<td>At the end of each work day, the Lead Biologist shall ensure that all trenches, bores, and other excavations outside the permanently fenced area have been inspected for the presence of desert tortoise and backfilled, if no tortoise is present. If backfilling is not feasible, these excavations shall be modified to ensure that they cannot potentially entrap desert tortoises (e.g., equipped with desert tortoise escape ramps, covered to prevent desert tortoise access, enclosed with a desert tortoise exclusion fence).</td>
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<td>viii.</td>
<td>Any construction pipe, culvert, or similar structure stored within desert tortoise habitat (i.e., outside areas with desert tortoise exclusion fencing) shall be inspected for desert tortoise before the material is moved, buried, or installed.</td>
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<td>ix.</td>
<td>Water used for dust abatement shall be minimized, as allowed by Kern County, to prevent the formation of puddles that could attract common ravens and other desert tortoise predators to the site and nearby.</td>
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<td>x.</td>
<td>No vehicle or equipment parked outside the fenced areas shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of desert tortoise. If present, the desert tortoise shall be left to move on its own.</td>
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<td>xi.</td>
<td>Vehicular traffic to and from the project site shall use existing</td>
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<td>routes of travel (e.g., SR 14). Cross country vehicle and equipment use outside designated work areas shall be prohibited. Vehicle speeds within the project site shall not exceed 25 miles per hour on roads within desert tortoise habitat (e.g., west of SR 14).</td>
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<td>xii. All vehicles and equipment shall be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Lead Biologist shall be informed of any hazardous spills within 24 hours. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly disposed of at a licensed facility.</td>
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<td>xiii. A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.</td>
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<td>xiv. Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.</td>
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<td>xv. Intentional killing or collection of either plant or wildlife species, including listed species such as desert tortoise, in the survey area and surrounding areas shall be prohibited. The Lead Biologist, wildlife and resource agency representatives and Kern County Planning and Community Development Department shall be notified of any such occurrences within 24 hours.</td>
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<td>xvi. Ongoing monitoring shall be conducted by either the Lead Biologist or by biological monitors under the Lead Biologist's supervision. The biological monitors shall have experience in monitoring for desert tortoise.</td>
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<td>xvii. During construction daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report for the wildlife and resource agencies</td>
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Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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### 4.4 Biological Resources

and Kern County Planning and Community Development Department on a monthly basis, documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report would also provide information on the overall biological-resources-related activities conducted, including the worker awareness training, clearance/preactivity surveys, monitoring activities, and any observed desert tortoise or other special-status species, including injuries and fatalities.

xviii. The project operator shall develop a site-specific Common Raven Management Plan in accordance with United States Fish and Wildlife Service guidelines and shall implement management measures for ravens in the project area. These measures may include but is not limited to designing structures to eliminate perches, waste management, roadkill management, management of ponded water during construction and operations, and nest removal on structures within the photovoltaic facility site and along the transmission line.

#24

**MM 4.3-13:** The project operator and/or contractor shall implement the following during Operation and Maintenance:

i. Desert tortoise exclusion fencing and gates shall be maintained on a regular basis.

ii. A 25 miles per hour speed limit shall be applied for travel during maintenance activities. Travel shall be confined to existing roads and previously disturbed areas.

iii. Desert tortoise-proof secure gates shall be installed where access roads leave State Route 14 and enter the photovoltaic solar facility; no access roads outside of the photovoltaic solar facility shall be fenced. Roads west of SR 14 that access transmission lines on project property shall be gated to deter unauthorized vehicle use.

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**Steps to Compliance:**
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. Kern County Engineering, Surveying, and Permit Services Department will verify in the field during the construction period.

**Steps to Compliance:**
A. Contract a qualified biologist to perform pre-construction survey for burrowing owl with 30 days prior to the start of ground disturbing activities.
B. If nests or burrowing owls are found, contract a qualified biologist to prepare site-specific recommendations.
C. If necessary, implement site-specific recommendations under the guidance of a qualified biologist.
D. Prior to issuance of grading permits, the applicant shall provide Kern County Planning and Community Development Department a biological report prepared by a qualified biologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.
4.4 Biological Resources

tortoise pre-construction surveys). As burrows are searched, biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Game and the Kern County Planning and Community Development Department.

b) If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted within the distances specified in Table 2 of the CDFG Staff Report (see below) from an active burrow during the nesting and fledging seasons (April 1 to August 15 and August 16 to October 15, respectively), unless otherwise authorized by California Department of Fish and Game. The specified buffer distance ranges from 656 feet to 1,640 feet, according to the time of year and the level of disturbance. Buffers shall be established in accordance with Table 2 (see below) of the Staff Report and occupied burrows shall not be disturbed during the nesting season unless a qualified biologist approved by California Department of Fish and Game, verifies through noninvasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season (April 1 to October 15).

Table 2: Burrowing Owl Burrow Buffers (CDFG Staff report)

<table>
<thead>
<tr>
<th>Location</th>
<th>Time of year</th>
<th>Level of disturbance</th>
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<tbody>
<tr>
<td>Nesting sites</td>
<td>April 1-Aug 15</td>
<td>656 ft 1640 ft 1640 ft</td>
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<tr>
<td>Nesting sites</td>
<td>Aug 16-Oct 15</td>
<td>656 ft 626 ft 1640 ft</td>
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<tr>
<td>Any occupied burrow</td>
<td>Oct 16-Mar 31</td>
<td>164 ft 328 ft 1640 ft</td>
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c) During the nonbreeding (winter) season (October 16 to March 31),
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<td>consistent with Table 2 (see above) of the Staff Report, ground-disturbing work shall maintain a distance ranging from 164 feet to 1,640 feet from any active burrows depending on the level of disturbance. If active winter burrows are found that would be directly affected by ground-disturbing activities, owls can be displaced from winter burrows according to recommendations made in the Burrowing Owl Mitigation Staff Report (2012).</td>
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<td>d) Burrowing owls should not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the Lead Biologist and approved by the applicable local California Department of Fish and Game office and submitted to the Kern County Planning and Community Development Department. The plan shall include, at a minimum:</td>
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<td>i. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;</td>
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<td>ii. Type of scope and appropriate timing of scoping to avoid impacts;</td>
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<td>iii. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can’t escape i.e., look for sign immediately inside the door).</td>
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<td>iv. How the burrow(s) shall be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);</td>
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v. Removal of other potential owl burrow surrogates or refugia onsite;

vi. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;

vii. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;

viii. How the impacted site shall continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.

e) Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion shall occur immediately after the end of the breeding season.

f) Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).

g) In accordance with the Burrowing Owl Exclusion Plan a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.
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<td>h)</td>
<td>During construction activities, monthly and final compliance reports shall be provided to California Department of Fish and Game, the Kern County Planning and Community Development Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.</td>
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<td>#27</td>
<td>MM 4.3-16: a) Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented onsite or off-site in accordance with burrowing owl Staff Report guidance and in consultation with California Department of Fish and Game. At a minimum, the following recommendations shall be implemented:</td>
<td>During construction</td>
<td>Planning and Community Development Department</td>
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<td>i. Temporary disturbed habitat shall be restored, if feasible, to pre-project conditions, including decompacting soil and revegetating.</td>
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<td>Qualified Biologist</td>
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<td>ii. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include:</td>
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<td>a) Permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.</td>
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<td>iii. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of</td>
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**Steps to Compliance:**

A. Contract a qualified biologist to perform pre-construction survey for burrowing owl with 30 days prior to the start of ground disturbing activities.

B. If nests or burrowing owls are found, contract a qualified biologist to prepare site-specific recommendations.

C. If necessary, implement site-specific recommendations under the guidance of a qualified biologist.

D. Prior to issuance of grading permits, the applicant shall provide Kern County Planning and Community Development Department a biological report prepared by a qualified biologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.
### 4.4 Biological Resources

- Fish and Game approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.
  - b) Develop and implement a mitigation land management plan in accordance with burrowing owl Staff Report guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.
    - i. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.
    - ii. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Game-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
    - iii. Mitigation lands should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present.
    - iv. Consult with the California Department of Fish and Game when determining off-site mitigation acreages.

### #28 MM 4.3-17: Prior to issuance of grading or building permits the project operator shall:

- a) Either a) purchase a minimum of 9.9 acres of suitable habitat as compensatory mitigation for permanent impacts to desert tortoise and Mohave ground squirrel habitat west of State Route 14, as well as an additional 100 acres of suitable habitat to compensate for the incidental take of 2 individual Mohave grounds squirrel east of SR 14

#### Steps to Compliance:

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<td>a) Either a) purchase a minimum of 9.9 acres of suitable habitat as compensatory mitigation for permanent impacts to desert tortoise and Mohave ground squirrel habitat west of State Route 14, as well as an additional 100 acres of suitable habitat to compensate for the incidental take of 2 individual Mohave grounds squirrel east of SR 14</td>
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<td>4.4</td>
<td>Biological Resources</td>
<td>for any site plan review.</td>
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(“compensatory lands”), or b) or evidence of other arrangements deemed acceptable to California Department of Fish and Game, to cover the costs of acquisition, maintenance and enhancement of the compensation lands. Compensatory mitigation acreage for permanent impacts to western burrowing owl nesting, occupied, and satellite burrows and/or western burrowing owl habitat shall be determined and acquired as required by the wildlife or resource agency. If possible compensatory mitigation lands purchased shall provide habitat for all three species, as well as rare plants and State Waters. Verification of compliance shall be submitted to the Kern County Planning and Development Department.

c) Prepare a Habitat Mitigation and Monitoring Plan that outlines all project compensatory mitigation for desert tortoise, western burrowing owl and Mohave ground squirrel, in coordination with California Department of Fish and Game, and the Regional Water Quality Control Board.

i. Compensatory lands shall be of similar or better quality than habitat lost and preferably be located in the vicinity of the site.

ii. Compensatory lands shall be permanently preserved through a conservation easement.

iii. The Plan shall identify conservation actions to ensure that the compensatory lands are managed to ensure the continued existence of the species.

iv. The Plan shall identify an approach for funding assurance for the long term management of the conserved land.

#29 MM 4.3-18: Prior to the issuance of grading or building permit the following shall be implemented:

i. Not more than 14 days prior to site clearing, a qualified biologist...
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<tr>
<td>4.4</td>
<td>Biological Resources</td>
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<td>USFWS and CDFG (if necessary)</td>
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i. shall conduct a preconstruction avian nesting survey. Copies of the completed surveys shall be submitted to Kern County Planning and Community Development Department.

ii. Surveys shall not be conducted for the entire project site at one time; they shall be phased so that surveys occur shortly before that portion of the site is disturbed. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. The survey shall cover all reasonably potential nesting locations on and within 250 feet of the project site—this includes ground nesting species.

iii. If construction is scheduled to occur during the non-nesting season (August 2 to January 31), no preconstruction surveys or additional measures are required.

iv. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before construction begins again.

v. If active nests are found a 250-foot, no-disturbance buffer (or as otherwise determined in consultation with California Department of Fish and Game) shall be created around the active nests. If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the birds have fledged or by re-locating the project component(s) to avoid the area.

vi. All vertical tubes used in project construction, such as solar mounts and chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.

Steps to Compliance:
A. The project operator shall ensure that a pre-construction survey is conducted by a qualified biologist, or provide evidence of a waiver issued by USFWS and CDFG.
B. If active nests are found, a qualified biologist shall implement site specific recommendations.
C. The project operator shall submit a copy of the report to the Kern County Planning and Community Development Department for review and verification of compliance.
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>4.4</td>
<td>Biological Resources</td>
<td>Prior to site plan approvals and issuance of grading permits</td>
<td>Planning and Community Development Department</td>
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<td>#30</td>
<td>MM 4.3-19: Prior to the issuance of grading or building permit the following shall be implemented:</td>
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<td>Qualified Biologist USFWS and CDFG (if necessary)</td>
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<td></td>
<td>i. Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens prior to installation of desert tortoise exclusion fencing. Copies of the completed surveys shall be submitted to Kern County Planning and Community Development Department.</td>
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<td>ii. The survey shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes fallow agricultural land and scrub habitats. If no potential American badger or desert kit fox dens are present, no further mitigation is required.</td>
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<td>iii. If potential dens are observed, the following measures are required to avoid potential adverse effects to American badger and desert kit fox:</td>
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<td>a. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers or foxes from re-use during construction.</td>
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<td>b. Passive relocation shall be prohibited during the pupping season, which is February 15 to June 1 for both species. If the qualified biologist determines that potential dens outside the breeding season may be active, the biologist shall notify the California Department of Fish and Game. Entrances to the dens shall be blocked with one-way doors or soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three- to five-day period. After the qualified biologist determines that badgers and foxes have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use</td>
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<td>Steps to Compliance:</td>
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<td></td>
<td>A. Contract a qualified biologist to perform pre-construction survey for kit fox and American badger.</td>
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<td>B. Copies of the completed surveys shall be submitted to Kern County Planning and Community Development Department.</td>
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<td>C. If dens are found, contract a qualified biologist to monitor and excavate dens and notify wildlife agencies to discuss and develop relocation options.</td>
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<td>D. If necessary, implement relocation options under the guidance of a qualified biologist.</td>
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<td>E. Prior to issuance of grading permits, provide Kern County Planning a biological report prepared by a qualified biologist as proof of pre-construction survey and, if necessary, monitoring, excavating, and kit fox relocation.</td>
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<td>F. Kern County Engineering, Surveying, and Permit Services Department will verify escape ramps, capping, and presence of closed containers in the field during the construction period.</td>
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### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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4.4 Biological Resources

- during construction. The collapsing of active desert kit fox dens shall not occur without prior consultation with the California Department of Fish and Game. A biologist shall remain on-call throughout construction in the event a badger or desert kit fox wanders onto the site.

- c. Construction activities shall not occur within 50 feet of active badger dens. The project operator shall contact California Department of Fish and Game immediately if natal badger dens are detected to determine suitable buffers and other measures to avoid take.

- d. Construction activities shall not occur within 100 feet of active kit fox dens. The project operator shall contact California Department of Fish and Game immediately if natal kit fox dens are detected to determine suitable buffers and other measures to avoid take.

#31 MM 4.3-20: Prior to the issuance of a final certificate of occupancy, a Raven Management Plan shall be developed for the project site in consultation with the US Fish and Wildlife Service and CA Department of Fish and Game. This plan shall include but is not limited to:

- i. Identification of all raven nests within the project area during construction;

- ii. Weekly inspection under all nests in the project area for evidence of desert tortoise predation (scutes, shells, etc.), and, if evidence of predation is noted, submit a report to California Department of Fish and Game, US Fish and Wildlife Service, and Kern County Planning and Community Development Department within five calendar days; and

- iii. Provisions for the management of trash that could attract common ravens during the construction and operation phases of the project.

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<th>Steps to Compliance:</th>
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<tr>
<td>A. The project operator shall submit copies of the plan to the Kern County Planning and Community Development Department.</td>
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<td>B. The operator shall conduct weekly inspections and submit results of monitoring to the Kern County Planning and Community Development Department and the appropriate wildlife agencies for review and verification of compliance.</td>
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</table>
4.4 Biological Resources

iv. Should the US Fish and Wildlife Services determine it is necessary for the proposed project to participate in the regional comprehensive raven management plan, to address biological resources; the project operator shall be subject to compensation through the payment of fees not to exceed $150 per disturbed acre. Evidence of the US Fish and Wildlife Service and/or CA Department of Fish and Game determination and payment of any required fees shall be submitted to the Kern County Planning and Community Development Department.

#32 MM 4.3-21: Prior to the issuance of grading or building permits, the project operator shall provide evidence to the Kern County Planning and Community Development Department that a Section 1600 Streambed Alteration Agreement has been obtained from California Department of Fish and Game (CDFG).

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<td>Prior to site plan approvals and issuance of grading permits</td>
<td>Planning and Community Development Department</td>
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Steps to Compliance:
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. The project operator shall submit a copy of the Section 1600 Streambed Alteration Agreement to the Kern County Planning and Community Development Department verification of compliance.

#33 MM 4.3-22: The following measures shall be implemented within the project area to ensure that direct or indirect effects to riparian habitat and jurisdictional waters are minimized:

1. To the extent feasible, the following avoidance/minimization measures shall be implemented:
   a. Any laydown areas and/or material and spoils from project activities shall be located away from jurisdictional areas or sensitive habitat and protected from stormwater run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
   b. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the

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<td>Prior to the issuance of building and grading permits</td>
<td>Planning and Community Development Department</td>
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<td>U.S. Army Corps of Engineers</td>
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A. The project operator shall receive verification from the U.S. Army Corps of Engineers is recommended to confirm that if drainages are present that they do not constitute waters of U.S.
B. The project operator shall submit a copy of the report to the Kern County Planning and Community Development Department for review and verification of compliance.
C. The project operator shall submit a copy of the Habitat Mitigation and Monitoring Plan to the Kern County Planning and Community Development Department.
D. Copies of correspondences and determinations by the Regional Water
4.4 Biological Resources

- ground and generally at least 50 feet from the top of bank.
- Any spillage of material shall be stopped if it can be done safely. The contaminated area shall be cleaned and any contaminated materials properly disposed of. For all spills the project foreman or designated environmental representative shall be notified.
- All work within the washes shall be conducted to avoid periods of flowing water. Construction shall be timed to occur during the dry season (generally April 15 – October 15) and shall avoid periods in the summer when convective thunderstorms are predicted.
- Compensatory mitigation for the Arizona-style crossings shall occur either on-site or offsite, and would occur at a ratio no less than 1:1 for the impact to jurisdictional waters. As outlined in Mitigation Measure MM 4.3-17, a Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the Regional Water Quality Control Board and California Department of Fish and Game.

If on-site mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site that contain suitable characteristics (e.g., hydrology) for restoration or enhancement of desert wash scale broom scrub habitat. Determination of mitigation adequacy shall be based on comparison of the restored or enhanced habitat with similar, undisturbed habitat in the site vicinity (such as up or downstream of the site). If mitigation is implemented offsite, mitigation lands shall be comprised of similar or more well-developed desert wash and preferably be located in the vicinity of the site or watershed. Offsite land shall be preserved through a conservation easement and the Plan shall identify an approach for funding assurance for the long-term management of the conserved land.

Copies of correspondences and determinations by the Regional Water Quality Control Board and California Department of Fish and Game shall be submitted to the Kern County Planning and Community Development Department. It is noted that the final mitigation ratio...
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<td>Biological Resources</td>
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<td>required by the Regional Water Quality Control Board and California Department of</td>
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<td>Fish and Game for acquisition of regulatory permits may differ from that proposed</td>
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<td>in this environmental impact report.</td>
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<td>#34</td>
<td>MM 4.3-23: Prior to issuance of a grading or building permit, the project operator</td>
<td>Prior to issuing of Grading and building permits and</td>
<td>Planning and Community Development Department</td>
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<td>shall provide evidence that the following measures will be implemented with</td>
<td>during construction</td>
<td>Kern County Building Inspection Department</td>
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<td>respect to the construction and installation of power lines.</td>
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<td>a) Construct all power transmission lines to the 2006 Avian Power Line Interaction</td>
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<td>Committee Guidelines specifications to protect birds from electrocution and</td>
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<td>collision. Appropriate notes regarding these specifications shall be included</td>
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<td>on any grading permit, building permit or final map.</td>
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<td>b) Submit written documentation to the Kern County Planning and Community</td>
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<td>Development Department verifying that all power lines are constructed to</td>
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<td>Avian Power Line Interaction Committee Guidelines. The project operator shall</td>
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<td>conform to the latest practices (as outlined in the 2006 Avian Power Line</td>
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<td>Interaction Committee Guidelines document) to protect birds from</td>
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<td>electrocution and collision.</td>
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<td>c) Install power collection and transmission facilities utilizing Avian Power</td>
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<td>Line Interaction Committee standards for collision reducing techniques as</td>
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<td>Steps to Compliance:</td>
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<td>A. The project operator shall submit written documentation to the Kern County</td>
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<td>Planning and Community Development Department showing that all power lines are</td>
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<td>constructed to 2006 Avian Power Line Interaction Committee Guidelines.</td>
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<td>B. The project operator shall install power collection and transmission facilities</td>
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<td>techniques.</td>
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<td>C. The Kern County Building Inspection Department will verify in the field during</td>
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**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<td>4.5</td>
<td>Cultural Resources</td>
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<td>#35</td>
<td>MM 4.4-1: Prior to issuance of grading permits, the project operator shall:</td>
<td>Prior to issuance of grading permits and during construction</td>
<td>Planning and Community Development Department</td>
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<td>a) Retain a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards as published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61) to carry out all mitigation measures related to archaeological and historical resources.</td>
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<td>b) The services of a qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor all ground-disturbing activities associated with the construction of the proposed project. The Native American monitor shall be selected from a list of Native American contacts with traditional ties to the project area, provided by the Native American Heritage Commission and/or consultation with Native American tribal groups who may have interest in the project area. The archaeological monitor shall work under the supervision of the qualified archaeologist.</td>
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<td>c) The qualified archaeologist, archaeological monitor and Native American monitor shall be provided all project documentation related to cultural resources prior to commencement of ground disturbance activities. Project documentation shall include but not be limited to previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the qualified archaeologist, archaeological monitor and Native American monitor.</td>
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<td>#36</td>
<td>MM 4.4-2: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or</td>
<td>Prior to issuance of grading permits</td>
<td>Planning and Community Development Department</td>
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**Steps to Compliance:**

A. Documentation that a qualified archaeological monitor and Native American monitor have been retained by the project operator to monitor initial ground-disturbing activities shall be submitted to the Planning and Community Development Department.

B. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures.

C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.

D. Prior to final tract or parcel map recording, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.
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<td>4.5 Cultural Resources</td>
<td>otherwise altered to avoid CA-KER-8156. If avoidance is feasible, the area within 50 feet of CA-KER-8156 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts. If avoidance of CA-KER-8156 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department. If avoidance of 50 feet of CA-KER-8156 is not feasible, prior to the issuance of any grading or building permits a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior</td>
<td>A. A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities. B. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures. C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor. D. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department. E. Prior to final tract or parcel map recordation, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.</td>
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<td>Cultural Resources</td>
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<td>#37</td>
<td>MM 4.4-3: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7853. If avoidance is feasible, the area within 50 feet of CA-KER-7853 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts. If avoidance of CA-KER-7853 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department. If avoidance of 50 feet of CA-KER-7853 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery</td>
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<td>Planning and Community Development Department</td>
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<td>B. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures.</td>
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<td>C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.</td>
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<td>D. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>E. Prior to final tract or parcel map recordation, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.</td>
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Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>4.5</td>
<td>Cultural Resources</td>
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of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

#38 MM 4.4-4: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7854. If avoidance is feasible, the area within 50 feet of CA-KER-7854 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-7854 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-7854 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a

Prior to issuance of grading permits          Planning and Community Development Department

A. A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities.
B. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures.
C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.
D. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.
E. Prior to final tract or parcel map recordation, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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- Research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

| #39    | MM 4.4-5: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7855. If avoidance is feasible, the area within 50 feet of CA-KER-7855 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.

If avoidance of CA-KER-7855 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project | Prior to issuance of grading permits | Planning and Community Development Department | | |

- A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities.

- If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures.

- If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.

- A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.
## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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Operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-7855 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

If project phasing allows, multiple resources can be included in a single treatment plan document.

#40 MM 4.4-6: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7848. If avoidance is feasible, the area within 50 feet of CA-KER-7848 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance.

Prior to issuance of grading permits | Planning and Community Development Department |
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A. A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities.
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<td><strong>Cultural Resources</strong></td>
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<td></td>
<td>Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts.</td>
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<td>If avoidance of CA-KER-7848 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>If avoidance of 50 feet of CA-KER-7848 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.</td>
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<td>Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</td>
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<td>If project phasing allows, multiple resources can be included in a single...</td>
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## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>4.5</td>
<td>Cultural Resources</td>
<td>treatment plan document.</td>
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**#41**

**MM 4.4-7:** Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-3366H. Avoidance of CA-KER-3366H shall be documented on construction plans.

If avoidance of CA-KER-3366H is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-3366H is not feasible, prior to the issuance of any grading or building permits, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project.

Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to issuance of grading permits. Planning and Community Development Department.

A. A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities.

B. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures.

C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.

D. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

E. Prior to final tract or parcel map recordation, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.
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<td>#42</td>
<td>MM 4.4-8: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-7852/H. If avoidance is feasible, the area within 50 feet of CA-KER-7852/H shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts. If avoidance of CA-KER-7852/H is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department. If avoidance within 50 feet of CA-KER-7852/H is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery</td>
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<td>C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.</td>
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<td>D. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.</td>
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If project phasing allows, multiple resources can be included in a single treatment plan document.

| #43 MM 4.4-9: Prior to issuance of grading permits and in coordination with the qualified archaeologist, the construction zone shall be narrowed or otherwise altered to avoid CA-KER-8286. If avoidance is feasible, the area within 50 feet of CA-KER-8286 shall be designated Environmentally Sensitive Area and marked with exclusion markers to ensure avoidance. Protective fencing shall not identify the protected area as a cultural resource area in order to discourage unauthorized disturbance or collection of artifacts. | Time Frame for Implementation | Responsible Monitoring Agency | Date | Initials |
| Prior to issuance of grading permits | Planning and Community Development Department | A. A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities. |
| | | B. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures. |
| | | C. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor. |
| | | D. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department. |
| | | E. Prior to final tract or parcel map recordation, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations. |

If avoidance of CA-KER-8286 is feasible, prior to issuance of grading permits, a long-term cultural resources management plan shall be developed for this resource or portion(s) of the resource that can be avoided during project construction, in order to minimize future impacts during project operation and maintenance. A copy of the cultural resources management plan shall be submitted to the Kern County Planning and Community Development Department.

If avoidance of 50 feet of CA-KER-8286 is not feasible, a detailed Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist. The Cultural Resources Treatment Plan shall include a
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<td>research design and a scope of work for data recovery of the portion(s) of this resource to be impacted by the project. Treatment shall consist of (but would not be limited to): a sufficient avoidance buffer to protect the resource until data recovery and/or removal is completed; sample excavation; surface artifact collection; site documentation; and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the project. The Cultural Resources Treatment Plan shall include provisions for analysis of data in a region context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility. The reports documenting the implementation of the Cultural Resources Treatment Plan shall be submitted to and approved by the Kern County Planning and Community Development Director prior to the issuance of a grading permit, and shall also be submitted to the Southern San Joaquin Valley Information Center at California State University, Bakersfield. If project phasing allows, multiple resources can be included in a single treatment plan document.</td>
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<td>44</td>
<td>MM 4.4-10: Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all new construction workers within one week of employment at the project site, laydown area and/or transmission routes. The training shall be prepared and conducted by the qualified archaeologist and may include participation of the Native American Monitor. The training may be in the form of a video. The qualified archaeologist shall be available to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must resume when construction activities resume. The training shall include, but not be limited to:</td>
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<td>Planning and Community Development Department</td>
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<td>i. A discussion of applicable cultural resources statutes, regulations</td>
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Beacon Photovoltaic Project by Beacon Solar LLC
Board of Supervisors – October 30, 2012 Draft

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Mitigation Measure Monitoring Program
Exhibit C
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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- and related enforcement provisions;
- An overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups, provided by the Native American Monitor or tribal leader;
- A summary of the effects of the proposed project on cultural resources;
- Samples or visuals of artifacts that might be found in the project area;
- A discussion of what such artifacts may look like when partially or totally buried and then freshly exposed;
- A discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction;
- Instruction that in the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified archaeologist, in consultation with the Planning and Community Development Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance;
- An informational guide that identifies the reporting procedures in the event of a discovery;
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<td>Other information as deemed necessary by the qualified archaeologist or Native American Monitor;</td>
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<td>An acknowledgement form signed by each worker indicating that environmental/cultural training has been completed.</td>
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<td>xi.</td>
<td>A sticker that shall be placed on hard hats indicating that the worker has completed the environmental/cultural training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker;</td>
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<td>xii.</td>
<td>A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>#45</td>
<td><strong>MM 4.4-11:</strong> Prior to issuance of a grading permit, a qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor ground-disturbing activities including, but not limited to, brush clearance and grubbing, grading, trenching, excavation, installation of panel support structures, and the construction of fencing and access roads. Monitoring shall include, at a minimum, all ground-disturbing activities, as defined above, within landforms Hf1, Hf1d, Hf2, and Hf4 (as defined in the geoaarchaeological report prepared for the project, Landform Structure and Archaeological Sensitivity in the Beacon Solar Energy project Area. [Far Western, May 2009]) and within unknown landforms; and within 100 feet of all significant or unevaluated historical resources (CA-KER-8156, CA-KER-7853, CA-KER-7854, CA-KER-7855, CA-KER-7848, CA-KER-7852/H, and CA-KER-8286) except CA-KER-3366/H (Union Pacific Railroad, Jawbone Branch). The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with the lead</td>
<td>Prior to issuance of grading permits and during construction</td>
<td>Planning and Community Development Department</td>
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<td></td>
<td>A. A qualified archaeological monitor and Native American monitor shall be retained by the project operator to monitor initial ground-disturbing activities.</td>
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<td>B. Project operator shall provide a copy of the Landform Structure and Archaeological Sensitivity in the Beacon Solar Energy project Area report (Far Western. May 2009).</td>
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<td>C. If cultural materials or artifacts are discovered, halt all work and contact a qualified archaeologist and Native American monitor to assess finds and recommend procedures.</td>
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<td>D. If necessary, implement recommended procedures in consultation with qualified archaeologist and Native American monitor.</td>
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### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<tr>
<td>4.5 Cultural Resources</td>
<td>agency and based on the grading plans. In the event cultural resources are unearthed during ground-disturbing activities, the qualified archaeologist, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the site until the qualified archaeologist has evaluated the find, determined whether the find is culturally sensitive, and designs an appropriate short-term and long term treatment plan. The qualified Archaeologist, in consultation with the Planning and Community Development Department and Native American Monitor shall establish an appropriate protocols and procedures for minimizing impacts during construction and future impacts during project operation and maintenance. The archaeological monitor shall keep daily logs and shall submit quarterly written updates to the Kern County Planning and Community Development Department. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring, which shall be submitted to the Planning and Community Development Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</td>
<td>E. Prior to final tract or parcel map recordation, provide Kern County Planning and Community Development Department a report of the findings prepared by a qualified archaeologist as proof of pre-construction survey and, if necessary, successful completion of site-specific recommendations.</td>
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| #46 MM 4.4-12: If cultural resources are encountered during the course of ground disturbing activities, the project operator shall cease any ground disturbing activities within 100 feet of the find until it can be evaluated by the qualified archaeologist. Cultural resource materials may include, but are not limited to, prehistoric lithic artifacts, groundstone, fire-affected rock, midden (culturally-modified soil), historic-era household debris, ceramics, industrial materials, glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the resources may be significant, he or she shall notify the Planning and Community Development Department and shall develop an appropriate treatment plan for the resources. Treatment measures may include avoidance, preservation, removal, data recovery, protection, or other measures developed in consultation with the Planning and Community Development Department. Avoidance or preservation in place shall be the preferred means of mitigating impacts to cultural | During grading and construction | Planning and Community Development Department | | |  |

<p>| Steps to Compliance: | | | | | |
| A. This mitigation measure shall be incorporated as a condition of approval for any site plan review. | | | | | |
| B. The project operator shall retain a qualified archaeologist to monitor grading and other earth-disturbing activities and, if activities uncover historical resources, to assess finds and recommended procedures. | | | | | |
| C. The Planning and Community Development Department shall review and approve all reports, correspondence, and determinations regarding historical resources prepared by the qualified archaeologist. | | | | | |
| D. Kern County Building Inspectors will verify compliance in the field prior to | | | | | |</p>
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<td>4.5</td>
<td>Cultural Resources</td>
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resources. The Planning and Community Development Department shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curational facility, if curation is deemed appropriate. A curation agreement between the project operator and accredited curational facility shall be executed prior to the issuance of a grading permit.

Prior to the issuance of grading permits, a qualified paleontologist shall be retained to monitor all ground-disturbing activity that occurs at a depth of five feet or deeper below ground surface. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Community Development Department, and be based on the grading plans. Initially, all ground-disturbing activities deeper than five feet shall be monitored. However, during the course of monitoring, if the paleontologist can demonstrate that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Community Development Department, may adjust the level of monitoring to circumstances, as warranted.

Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. The qualified paleontologist shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis.

Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and

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<td>and during the construction period</td>
<td>Planning and Community Development Department</td>
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**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. If necessary, the project operator shall retain a qualified paleontologist to assess finds and recommended procedures.
C. If necessary, additional avoidance, testing, and evaluation or data recovery excavations shall occur by a qualified paleontologist.
D. The Planning and Community Development Department shall review and approve all reports, correspondence, and determinations.
#48 **MM 4.4-14:** If human remains are uncovered during project construction, the project operator shall immediately halt work, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. The Kern County Planning and Community Development Department shall also be notified of the discovery. If the County Coroner determines that the remains are Native American, the project operator shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the project operator shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.
B. If required, the project operator shall contact the County Coroner to assess the find.
C. If required, the County Coroner shall contact the Native American Heritage Commission to assess the find.
D. The Planning and Community Development Department shall verify compliance with the mitigation measure.

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<td>4.5</td>
<td>Geology and Soils</td>
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<td>#49</td>
<td>MM 4.5-1: Prior to the issuance of grading permits, the project operator shall retain a qualified geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the sites. All grading and construction on site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered professional engineer. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Community Development Department.</td>
<td>Prior to issuing building and grading permits, and during grading and construction</td>
<td>Kern County Planning and Community Development Department Kern County Building Inspection Department Kern County Engineering, Surveying, and Permit Services Department</td>
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**Steps to Compliance:**

A. Provide Kern County Building Inspection Department a copy of the geotechnical report prior to issuance of building and grading permits.

B. Provide the construction supervisor and building inspector with the geotechnical report and adhere to all specifications and procedures and site conditions in the geotechnical report or, if more stringent, the California Building Code.

C. If the project is altered from what is described in the report, contact a qualified soils engineer to review and reevaluate the changes.

D. If the building inspector finds site preparation or construction activities out of compliance with the geotechnical report or the California Building Code, contact a qualified special investigator to review all grading, construction, and changes and verify that all changes are in accordance with approved grading plan, the geotechnical report, and recognized principles and practices.

E. If necessary, provide site investigative reports prepared by the applicant’s engineer of record, the geotechnical engineer, and the special investigator for review by Kern County Engineering, Surveying, and Permit Services Department.

F. If necessary, provide Kern County Planning and Community Development Department, Kern County Building Inspection Department, and Kern County Engineering, Surveying, and Permit Services Department with evidence of compliance with the soils engineer’s review and reevaluation process.
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<td>Geology and Soils</td>
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<td>#50</td>
<td>MM 4.5-2: The project operator shall limit grading to the minimum area necessary for construction. The operator shall retain a California registered professional engineer to review the final grading earthwork and foundation plans prior to construction.</td>
<td>Prior to approval of grading and building plans and during grading</td>
<td>Planning and Community Development Department; Kern County Engineering, Surveying and Permit Services Department</td>
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<td>Steps to Compliance:</td>
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<td>A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.</td>
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<td>B. The project operator shall limit grading in the grading plans as outlined in the mitigation.</td>
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<td>C. The project operator shall have a California registered professional engineer review final grading earthwork and foundation plans prior to construction as outlined in mitigation.</td>
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<td>D. The Kern County Building Inspection Department, Engineering Surveying and Permit Services, and Planning and Community Development Department shall review and approve prior to issuing building and grading permits.</td>
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<td>E. The project operator shall provide copies of the final grading earthwork and foundation plans to the Planning and Community Development Department for verification and compliance.</td>
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<td>#51</td>
<td>MM 4.5-3: The project operator shall prepare a Soil Erosion and Sedimentation Control Plan to mitigate potential loss of soil and erosion. The plan shall be prepared by a California registered civil engineer or other professional and submitted for review and approval by the Kern County Engineering, Surveying and Permit Services Department. The plan shall include, but is not limited to, the following:</td>
<td>Prior to approval of grading and building plans and during grading</td>
<td>Planning and Community Development Department; Kern County Engineering, Surveying and Permit Services Department</td>
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<td>i. Best Management Practices to minimize soil erosion consistent with Kern County grading requirements and the California Regional Water Quality Control Board requirements pertaining to the preparation and approval of a Stormwater Pollution Prevention Plan (Best Management Practices recommended by the Kern County Engineering, Surveying and Permit Services Department)</td>
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<td>B. The project operator shall have a California registered professional engineer review final grading earthwork and foundation plans prior to construction as outlined in mitigation.</td>
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<td>4.5</td>
<td>Geology and Soils</td>
<td>C. The Kern County Building Inspection Department, Engineering Surveying and Permit Services, and Planning and Community Development Department shall review and approve prior to issuing building and grading permits.</td>
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<td>shall be reviewed for applicability); ii. Provisions to maintain flow in washes, should it occur, throughout construction; iii. Provisions for site revegetation using native plants; iv. Sediment collection facilities as may be required by the Kern County Engineering and Survey Services Department; v. A timetable for full implementation, estimated costs, and a surety bond or other security as approved by the County; and vi. Other measures required by the County during permitting, including long-term monitoring (post-construction) of erosion control measures until site stabilization is achieved.</td>
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<td>#52</td>
<td>MM 4.5-4: The project operator shall conduct grading activities pursuant to Kern County Grading Ordinance, Chapter 17.28 and as follows: i. Grade sites near slopes and embankments in a way that would prevent or minimize erosion damage to the slope; ii. Seed or otherwise revegetate complete slopes; iii. On steeper slopes, including wash embankments as necessary, use mulching or biodegradable erosion control blankets as appropriate to stabilize the topsoil until vegetation can be reestablished; and iv. On slopes where unusual flow conditions (e.g., flooding) are expected, employ more substantial erosion protection measures such as grouted cobble slope facings or manufactured slope protection.</td>
<td>During grading and construction</td>
<td>Planning and Community Development Department; Kern County Engineering, Surveying and Permit Services Department</td>
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<td>#53</td>
<td>MM 4.5-5: Prior to the issuance of any building permit for the operation and Prior to issuing of</td>
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<td>Planning and Community</td>
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<td>4.5</td>
<td>Geology and Soils</td>
<td>building and grading permits and during operation and construction</td>
<td>Development Department Kern County Environmental Health Services Division</td>
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**Steps to Compliance:**

A. Plans for septic system shall be submitted to the Kern County Environmental Health Services Division for approval.

B. Project operator shall submit final approved plans and permits for the septic system to the Kern County Planning and Community Development Department

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>4.6</td>
<td>Greenhouse Gas Emissions</td>
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<td>No Mitigation required.</td>
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## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>4.7</td>
<td><strong>Hazards and Hazardous Materials</strong></td>
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<tr>
<td>#54</td>
<td><strong>MM 4.7-1</strong>: The project operator shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The hazardous materials business plan shall delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies including fires. The project operator shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Community Development Department.</td>
<td>Prior to issuing building and grading permits, during operation</td>
<td>Kern County Planning and Community Development Department</td>
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<tr>
<td></td>
<td>A. Submit final hazardous material business plan to the Kern County Environmental Health Services Department/Hazardous Materials Section for review and approval.</td>
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<td>B. The project operator shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.</td>
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<td>#55</td>
<td><strong>MM 4.7-2</strong>: The contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Game and U.S Fish and Wildlife Service. Personnel applying herbicides shall have all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife; products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.</td>
<td>Prior to construction</td>
<td>Kern County Planning and Community Development Department</td>
<td>Kern County Environmental Health Services Division</td>
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<td><strong>Steps to Compliance:</strong></td>
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<td></td>
<td>A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.</td>
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<td></td>
<td>B. The project operator shall use herbicides as described in mitigation during construction and operations.</td>
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<td>C. The Kern County Environmental Health Services Division shall verify compliance and licenses.</td>
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<td>D. Evidence of compliance shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>4.7 Hazards and Hazardous Materials</td>
<td>MM 4.7-3: In the event that suspect asbestos-containing materials are uncovered during project construction, work at the project sites shall immediately halt and a qualified hazardous materials professional shall be contacted and brought to the project sites to make a proper assessment of the suspect materials. All potentially friable asbestos-containing materials shall be removed in accordance with Federal, State, and local laws and the National Emissions Standards for Hazardous Air Pollutants guidelines prior to ground disturbance that may disturb such materials. All demolition activities shall be undertaken in accordance with California Occupational Safety and Health Administration standards, as contained in Title 8 of the California Code of Regulations, Section 1529, to protect workers from exposure to asbestos. Materials containing more than 1% asbestos shall also be subject to South Coast Air Quality Management District regulations. Demolition shall be performed in conformance with Federal, state, and local laws and regulations so that construction workers and/or the public avoid significant exposure to asbestos-containing materials.</td>
<td>Prior to construction</td>
<td>Kern County Planning and Community Development Department; Kern County Environmental Health Services Division</td>
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**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. If necessary, the project operator shall retain a hazardous materials professional to assess potential asbestos-containing materials.

C. Evidence of compliance shall be submitted to the Kern County Planning and Community Development Department.

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<td>4.8</td>
<td>Hydrology and Water Quality</td>
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<td>Planning and Community Development Department; Engineering, Surveying and Permit Services Department</td>
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**#57 MM 4.8-1:** Prior to issuance of a grading permit, the project operator shall submit a Stormwater Pollution Prevention Plan and applicable permits shall be obtained from the Lahontan Regional Water Quality Control Board (RWQCB) for the project to the Kern County Planning and Community Development Department that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off-site and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase may include the following:

a) Stockpiling and disposing of demolition debris, concrete, and soil properly;

b) Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;

c) Implementing erosion controls;

d) Properly managing construction materials;

e) Proper protections for fueling and maintenance of equipment and vehicles; and

f) Managing waste, aggressively controlling litter, and implementing sediment controls.

**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. The project operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) that specifies Best Management Practices.

C. The Engineering, Surveying and Permit Services Division shall review and approve the Stormwater Pollution Prevention Plan.

D. Copies of approval SWPPP shall be submitted to Kern County Planning and Community Development Department.

**#58 MM 4.8-2:** Prior to issuance of a grading permit, the project operator shall prepare a drainage plan that is designed to minimize runoff and surface water pollution and will include engineering recommendations to minimize the potential for impeding or redirecting 100-year flood flows. The final design of the solar arrays shall include one-foot of freeboard clearance between the bottom of the solar panel and the calculated maximum flood depths Site grading shall be designed to prevent increasing the existing 100-year water surface elevations more than one foot or as required by Kern County Planning and Community Development Department.

**Steps to Compliance:**
## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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</table>
| 4.8    | Hydrology and Water Quality | A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.  
B. The project operator shall provide drainage plans to the Kern County Engineering, Surveying and Permitting Services, Floodplain Management Section for review and approval.  
C. A copy of the approved drainage plan shall be submitted to the Kern County Planning and Community Development Department. |  |  |  |

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
### 4.9 Land Use and Planning

**#59 MM 4.9-1:** Prior to issuance of any building permit, the project operator shall provide for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company’s best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

a) An irrevocable letter of credit;

b) A surety bond;

c) A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or

d) Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Community Development Department.

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**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. The project operator shall prepare a decommissioning plan and submit the appropriate financial assurances to the Planning and Community Development Department.
## Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<tr>
<td>4.9</td>
<td><strong>Land Use and Planning</strong></td>
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120 days notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County-contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance. Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Community Development Department a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Community Development Director shall consider any such request at a Director’s Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than forty-eight (48) months from the date, the solar facility was first deemed abandoned.

### #60 MM 4.9-2: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

| #60 | MM 4.9-2: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations. | Prior to project operations | Planning and Community Development Department | | |

Steps to Compliance:

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<td>any site plan review.</td>
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<td>B. The project operator shall consult with the Department of Defense FMO to coordinate frequency deconfliction.</td>
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<td>C. The project operator shall submit a copy of the determination by the appropriate FMO to the Planning and Community Development Department to verify compliance.</td>
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**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<tbody>
<tr>
<td>4.10</td>
<td>Mineral Resources</td>
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<tr>
<td>#61</td>
<td>MM 4.10-1: Prior to issuance of building permits, if a mineral rights holder submits written documentation of their legal right of surface entry to the Planning and Community Development Department, the following shall apply:</td>
<td>Prior to issuance of building and grading permits</td>
<td>Planning and Community Development Department</td>
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<td>a) The project operator or its successor-in-interest (project operator) shall provide evidence of 1) the mineral owner’s written agreement with the project operator as to the location of the drilling area and the easements or 2) other documents confirming the mineral owner’s interest in the drilling area and right of access to the drill area, as well as sufficient pipeline and power line corridors from the drill site to a point exiting the property and right of access to the drill area, shall be submitted by project operator to the Kern County Planning and Community Development Department for verification and approval. The drilling areas shall be located in such a manner as to allow complete and efficient access to, and the exploration and/or extraction of, underlying oil reserves or other minerals.</td>
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<td>b) The project operator shall record or cause to be recorded easements or other documents confirming the mineral owner’s interest in the drilling area and its right of ingress and egress to the drill area.</td>
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<td>c) Should an alternative agreement to part a) and/or b) above, be reached between the mineral owner and the project operator, written documentation shall be submitted to the Kern County Planning and Community Development Department for verification prior to final site plan approval and the issuance of any grading or building permits for the development of solar facilities on the project sites.</td>
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</table>

**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. The project operator shall consult with the known mineral rights holder and come to a written agreement as to the location of the drilling area, right of access, and corridors.

C. The project operator shall record or cause to be recorded easements, offer documentation confirming the mineral owner’s interest, and/or develop an alternative agreement to the satisfaction of the mineral rights holder.

D. In the documentation developed by the project operator, assurance to the compliance with applicable plans shall be included.

E. The project operator shall submit the written agreement, recorded easements, documentation confirming the mineral owner’s interest, and/or alternative agreement to the Planning and Community Development Department in order to verify compliance with the mitigation measure.

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<tr>
<td>4.11</td>
<td>Noise</td>
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<tr>
<td>#62</td>
<td><strong>MM 4.11-1:</strong> To reduce temporary construction related noise impacts, the following shall be implemented by the project operator during on site construction activities that would occur within 0.5 miles of any residence:</td>
<td>During grading and construction</td>
<td>Planning and Community Development Department Kern County Building Inspection Department</td>
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<td>a) To the extent practicable, the construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.</td>
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<td>b) To the extent practicable, the construction contractor shall locate the pile driver such that the rear of the machine faces toward the noise sensitive receptors when the vibratory pile driver is being utilized.</td>
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<td>c) A “noise disturbance coordinator” shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved.</td>
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<td>d) The construction contractor shall ensure proper maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers approved mufflers and baffles.</td>
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<td>e) The construction contractor shall install and/or maintain sound-control devices in all construction and impact equipment, no less effective than those provided on the original equipment.</td>
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<td>f) Construction contracts shall specify that notices shall be sent out to all residences immediately adjacent to the construction areas at least 15 days prior to commencements of construction. The notices shall include the constructions schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign legible at a distance of 50 feet shall also be</td>
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**Steps to Compliance:**

A. Adhere to hour limits as described in MM 4.11-1.

B. Copies of construction notices shall be submitted to the Kern County Planning and Community Development Department.

C. Kern County Building Inspection Department will verify in the field during the construction period.
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<td>posted at the construction site throughout construction, which includes the same details as the notices.</td>
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<td>#63</td>
<td>MM 4.11-2: Project construction hours shall comply with the Kern County Noise Ordinance (Municipal Ordinance Code 8.36.020).</td>
<td>During construction</td>
<td>Kern County Building Inspection Department</td>
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</table>

**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. The Kern County Building Inspection Department shall verify compliance.

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
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<td>4.12</td>
<td>Public Services</td>
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**MM 4.12-1:** In order to reduce impacts to public services including police and fire protection, the following shall be implemented:

a) The project operator shall pay for impacts to countywide public protection, sheriff patrol and investigation, and fire services at a rate of $28.84 per 1,000 square feet of panel-covered ground for the facility operation for the entire covered area of the project. The total amount shall be divided by the number of years of operation and paid on a yearly basis. The annual amount will be based on the square footage of ground covered by April 30 of each year, if completed in phases. The amount will be paid for each and all years of operation. The fee will be paid to the Kern County Auditor/Controller by April 30 of each calendar year.

b) Written verification of ownership of the project shall be submitted to the Kern County Planning and Community Development Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company that pays assessed taxes that equal less than $1,000 per megawatt per year, than they will pay those taxes plus an amount necessary to equal the equivalent of $1,000 per megawatt. The amount shall be paid for all years of operation. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year.

c) The project operator shall work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. This process shall include, but is not necessarily limited to, the project operator: obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, registering this address with the State Board of Equalization, using this address for acquisition, purchasing and billing purposes associated with the

**Steps to Compliance:**

A. The project operator shall pay fees to countywide public protection, sheriff patrol and investigation, and fire services.

B. The project operator shall provide Kern County Planning and Community Development Department written verification of ownership of the project.

C. Work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized as described in MM 4.12-1(c).
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| #65    | MM 4.12-2: The project operator shall develop and implement a fire safety plan for use during construction and operation. The project operator will submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval prior to the issuance of any building permit or grading permits. The fire safety plan will contain notification procedures and emergency fire precautions including, but not limited to, the following:  
  a) All internal combustion engines, stationary and mobile, will be equipped with spark arresters. Spark arresters will be in good working order.  
  b) Light trucks and cars with factory-installed (type) mufflers will be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.  
  c) Fire rules will be posted on the project bulletin board at the contractor’s field office and areas visible to employees.  
  d) Equipment parking areas and small stationary engine sites will be cleared of all extraneous flammable materials.  
  e) Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.  
  f) The project operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to |
|        |                    | Prior to issuance of building and grading permits and during construction and operation | Kern County Fire Department |      |         |
|        | Steps to Compliance:  
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.  
B. The project operator shall submit a fire safety plan to the Kern County Fire Department for review and approval.  
C. An approved fire safety plan shall be submitted to the Kern County Planning and Community Development Department.  
D. The Kern County Building Inspection Department shall verify compliance in the field. |      |         |
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<td>4.13</td>
<td>Traffic and Transportation</td>
<td>Prior to issuance of building or grading permits and after construction</td>
<td>Planning and Community Development Department; Kern County Roads Department; California Department of Transportation</td>
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**#66**

MM 4.13-1: Prior to the issuance of construction or building permits, the project operator shall:

a) Prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 office for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

   i. Timing of deliveries of heavy equipment and building materials;
   
   ii. Directing construction traffic with a flag person;
   
   iii. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
   
   iv. Ensuring access for emergency vehicles to the project site;
   
   v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
   
   vi. Maintaining access to adjacent property;
   
   vii. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the project site, and avoiding residential neighborhoods to the maximum extent feasible;

b) Obtain all necessary permits for the work within the road right of way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or

**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. The project operator shall submit a traffic control plan to the Kern County Roads Department for review and approval.

C. The project operator shall obtain necessary encroachment permits from Kern County Roads Department and California Department of Transportation, if necessary.

D. The project operator shall provide the Planning and Community Development Department with a copy of an approved traffic control plan, encroachment permits and executed secured agreements, which includes identification of roads to be used during construction.

E. The project operator shall submit preconstruction and post-construction videos documenting repairs to roads used during construction, as outlined in mitigation.

F. The Planning and Community Development Department shall review videos and documentation and verify compliance.
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| 4.13 Traffic and Transportation | a) A pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department.  
   c) Enter into a secured agreement with Kern County to ensure that any county roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department and the Kern County Roads Department.  
   d) Submit documentation that identifies the roads to be used during construction. The project operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Roads Department and the Planning and Community Development Department.  
   e) Subsequent to completion of construction, submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The county, in consultation with the project operator’s engineer, shall determine the extent of remediation required, if any. | Prior to grading activities | Planning and Community Development Department Caltrans District 9 | | |
| MM 4.13-2: The project operator shall consult with Caltrans- District 9, and construct a southbound acceleration lane that meets state highway standards, along the identified portion of SR 14, as required by Caltrans. Work shall be performed prior to or in conjunction with initial site grading work. Work must be completed prior to installation of any permanent buildings, equipment, or solar collector structures. Evidence of compliance shall be submitted to the Kern County Planning and Community Development Department. | | | | | |

Steps to Compliance:  
A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.  
B. Evidence of compliance shall be submitted to the Kern County Planning and...
### Mitigation Measure Monitoring Program – Beacon Photovoltaic Project

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<td>Traffic and Transportation</td>
<td>Community Development Department.</td>
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<tr>
<td>#68</td>
<td>MM 4.13-3: Prior to the issuance of grading or building permits, the project operator shall obtain the necessary permits and approvals from the Union Pacific Railroad for the construction of a crossing arm, or other crossing improvements to the Lone Pine Branch rail line. Copies of all permits and approvals shall be submitted to the Kern County Planning and Community Development Department.</td>
<td>Prior to issuance of building or grading permits</td>
<td>Planning and Community Development Department</td>
<td>Union Pacific Railroad</td>
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**Steps to Compliance:**

A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.

B. Copies of all permits and approvals shall be submitted to the Kern County Planning and Community Development Department.

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<td>4.14</td>
<td>Utilities and Service Systems</td>
<td>Prior to issuing building permits</td>
<td>Planning and Community Development Department Kern County Environmental Health Services Division</td>
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<tr>
<td>#69</td>
<td>MM 4.14-1: The project operator shall submit to the Kern County Environmental Health Services Division a revised site plan illustrating the location of all water wells on the project site, and a 10-foot no-build area radius around each known well. Copies of the site plan shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>b) Prior to issuance of grading or building permits, the project operator shall obtain reactivated well permits from the Kern County Environmental Health Services Division for those wells that will be used to monitor groundwater and provide water supply to the project. Copies of the issued permits for the reactivated well shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td>#70</td>
<td>MM 4.14-2: During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. An on-site recycling coordinator shall be designated by the project operator to facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to state and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Waste Management Department prior to issuance of building permits.</td>
<td>Prior to issuing building and grading permits</td>
<td>Planning and Community Development Department Kern County Kern County Waste Management Department</td>
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<td><strong>Steps to Compliance:</strong></td>
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<td></td>
<td>A. This mitigation measure shall be incorporated as a condition of approval for any site plan review.</td>
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<td>B. Provide the revised site plan to the Kern County Environmental Health Services Division.</td>
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<td>C. Provide a copy of the revised site plan to the Kern County Planning and Community Development Department.</td>
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<td>D. Copies of the issued permits for the reactivated wells shall be submitted to the Kern County Planning and Community Development Department.</td>
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<td><strong>Steps to Compliance:</strong></td>
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<td>B. Prior to issuance of building permits, designate onsite-recycling coordinator, provide name, and phone number to Kern County Waste Management Department.</td>
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<td>C. Recycle construction waste to the extent feasible.</td>
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<td>D. Provide Kern County Planning and Community Development Department and Kern County Waste Management Department with copies of hauling receipts.</td>
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<td>Impact</td>
<td>Mitigation Measure</td>
<td>Time Frame for Implementation</td>
<td>Responsible Monitoring Agency</td>
<td>Date</td>
<td>Initials</td>
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<td>4.14</td>
<td>Utilities and Service Systems</td>
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</table>

**Justification:** Changes or alterations to the project have been required to substantially reduce the potentially significant environmental effects identified in the final EIR to the extent feasible.
Planning Commission Resolution
BEFORE THE PLANNING COMMISSION
COUNTY OF KERN, STATE OF CALIFORNIA

In the matter of: RESOLUTION NO. 71-12

APPLICATION FOR CONDITIONAL USE PERMIT CASE NO. 11, MAP NO. 152

Four miles from California City, 15 miles north of the unincorporated town of Mojave, and less than one mile southwest of the unincorporated town of Cantil/Rancho Seco. In southeastern Kern County
Beacon Solar LLC (NextEra Energy Resources) (PP12213)

FINDINGS AND DETERMINATION

I, Lorelei H. Oviatt, Secretary of the Planning Commission of the County of Kern, State of California, do hereby certify that the following resolution, proposed by Mr. Belluomini, seconded by Mr. Edwards, was duly passed and adopted by said Planning Commission at an official meeting hereof this 27th day of September, 2012, by the following vote, to wit:

AYES: Mr. Belluomini, Mr. Edwards, Mr. Martin

NOES:

ABSTAINED: Mr. Babcock

ABSENT: Mr. Sprague

 Secretary of the Planning Commission
COUNTY OF KERN, STATE OF CALIFORNIA

RESOLUTION

SECTION 1. WHEREAS:

(a) Pursuant to the California Government Code, Title 7, Section 65000, et seq. (known as the Planning and Zoning Law), the Kern County Board of Supervisors has adopted the Official Land Use and Zoning Ordinance for the County of Kern (Ordinance Code of Kern County, Chapter 19.02, et seq.), herein called the Zoning Ordinance; and
(b) The Zoning Ordinance establishes various classes of zones, prescribes land uses and regulations for the various zones, and adopts zoning maps for the purposes of dividing the County into zones and showing the zone boundaries; and

(c) The Zoning Ordinance regulates the use of buildings, structures, and land, as between agriculture, industry, business, residence, and other purposes, and other uses more specifically set forth in Section 65850 of said Government Code; and

(d) The Kern County Planning and Community Development Department has received an application pertaining to a parcel of real property which is located within that portion of the unincorporated area of the County for which an official Zoning Map has been adopted under Section 7297.206 of said Ordinance Code and for which precise land use and zoning regulations are in effect; and

(e) Said parcel of real property is described as follows:

    APN: Various

    Section 4, 7, 8, 9, T31S, R37E, MDB&M, County of Kern, State of California (A complete legal description is on file with the Kern County Planning and Community Development Department); and

(f) Said application has been made pursuant to provisions of Chapter 19.104 of said Ordinance Code, and requests a conditional use permit as provided in Section 19.12.030.G and 19.14.030.G, insofar as said requirements are applicable to the aforesaid parcel of real property, and more particularly a Conditional Use Permit to allow for the construction and operation of a 250 MW solar electrical generating facility within the A (Exclusive Agriculture), A GH (Exclusive Agriculture - Geologic Hazard Combining), A GH FPS (Exclusive Agriculture - Geologic Hazard Combining - Floodplain Secondary Combining), and A-1 (Limited Agriculture) Districts; and

(g) Said application has been made in the form and in the manner prescribed by said Zoning Ordinance and is on file with the Secretary of this Commission, designated as above, and reference is hereby made thereto for further particulars; and
(h) The Secretary of this Commission has caused notice to be duly given of a public hearing in this matter in accordance with law, as evidenced by the affidavit of publication and the affidavit of mailing on file with the Secretary of this Commission; and

(i) Said notice of hearing stated that an Environmental Impact Report has been prepared for this project; and

(j) Said public hearing has been duly and timely conducted, during which the proposal was explained by a representative of the Planning and Community Development Department and all persons so desiring were duly heard; and

(k) Before making any findings on said Environmental Impact Report or any consideration of the proposal on its merits, this Commission called for any objections or comments on said Environmental Impact Report; and

The Director of the Planning and Community Development Department has furnished to this Commission, and the Commission has incorporated into the record of this matter, a document setting forth the significant environmental effects identified in said Environmental Impact Report, with proposed findings and consideration by this Commission in relation to said significant effects for the purposes of Section 21081 of the Public Resources Code and Section 15091 of the State CEQA Guidelines, and setting forth evidence in support of the proposed findings; and a member of the Planning and Community Development Department Staff appeared before the Commission and gave additional testimony in support of the proposed findings; and

During said hearing, this Commission duly considered the adequacy and scope of said Environmental Impact Report and thereafter reviewed and considered the information therein contained with respect to the merits of the matters under consideration; and

(l) This Commission has considered the recommendation of the Planning and Community Development Department and all the testimony presented during said public hearing, after which said public hearing was concluded.

SECTION 2. NOW, THEREFORE, BE IT HEREBY RESOLVED by the Planning Commission of the County of Kern, as follows:

(a) This Commission finds that the facts recited above are true and that this Commission has jurisdiction to consider the subject of this resolution; and

CUP #11, Map #152
September 27, 2012
(b) This Commission has fully reviewed and considered the information in said Environmental Impact Report and Mitigation Measure Monitoring Program and hereby recommends it to be certified in relation to the subject of this resolution and, after careful consideration of all facts and evidence as presented at said hearing, it is the decision of the Planning Commission that the application herein described be, and hereby, **CERTIFY** said Environmental Impact Report and **ADOPT** Mitigation Measure Monitoring Program and **APPROVE**, as recommended by Staff, the application for the reasons specified in this Resolution with development to be in substantial conformity with the approved plan, and the approved plan shall be revised to include the following conditions of approval:

1. **Conditional Use Permit No. 11, Map No. 152** authorizes the construction and operation of a 250 megawatts solar photovoltaic (PV) power generation facilities and accessory infrastructure on the 2,301 acres. Additional on-site development or expansion activities on any project-level parcel that are deemed to be more intensive by the Director of the Kern County Planning and Community Development Department shall be subject to review and approval and may entail further environmental review. Approval of such development or expansion activities may also require modification of these conditional use permits or the approval of a new conditional use permit at the discretion of the Director of the Kern County Planning and Community Development Department.

2. Development shall be in substantial conformity with the approved plan, and the approved plan shall be revised to include the following conditions of approval.

3. All necessary building permits must be obtained.

4. **Prior to the issuance of building or grading permits, the applicant shall submit documentation of the following:**
   
   a. The project operator shall provide to the Planning and Community Development Department unit an executed copy of the Memorandum of Understanding/Agreement signed by the Chairman of the Kern County Board of Supervisors.
   
   b. The method of water supply and sewage disposal shall be as required and approved by the Kern County Public Health Services Department/Environmental Health Division.
   
   c. Fire flows, fire protection facilities, and access ways shall be as required and approved by the Kern County Fire Department.
   
   d. A plan for the disposal of drainage waters originating on-site and from adjacent road rights-of-way shall be approved by the Kern County Engineering, Surveying, and Permit Services Department/ Floodplain Management, if required. Easements or grant deeds shall be given to the County of Kern for drainage purposes or access thereto, as necessary.

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CUP #11, Map #152  
September 27, 2012
(e) The project operator shall develop and implement an on-site pest management plan specifically related to rodent vectors. The plan shall be submitted to the Kern County Planning and Community Development Department for approval.

(f) The project operator shall encourage all contractors for the project to hire at least 25% of their workers from the local Kern County communities. The project operator shall provide to the contractors a list of training programs that provide skilled solar workers and shall require the contractor to advertise locally for available jobs, notify the training programs of job availability, all in conjunction with normal hiring practices of the contractor. The project operator shall submit a letter detailing the hiring efforts prior to commencement of construction.

(g) The owner/operators of permitted uses that involve equipment or activities that store, use, or generate hydrocarbons, particulate matter, toxic chemicals, nuisance odors, or other air contaminants subject to air pollution control requirements, shall consult with, and be subject to the requirements of, the applicable Air Pollution Control District. If requested by the applicable Air Pollution Control District, the Building Official may withhold final inspection or issuance of a Certificate of Compliance for any structure on property containing a business which is in noncompliance with the requirements of that District until such time as the deficiencies are corrected.

(5) **Prior to the issuance of building permits, the applicant shall submit documentation of the following:**

(a) Solar panel support/foundation structures shall be constructed in such way as to minimize the potential to entrap animals. Detailed schematic drawings depicting the solar panel support/foundation structures to be used on site shall be submitted for approval by the Kern County Planning and Community Development Director.

(b) If an Operations and Maintenance building is proposed, the applicant shall submit a revised plot plan with the parking and maneuvering areas clearly delineated. Parking spaces shall be a minimum of 9 feet by 20 feet in size and shall function independently of one another.

(6) **Prior to final occupancy approval, the following conditions shall be verified by the building inspector and shall be continuously maintained while this permit is active:**

(a) All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, or similar obstructions, shall be removed from the ultimate road rights-of-way in accordance with Section 18.55.030 of the Land Division Ordinance. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures.

(b) A minimum of ten on-site parking spaces shall be provided. Handicap accessible parking spaces shall be provided in accordance with the requirements of Title 24 of the California Administrative Code.

(c) Parking shall be provided as illustrated on the approved plan.
(d) All access drives, parking areas, and vehicle maneuvering areas shall be surfaced with a minimum of two (2) inches of asphaltic concrete paving constructed over a minimum of three inches of compacted base material or material of higher quality. Where the project site does not have direct access to a County-maintained road, a paved access drive shall connect to the closest County-maintained road, and a paved tie-in shall be provided under encroachment permit from the Kern County Roads Department. The paved access drive shall be continuously maintained in good condition.

(e) All vehicle parking and maneuvering areas shall be treated in a manner to continuously prevent blowing dust.

(f) Vehicle parking spaces shall be 9 feet by 20 feet or larger in size and shall be designated by white painted stripes, except as provided in Sections 19.82.030 and 19.82.040 of the Zoning Ordinance.

(g) All signs shall be approved by the Director of the Kern County Planning and Community Development Department prior to installation.

(h) Areas and containers shall be provided for the collection of recyclable materials consisting of plastic and aluminum beverage containers for the benefit of employees and customers. The collection site may be included in the required solid waste disposal area(s) or in a separate area meeting the enclosure requirements of Section 19.80.030.K of the Kern County Zoning Ordinance. The collection area(s) shall be maintained in good condition, and recyclable materials stored therein shall be collected regularly with a frequency that ensures that the collection site does not become a visual nuisance and does not result in the creation of health, safety, or vector problems.

(i) The areas devoted to outside storage shall be treated with a dust binder or other dust control measure, as approved by the Director of the Kern County Planning and Community Development Department.

(7) The property owner shall continuously comply with the following conditions of approval during implementation of this permit:

(a) The development shall comply with any requirements of the Mojave Desert Air Pollution District.

(b) All exterior lighting shall be directed away from adjacent properties and roads. When lighting will be visible from a residential district or adjacent public roads, the lighting fixtures shall be equipped with glare shields or baffles to reduce light trespass onto adjacent properties and shall not exceed 25 feet in height above grade. Light fixtures shall be maintained in sound operating.

(c) All signs shall comply with the signage regulations of the applicable base zone district and with Chapter 19.84 and Chapter 19.81.040(h) of the Zoning Ordinance.

(d) During all on-site grading and construction activities, adequate measures shall be implemented to control fugitive dust.
(e) Trash pickup shall occur a minimum of once each week. All trash and recyclable receptacles shall be enclosed within a six- (6-) foot-high, three-sided masonry enclosure with securable iron gate and shall be installed on an impervious surface at a location that is outside the required front-yard setback and convenient for refuse haulers and which does not interfere with on-site or off-site parking or circulation. For all commercial and industrial uses with five (5) or more employees, adequate space shall be provided for the collection and loading of recyclable materials.

(f) Should a conflict occur between the statistical data shown on the plan and the conditions of approval, the conditions of approval shall prevail.

(g) All used oil (as defined in Section 25250.1 of the California Health and Safety Code) shall be disposed of in accordance with all local, State, and federal regulations following consultation with the Kern County Public Health Services Department/Environmental Health Division/Hazardous Materials Section, State of California Department of Health Services, and the Environmental Protection Agency. All used oil and other wastes shall be transported by a registered waste hauler.

(8) This permit shall become null and void if the use authorized has not been activated within a five-year period of time of the approval of said permit, unless an extension of time has been granted by the decision-making authority, upon written request before expiration of the five- (5-) year period.

(9) Noncompliance with the adopted conditions of approval may cause permit revocation proceedings in accordance with Section 19.102.020 of the Ordinance Code.

(10) At the time building permits are applied for, a filing fee of $130 may be imposed to ensure that final plans are consistent with adopted conditions of approval. This fee may serve as an initial deposit for particularly complex cases, in which case a cost recovery agreement will be required and charges will be billed at $100 per hour.

*(11) All mitigation measures included in the adopted Mitigation Measure Monitoring Program for the Beacon Photovoltaic Project by Beacon Solar, LLC (Conditional Use Permit No. 11, Map No. 152, included as Exhibit C of this Resolution, are hereby incorporated as Conditions of Approval; and

* DENOTES MITIGATION MEASURES

(c) Noncompliance with the adopted conditions of approval may cause permit revocation proceedings in accordance with Section 19.102.020 of said Ordinance Code; and

(d) The findings of this Commission upon which its decision is based are as follows:

(1) The applicable provisions of the California Environmental Quality Act, the State CEQA Guidelines, and the Kern County Guidelines have been duly observed in conjunction with said hearing in the consideration of this matter and all of the previous proceedings relating thereto.

(2) This project is recommended for approval despite the existence of certain significant environmental effects identified in said Environmental Impact Report, and this Commission
recommends the Board of Supervisors make and adopt the findings with respect to each thereof set forth in Exhibit A, appended hereto and made a part hereof by reference, pursuant to Section 15091 of the State CEQA Guidelines (Title 14, Administrative Code) and Section 21081 of the Public Resources Code and declares that it considered the evidence described in connection with each such finding in Exhibit A and that such evidence is substantial and supports such finding.

This Commission acknowledges that approval of this project will produce certain environmental impacts which cannot be mitigated and, in accordance with Section 15093 of the State CEQA Guidelines (Title 14, Administrative Code) hereby recommends the Board of Supervisors adopt a Statement of Overriding Considerations set forth in Exhibit B, appended hereto, and made a part hereof, which summarizes the reasons why this project, despite certain environmental impacts, has been approved.

Said Environmental Impact Report is complete and adequate in scope and has been completed in compliance with the California Environmental Quality Act and with the State CEQA Guidelines and the Kern County Guidelines for implementation thereof.

3. The effect upon the environment of such project and the activities and improvements which may be carried out thereunder will not interfere with maintenance of a high-quality environment now or in the future. Mitigation measures have been incorporated from the Environmental Impact Report as conditions of approval, and the adopted Mitigation Measure Monitoring Program specifies the required steps to satisfy each mitigation measure.

4. The proposed use is consistent with the goals and policies of the General Plan.

5. The proposed use is consistent with the purpose of the applicable district or districts.

6. The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Section 19.08.060.

7. The proposed use meets the minimum requirements of this title applicable to the use and complies with all other applicable laws, ordinances, and regulations of the County of Kern and the State of California.

8. The proposed use will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

9. Approval of this request is consistent with past Commission/Board action for similar requests in the area.

10. Approval of this project shall not be considered operative, vested, or final until such time as the required verification from the Office of the County Clerk is submitted, attesting that payment of fees for the filing of a "Notice of Determination" for the benefit of the California Department of Fish and Game, as required by AB 3158 (Section 10005 Public Resources Code) has been made.

11. In accordance with CEQA, the Lead Agency may conclude that certain mitigation measures identified are infeasible or otherwise ineffective during public review. In those circumstances, the Lead Agency, may delete those mitigation measures and substitute for them other mitigation measures the Lead Agency finds are equivalent or more effective in mitigating significant effects.

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so long as they do not cause potentially significant effects. It is the Lead Agency's determination
that clarification to proposed mitigation are considered more effective in mitigating significant
effects and are not considered new significant information requiring the recirculation of the Final
EIR under CEQA and do not create new significant effects on the environment; and

(e) The Secretary of this Commission shall cause a Notice of Determination to be filed with the County Clerk; and

(f) The Secretary of this Commission shall cause copies of this resolution to be transmitted to the following:

   Beacon Solar LLC (NextEra Energy Resources) (PP12213) (applicant) (1)
   Various (owner) (1)
   Kern County Assessor/Chief, Realty Division (1)
   Kern County Public Health Services Department/Environmental Health Division (1)
   Kern County Fire Department (1)
   Kern County Engineering, Surveying, and Permit Services Department/ Floodplain Management
   Kern County Roads Department (1)
   San Joaquin Valley Air Pollution Control District (1)
   File (3)

am:sc