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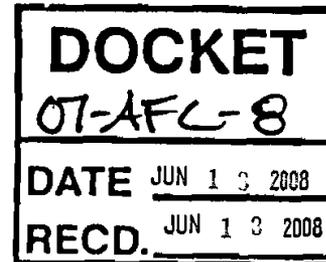
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June 13, 2008

**Via Electronic Service**

Perry H. Fontana, QEP  
Vice President – Projects  
Ausra, Inc.  
2585 East Bayshore Road  
Palo Alto, CA 94303  
[perry@ausra.com](mailto:perry@ausra.com)



Re: Carrizo Energy Solar Farm Project (07-AFC-8)  
CURE Data Requests, Set One (Nos. 1-46)

Dear Mr. Fontana:

California Unions for Reliable Energy (CURE) submits this first set of data requests to Ausra, Inc. for the Carrizo Energy Solar Farm Project pursuant to Title 20, section 1716(b), of the California Code of Regulations. The requested information is necessary to: (1) more fully understand the project; (2) assess whether the project will be constructed and operated in compliance with all laws, ordinances, regulations and standards; (3) assess whether the project will result in significant environmental impacts; (4) assess whether the project will be constructed and operated in a safe, efficient and reliable manner; and (5) assess potential mitigation measures.

CURE reserves the right to submit additional data requests on any other topic that requires further information. Our reservation is based in part on matters beyond our control; principally, Ausra stated that it will file a Supplement to the Application for Certification on or before July 7, 2008 that will include proposed changes to the Carrizo Energy Solar Farm and its ancillary systems, as well as an environmental assessment of impacts of the project on the environment.<sup>1</sup> Given

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<sup>1</sup> Letter from Angela Leiba, Project Manager, URS Corporation, to Mr. John Kessler, Project Manager, CEC, Subject: Carrizo Energy Solar Farm (07-AFC-8), Request for Extension on Data Responses 79-100 & Supplemental Filing, URS Project No. 22239472.01800, June 4, 2008.  
2118-012a

June 13, 2008

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that Ausra itself has delayed this proceeding, further data requests would in no way harm Ausra or otherwise prejudice any party to this proceeding.

Pursuant to section 1716(f) of the Energy Commission's regulations, written responses to these requests are due within 30 days. If you are unable to provide or object to providing the requested information by the due date, you must send a written notice of your objection(s) and/or inability to respond, together with a statement of reasons, to Commissioners Pfannenstiel and Byron and to CURE within 20 days.

Please contact us if you have any questions. Thank you for your cooperation with these requests.

Sincerely,

/s/

Tanya A. Gulesserian

TAG:bh

Enclosure

cc: Docket (07-AFC-8)  
Proof of Service List (07-AFC-8)

**STATE OF CALIFORNIA  
California Energy Commission**

In the Matter of:

The Application for Certification  
for the CARRIZO ENERGY SOLAR  
FARM

Docket No. 07-AFC-08

**CALIFORNIA UNIONS FOR RELIABLE ENERGY  
DATA REQUESTS, SET ONE**

June 13, 2008

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Attorneys for the CALIFORNIA UNIONS  
FOR RELIABLE ENERGY

The following data requests are submitted by California Unions for Reliable Energy. Please provide your responses via email (if available) by July 14, 2008 to each of the following people:

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Please identify the person who prepared your responses to each data request. If you have any questions concerning the meaning of any data requests, please let us know.

**CARRIZO ENERGY SOLAR FARM  
CURE Data Requests Set One (Nos. 1-46)**

**AIR QUALITY**

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**Background: MAXIMUM ANNUAL AND DAILY CONSTRUCTION  
EQUIPMENT COMBUSTION EMISSIONS**

The AFC conducts worst-case modeling of annual ambient air quality impacts from Project construction emissions based on months 7 through 14 of the construction schedule for combustion emissions and for months 1 through 12 of the construction schedule for fugitive dust emissions. Worst-case modeling for short-term averaging times was conducted based on month 11 of the construction schedule for combustion emissions and month 4 for fugitive dust emissions.<sup>1</sup> The AFC's modeling does not reflect worst-case conditions because its emission calculations are not based on the months during which the highest emissions occur.

The AFC calculates annual emissions from construction equipment combustion emissions for months 7 through 14 of the construction schedule. These months do not include emissions from most of the heavy-duty earth-moving equipment such as dozers, scrapers, and graders, which have the highest emission factors. The AFC calculates maximum annual emissions of 1.42 ton/year PM<sub>10</sub>, 1.30 ton/year PM<sub>2.5</sub>, and 17.69 ton/year NO<sub>x</sub>.<sup>2</sup> Using the AFC's emission factors, equipment mix, and daily operating hours, emissions calculated for months 1 through 12 of the construction schedule, which includes the heavy-duty earth-moving equipment, are over 30 percent higher than those for months 7 through 14, specifically, 1.86 ton/year PM<sub>10</sub>, 1.71 ton/year PM<sub>2.5</sub>, and 23.73 ton/year NO<sub>x</sub>. Similarly, the AFC calculates maximum daily combustion emissions from construction equipment for month 11, instead of months 2 through 4, when most heavy-duty equipment is scheduled to operate. The AFC calculated maximum daily emissions of 11.85 lb/day PM<sub>10</sub>, 10.90 lb/day PM<sub>2.5</sub>, and 149.57 lb/day NO<sub>x</sub>.<sup>3</sup> Using the AFC's emission factors, equipment mix, and daily operating hours for month 4 of the construction schedule, calculated emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are 18.23 lb/day and 16.77 lb/day, respectively, or 54% higher than calculated by the AFC; emissions of NO<sub>x</sub> are 242.12 lb/day, or 62 percent higher than calculated by the AFC. These considerably higher emissions from

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<sup>1</sup> AFC, p. 5.2-21 and Appx. I-A.

<sup>2</sup> AFC, Appx. I-A, Table 2.

<sup>3</sup> AFC, Appx. I-A, Table 1.

construction equipment during months 1 through 12 are not offset by the somewhat higher on- and off-site emissions from trucks, buses, and worker vehicles during months 7 through 14.

As a result, the AFC's modeling of construction emissions significantly underestimates impacts on air quality and fails to identify a potential violation of the new 1-hour ambient air quality standard for NO<sub>2</sub> of 339 µg/m<sup>3</sup>.<sup>4</sup>

### **Data Requests**

1. Please revise Project construction emissions estimates for combustion equipment for those months during which the highest emissions occur.

### **Background: FUGITIVE DUST EMISSIONS FROM BULLDOZING/EARTH CLEARING AND DIRT PILING/MATERIAL HANDLING**

The AFC calculates fugitive dust emissions from bulldozing/earth clearing and from dirt piling/material handling based on equations found in the South Coast Air Quality Management District ("SCAQMD") CEQA Guidelines. For both emissions estimates, the AFC assumes a soil moisture content of 15% for moist soil. However, the Carrizo Plain is quite dry with mean annual precipitation between 8 and 10 inches. Areas with the highest terrain have only mean annual precipitation between 10 and 14 inches. Thus, for most of the year, the soil in the Carrizo Plain is quite dry, not moist, as assumed by the AFC's calculations.<sup>5</sup> Thus, unless grading and earthmoving activities would only be conducted during the rainy season, a soil moisture content of 15% throughout the 3 feet of soil that would be removed is unrealistic and results in artificially low emission factors and a considerable underestimate of fugitive dust emissions.

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<sup>4</sup> (AFC NO<sub>2</sub> modeled impact: 148.87 µg/m<sup>3</sup>) x (month 4 emissions/month 11 emissions: 1.62) + (background 105.3 µg/m<sup>3</sup>) = **346.3 µg/m<sup>3</sup>**.

<sup>5</sup> United States Department of Agriculture and Natural Resources Conservation Service, Soil Survey of San Luis Obispo County, California, Carrizo Plain Area, p. 9; [Hhttp://soildatamart.nrcs.usda.gov/Manuscripts/CA667/0/carrizo.pdf](http://soildatamart.nrcs.usda.gov/Manuscripts/CA667/0/carrizo.pdf)H.

## Data Requests

2. Please revise bulldozing/earth clearing and dirt piling/material handling emissions using a more realistic soil moisture content. Please justify and document your choice of soil moisture content.

## Background: WATERING CONTROL EFFICIENCY

To calculate mitigated emissions from bulldozing/earth clearing, dirt piling/material handling, and wind erosion from cover storage piles, the AFC uses a 90% control efficiency for watering 3 times daily or using chemical dust suppressants allegedly based on the SCAQMD's 1993 CEQA Guidelines, Table 11-4.<sup>6</sup> A control efficiency of 90% cannot be achieved by watering 3 times daily or through the application of chemical dust suppressants. Agencies typically recommend using a control efficiency between 30% to 75%. The SCAQMD's 1993 CEQA Guidelines, Table 11-4, specify control efficiencies of 30% to 65% for using soil stabilizers on inactive, previously graded areas; 34% to 68% for watering active sites at least twice daily; and 30% to 74% for watering twice daily or using soil binders on exposed piles.<sup>7</sup> The SCAQMD's 2007 revised fugitive dust mitigation measures specify control efficiencies of 61% for watering construction sites every 3 hours; 69% for using a moveable sprinkler system or water truck during scraper loading and unloading; and 90% for watering storage piles by hand at a rate of 1.4 gallons/hour-yard<sup>2</sup>.<sup>8</sup> These control efficiencies are considerably lower than those used by the AFC to calculate emissions and/or require considerably more watering than required by the AFC's construction mitigation measure AIR-2, which only specifies "either water application, chemical dust suppressant application, or other suppression technique to control dust emissions..."<sup>9</sup>

## Data Requests

3. Please revise Project construction fugitive dust emissions from bulldozing/earth clearing, dirt piling/material handling, and wind erosion from cover storage piles to reflect a realistic watering or

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<sup>6</sup> AFC, Appx. I-A.

<sup>7</sup> South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993, Table 11-4, p. 11-15.

<sup>8</sup> South Coast Air Quality Management District, Mitigation Measures and Control Efficiencies, Fugitive Dust, Tables XI-A and XI-B, April 25, 2007; [Hhttp://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM\\_fugitive.html](http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html)H.

<sup>9</sup> AFC, p. 5.2-27.

chemical dust suppression control efficiency for average and worst-case conditions. Please document and justify your choice of control efficiencies.

4. Please revise mitigation measure AIR-2 to reflect the controls used to achieve control efficiencies for calculating mitigated emissions provided in response to Data Request 3.

### **Background: WIND EROSION OF EXPOSED AREA**

The AFC fails to account for fugitive dust emissions due to wind erosion of the graded site. These emissions would occur 24 hours per day, 365 days per year after the site is graded. The AFC proposes to “[r]eplant vegetation in disturbed areas as quickly as possible,”<sup>10</sup> but fails to provide a planting schedule for site re-vegetation. Fugitive dust emissions due to wind erosion would occur from the time grading is conducted until vegetation on the disturbed, graded site is re-established.

### **Data Requests**

5. Please provide a schedule for re-vegetation of disturbed areas.
6. Please revise emissions estimates for both construction and operation of the Project to include fugitive dust emissions due to wind erosion of disturbed areas. Please provide all assumptions and calculations used for the revised estimates in electronic format in an accessible (not password-protected format).

### **Background: MITIGATION MEASURES FOR FUGITIVE DUST AND CONSTRUCTION EQUIPMENT COMBUSTION EXHAUST**

Based on the AFC’s modeling, Project construction would contribute significantly to an existing violation of the California 24-hour PM10 ambient air quality standard.<sup>11</sup> When emissions and modeling are revised to a) account for the months of construction with the most heavy-duty equipment; b) using a realistic moisture content for the Carrizo Plain; c) using a realistic watering control efficiency; and d) include wind erosion, as discussed in Data Requests 1 through 6, Project construction would also result in potential violations of the most stringent annual PM10 standard,

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<sup>10</sup> AFC, p. 5.2-27.

<sup>11</sup> AFC, Table 5.2-15, p. 5.2-25.

the 24-hour and annual PM<sub>2.5</sub> standards, and the 1-hour NO<sub>2</sub> standard. Under CEQA, feasible mitigation measures must be required to minimize the Project's significant environmental impacts.<sup>12</sup> In addition, mitigation measures must be "fully enforceable through permit conditions, agreements, or other legally-binding instruments."<sup>13</sup> The AFC proposes only 4 mitigation measures to control exhaust emissions from heavy diesel equipment (AIR-1) and 8 mitigation measures to control fugitive dust emissions (AIR-2) during construction of the Project. These mitigation measures are insufficient to mitigate the significant Project construction emissions.

The mitigation measures proposed in AIR-1 to address construction combustion emissions are inadequate because they a) do not address the above discussed emissions (*i.e.* idling emissions are not included in the AFC's emissions estimates); b) are already incorporated into the AFC's emissions calculations (*i.e.* use of low sulfur fuel is assumed in EMFAC emission factors); c) fail to require measures that were incorporated into the AFC's emissions estimates (*i.e.* the use of buses for commuting workers); or d) are not enforceable (*i.e.* "minimum period" of idling; use of low-emitting gas and diesel engines meeting Tiers I, II, and III).

The mitigation measures proposed in AIR-2 to address fugitive dust mitigation measures during construction are inadequate because they a) are already incorporated into the AFC's emissions calculations; b) are not specific enough (*i.e.* the frequency of watering or chemical dust suppression is not specified); or c) are not enforceable (*i.e.* "as quickly as possible"). There are numerous additional relevant and widely employed feasible mitigation measures contained in the CEQA guidelines and rules of air districts and other agencies that should be required to satisfy the Applicant's obligation to employ feasible mitigation necessary to reduce the Project's adverse impacts on air quality during construction.

## Data Requests

7. Please revise all air quality mitigation measures to include specific information regarding timing and other performance goals to ensure enforceability.
8. Please indicate whether the Applicant is willing to accept a Condition of Certification ("COC") requiring the use of the following control measures to reduce combustion exhaust emissions:

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<sup>12</sup> 14 Cal. Code Reg. § 15126.4(a)(2).

<sup>13</sup> *Id.*

- a. Additional mitigation measures contained in the San Luis Obispo County Air Pollution Control District's CEQA Guidelines:<sup>14</sup>
- Install diesel oxidation catalysts (“DOC”), catalyzed diesel particulate filters (“CDPF”) or other District-approved emission reduction retrofit devices.
  - Electrify equipment where feasible.
  - Substitute gasoline-powered for diesel-powered equipment, where feasible.
  - Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas (“CNG”), liquefied natural gas (“LNG”), propane, or biodiesel.
  - Use equipment that has Caterpillar pre-chamber diesel engines.
  - Develop a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period.
  - Schedule construction truck trips during non-peak hours to reduce peak hour emissions.
  - Limit the length of the construction work-day period, if necessary.
  - Phase construction activities, if appropriate.
- b. Additional mitigation measures contained in other Districts' CEQA Guidelines or rules:
- Curtail construction during period of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways. (SJVAPCD<sup>15</sup>)
  - Develop a trip reduction plan to achieve a 1.5 AVR for construction employees. (SCAQMD)
  - Implement a shuttle service to and from retail services and food establishments during lunch hours. (SCAQMD)

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<sup>14</sup> San Luis Obispo County Air Pollution Control District, CEQA Air Quality Handbook, April 2003.

<sup>15</sup> San Joaquin Valley Unified Air Pollution Control District (“SJVUAPCD”), Guide for Assessing and Mitigating Air Quality Impacts, Revised June 1, 1999.

- Develop a construction traffic management plan that includes rerouting construction trucks off congested streets, consolidating truck deliveries, providing dedicated turn lanes for movement of construction trucks and equipment on- and off-site. (SCAQMD)
- Prohibit truck idling in excess of 2 minutes. (SCAQMD)
- Use methanol-fueled pile drivers. (SCAQMD)
- Use biodiesel<sup>16</sup> or equivalent alternative fuels.
- Use alternative diesel engines, including turbocharged engines with or without aftercooler or CTS Version I or II rebuilds. (MBUAPCD<sup>17</sup>)
- The engine size of construction equipment shall be the minimum practical size. (SBCAPCD<sup>18</sup>)
- Construction equipment operating on-site shall be equipped with two to four degree engine timing retard or pre-combustion chamber engines. (SBCAPCD)
- Locally posted and advertised number to report gross-emitting vehicles. (ADEQ<sup>19,20</sup>)
- Snap acceleration test for heavy-duty diesel vehicles. (ADEQ)
- Require pre-1988 heavy-duty diesel commercial vehicles to meet 1988 federal emission standards. (ADEQ)
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite. (SBCAPCD)
- Use electricity from power poles rather than temporary diesel power generators and electrify equipment where feasible. (SCAQMD)

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<sup>16</sup> For equipment with engines built in 1994 or later, use B100 fuel, which is 100 percent biodiesel fuel. In pre-1994 engines, use B20 fuel (a mixture of 20 percent biodiesel and 80 percent fossil fuel). If B20 is used, the fossil diesel component should be CARB low-sulfur fuel (less than 15 ppmw).

<sup>17</sup> Monterey Bay Unified Air Pollution Control District (“MBUAPCD”), CEQA Air Quality Guidelines, October 1995.

<sup>18</sup> Santa Barbara County Air Pollution Control District (“SBCAPCD”), Scope and Content of Air Quality Sections in Environmental Documents, September 1997.

<sup>19</sup> Arizona Department of Environmental Quality (“ADEQ”), Off-Road Mobile Controls Subcommittee, Final Report, Revised November 9, 2000.

<sup>20</sup> Arizona Department of Environmental Quality, Air Quality Exceptional and Natural Events Policy PM10 Best Available Control Measures, June 5, 2001.

- During smog season, the construction period should be lengthened to minimize the number of vehicles and equipment operating at the same time. (VCAPCD<sup>21</sup>)
- The project shall demonstrate that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20% NO<sub>x</sub> reduction and 45% particulate reduction compared to the most recent CARB fleet average at time of construction. (SMAQMD<sup>22</sup>)
- The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than 3 minutes in any one hour. Any equipment found to exceed 40% opacity (or Ringelmann 2.0) shall be repaired immediately, and district shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The district and/or other officials may conduct periodic site inspections to determine compliance. (SMAQMD)

9. Please indicate whether the Applicant is willing to accept a COC requiring the use of the following control measures to reduce fugitive dust emissions:

- a. Additional mitigation measures contained in the San Luis Obispo County Air Pollution Control District’s (“SLOCAPCD”) CEQA Guidelines:
  - Reduce the amount of the disturbed area where possible.
  - Permanent dust control measures identified in the approved project revegetation and landscape plans should be

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<sup>21</sup> Ventura County Air Pollution Control District (“VCAPCD”), Ventura County Air Quality Assessment Guidelines, October 2003.

<sup>22</sup> Sacramento Metropolitan Air Quality Management District (“SMAQMD”), Construction Emissions Mitigation; H<http://www.airquality.org/ceqa/index.shtml#construction>H.

implemented as soon as possible following completion of any soil disturbing activities.

- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.
  - Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.
- b. Additional mitigation measures contained in other Districts' CEQA Guidelines or rules:
- Suspend land clearing, grading, earthmoving or excavation activities when winds exceed 20 miles per hour.
  - Limit size of area subject to excavation, grading or other construction activity at any one time to avoid excessive dust.
  - For backfilling during earthmoving operations, water backfill material or apply dust palliative to maintain material moisture or to form crust when not actively handling; cover or enclose backfill material when not actively handling; mix backfill soil with water prior to moving; dedicate water truck or large hose to backfilling equipment and apply water as needed; water to form crust on soil immediately following backfilling; and empty loader bucket slowly; minimize drop height from loader bucket. (CCHD<sup>23</sup>)
  - During clearing and grubbing, prewet surface soils where equipment will be operated; for areas without continuing construction, maintain live perennial vegetation and desert pavement; stabilize surface soil with dust palliative unless immediate construction is to continue; and use water or dust palliative to form crust on soil immediately following clearing/grubbing. (CCHD)
  - While clearing forms, use single stage pours where allowed; use water spray to clear forms; use sweeping and water spray to clear forms; use industrial shop vacuum to clear forms; and avoid use of high pressure air to blow soil and debris from the form. (CCHD)

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<sup>23</sup> Clark County District Board of Health ("CCHD"), Construction Activities Notebook Including the Section 94 Handbook, August 24, 2000.

- During cut and fill activities, prewater with sprinklers or wobblers to allow time for penetration; prewater with water trucks or water pulls to allow time for penetration; dig a test hole to depth of cut to determine if soils are moist at depth and continue to prewater if not moist to depth of cut; use water truck/pull to water soils to depth of cut prior to subsequent cuts; and apply water or dust palliative to form crust on soil following fill and compaction. (CCHD)
- For large tracts of disturbed land, prevent access by fencing, ditches, vegetation, berms, or other barrier; install perimeter wind barriers 3 to 5 feet high with low porosity; plant perimeter vegetation early; and for long-term stabilization, stabilize disturbed soil with dust palliative or vegetation or pave or apply surface rock. (CCHD)
- In staging areas, limit size of area; apply water to surface soils where support equipment and vehicles are operated; limit vehicle speeds to 15 mph; and limit ingress and egress points. (CCHD)
- For stockpiles, maintain at optimum moisture content; remove material from downwind side; avoid steep sides or faces; and stabilize material following stockpile-related activity. (CCHD)
- To prevent trackout, pave construction roadways as early as possible; install gravel pads; install wheel shakers or wheel washers, and limit site access. (CCHD)
- When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. (BAAQMD<sup>24</sup>, SJVUAPCD, SCAQMD Rule 403 Handbook<sup>25</sup>, ADEQ<sup>26,27</sup>).
- Where feasible, use bedliners in bottom-dumping haul vehicles. (SCAQMD Rule 403 Handbook)

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<sup>24</sup> Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans, December 1999.

<sup>25</sup> South Coast Air Quality Management District, Rule 403 Implementation Handbook, January 1999.

<sup>26</sup> Arizona Department of Environmental Quality, Off-Road Mobile Controls Subcommittee, Final Report, Revised November 9, 2000.

<sup>27</sup> Arizona Department of Environmental Quality, Air Quality Exceptional and Natural Events Policy PM10 Best Available Control Measures, June 5, 2001.

- Grade each phase separately, timed to coincide with construction phase or grade entire project, but apply chemical stabilizers or ground cover to graded areas where construction phase begins more than 60 days after grading phase ends (SCAQMD Rule 403 Handbook).
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. (BAAQMD)
- The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. (SJVUAPCD)
- Use of blower devices is expressly forbidden. (SJVUAPCD).
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant (SJVUAPCD, ADEQ).
- During initial grading, earth moving, or site preparation, projects 5 acres or greater may be required to construct a paved (or dust palliative treated) apron, at least 100 ft in length, onto the project site from the adjacent site if applicable. (BCAQMD<sup>28</sup>)
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hrs. (BCAQMD, MBUAPCD, CCHD)
- Prior to final occupancy, the applicant demonstrates that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions. (BCAQMD)
- Gravel pads must be installed at all access points to prevent tracking of mud on to public roads. (SBCAPCD)
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. (SBCAPCD)

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<sup>28</sup> Butte County Air Quality Management District ("BCAQMD"), Indirect Source Review Guidelines, Adopted March 20, 1997, Revised October 1997

- Prior to land use clearance, the applicant shall include, as a note on a separate informational sheet to be recorded with map, these dust control requirements. All requirements shall be shown on grading and building plans. (SBCAPCD)
- All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. (SLOCAPCD)
- Barriers with 50% or less porosity located adjacent to roadways to reduce windblown material leaving a site. (SCAQMD Rule 403 Handbook)
- Limit fugitive dust sources to 20% opacity. (ADEQ)
- Require a dust control plan for earthmoving operations. (ADEQ)

### **Background: FIREWATER PUMP EMISSIONS**

The AFC calculates hourly emissions from the emergency diesel-powered firewater pump of 1.41 pounds per hour based on 0.5 hours of operation rather than a full hour.<sup>29</sup> This appears to be based on the scheduled operation of the firewater pump for testing purposes of 30 minutes per week. Annual emissions are based on 25 hours per year. These assumptions in the AFC considerably underestimate potential emissions. Consequently, the AFC underestimates the associated impacts on ambient air quality and fails to identify potential violations of ambient air quality standards.

First, the permit conditions contained in the SLOCAPCD's Authority to Construct do not contain any restriction on hourly emissions but only restrict non-emergency operation of the fire pump engines to nominally 30 hours per year.<sup>30</sup>

Second, due to emergency operations and/or compliance testing, the firewater pump would potentially operate more than 0.5 hours per week. Ambient air quality modeling based on 60 minutes rather than 30 minutes of

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<sup>29</sup> AFC, p. 5.2-20.

<sup>30</sup> San Luis Obispo County Air Pollution Control District, Authority to Construct, AUSRA CA II, LLC, dba Carrizo Energy LLC, for One (1) Clark Model JW6H-UF40 emergency backup fire water pump powered by a diesel fueled, 300 hp, John Deere Model 6081H engine, EPA Tier II, January 9, 2008.

operation per hour would result in exceedance of the new 1-hour California ambient air quality standard for NO<sub>2</sub> of 339 µg/m<sup>3</sup>.<sup>31</sup>

Finally, the AFC's exclusion of operating hours for emergency and compliance testing purposes from its determination of maximum potential emissions for emergency engines conflicts with U.S. EPA guidance for emergency generators. The U.S. EPA recommends that "the potential to emit be determined based upon an estimate of the maximum amount of hours the generator could operate, taking into account (1) the number of hours power would be expected to be unavailable, and (2) the number of hours for maintenance activities."<sup>32</sup> The U.S. EPA specified 500 hours per year as an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions allowing that "[a]lternative estimates can be made on a case-by-case basis where justified by the source owner or permitting authority (for example, if historical data on local power outages indicate that a larger or smaller number would be appropriate)."<sup>33</sup>

Recently, the U.S. EPA reinforced this opinion in response to a request by the New Jersey Department of Environmental Protection that sought to exclude emissions from emergency generators during emergency use from calculations of maximum generator emissions, or Potential to Emit ("PTE"). The U.S. EPA rejected the request, recommending that "to determine PTE, a source must estimate its emissions based on the worst-case scenario taking into account startups, shutdowns, and malfunctions" and "... New Jersey should ... permit emergency units at some amount of operation sufficiently large to cover emergencies (*i.e.*, 500 hours a year)."<sup>34</sup>

## Data Requests

10. Please revise the annual maximum operating hours for the emergency generators and emergency fire pumps to a) 500 hours/year as recommended by the U.S. EPA or b) an appropriate

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<sup>31</sup> (AFC maximum predicted concentration of NO<sub>2</sub> for 30 minutes/hour: 127.3 µg/m<sup>3</sup>) x (2 to account for 60 minutes/hour) + (NO<sub>2</sub> background concentration: 105.3 µg/m<sup>3</sup>) = **359.9 µg/m<sup>3</sup>**.

<sup>32</sup> John Seitz, U.S. Environmental Protection Agency, Memorandum, Re: Calculating Potential to Emit (PTE) for Emergency Generators, September 6, 1995; [Hhttp://www.epa.gov/ttn/caaa/t5/memoranda/emgen.pdf](http://www.epa.gov/ttn/caaa/t5/memoranda/emgen.pdf)H.

<sup>33</sup> *Ibid.*

<sup>34</sup> Steven Riva, U.S. Environmental Protection Agency, Region 2, Letter to William O'Sullivan, Division of Air Quality, New Jersey Department of Environmental Protection, February 14, 2006; [Hhttp://www.epa.gov/region07/programs/artd/air/nsr/nsrmemos/generator.pdf](http://www.epa.gov/region07/programs/artd/air/nsr/nsrmemos/generator.pdf)H.

number based on historical data on local power outages. If operating hours other than 500 hours/year are selected, please provide documentation supporting the number of hours used in the calculation.

11. Please discuss alternative equipment or add-on control equipment available for the reduction of NO<sub>x</sub> emissions from the firewater pump to avoid potential violations of the California 1-hour NO<sub>2</sub> ambient air quality standard.

### **Background: AMBIENT AIR QUALITY IMPACT MODELING**

The ambient air quality modeling presented by the AFC for both Project construction and operation is flawed, as discussed in the Data Requests above.

#### **Data Requests**

12. Please revise ambient air quality impact modeling for Project construction based on revised emissions estimates and proposed mitigation measures provided in response to Data Requests 1 through 9. Please provide all modeling files in an accessible (not password-protected) electronic format.
13. Please revise ambient air quality impact modeling for Project operation based on revised emissions estimates and proposed mitigation measures provided in response to Data Requests 6, 10 and 11. Please provide all modeling files in an accessible (not password-protected) electronic format.

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## **SOCIOECONOMICS**

### **Background: CONSTRUCTION WORKFORCE**

The AFC states that construction of the Project will take 35 months to complete, and will require a workforce totaling 396 workers at the peak month of construction.<sup>35</sup> However, the AFC does not list specific skill sets required for each element of construction (*e.g.*, the solar field, the transmission line, the power block, and the switchyard). For example, the AFC states that the construction laydown area will contain an area for

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<sup>35</sup> AFC, p. 5.10-7.

assemblage of the components of the CESF, but the AFC does not state which skill sets are required for assemblage.<sup>36</sup> In addition, the AFC states that there may be up to four individual receiver crews and eight reflector installation crews operating onsite, but the AFC does not state which construction crafts will comprise the crews.<sup>37</sup> Such information is necessary to adequately evaluate the Project's effects on labor requirements.

Further, Staff's Status Report #1 states that the Applicant intends to provide supplemental AFC information regarding the orientation of the reflector arrays and the addition of on-site manufacturing in the laydown area. In addition, a small backup generator will be added and there may be design changes in the air-cooled condensers. Changes in engineering, layout or design of the Project will likely affect workforce requirements.

### **Data Requests**

14. Please describe in detail any changes in engineering, layout or design of the Project from that described in the AFC and evaluate the effect of those changes on the workforce requirements.
15. Please update Table 5.10-5 to reflect any changes in construction workforce requirements as a result of any changes in engineering, layout or design.
16. Please provide specific skill sets required for the construction of each element of the Project, including, but not limited to, construction of the solar field, the transmission line, the power block, and the switchyard.
17. The AFC states that each row of reflectors is composed of four segments of six 16 m by 2.25 m reflectors that are assembled together.<sup>38</sup> Please give a detailed description of the extent to which the CESF components will be prefabricated and the extent to which they will be constructed in the field, including the hours required for construction for each of the different construction crafts.

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<sup>36</sup> AFC, p. 3-36.

<sup>37</sup> AFC, p. 3-30.

<sup>38</sup> AFC, p. 3-36.

## WATER RESOURCES

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### Background: GROUNDWATER SUPPLIES

The project is projected to consume approximately 18,500 gallons per day, or 21.8 acre-feet per year.<sup>39</sup> Peak water consumption is expected to be 700,000 gallons per day. Water supply is to be provided by use of an existing groundwater well at the site.

As shown in the tables below, San Luis Obispo County has identified groundwater in Water Planning Area 8 (WPA 8), in the area of the project, to be currently in overdraft by 330 acre-feet/year.<sup>40</sup> The tables also show projected demand to exceed supply by up to 705 ac-ft/yr.

#### Existing Demand (ac-ft/yr)

Demand	Groundwater Supply	Non-Groundwater Supply	Total Supplies	Balance <sup>a</sup> (Deficiency)
930	600	0	600	(-300)

<sup>a</sup> Balance (Deficiency) figure has been rounded to the nearest 10s.

#### Projected Demand (ac-ft/yr)

Demand	Groundwater Supply	Non-Groundwater Supply	Total Supplies	Balance <sup>a</sup> (Deficiency)
1,260-1,305	600	0	600	(660)-(705)

<sup>a</sup> Balance (deficiency) figure has been rounded to the nearest 10s.

In recognizing the water shortages in the area of the Project, San Luis Obispo County, in the Land Use and Circulation Elements of the San Luis Obispo County General Plan, stated:

California Valley may experience water shortages that will inhibit growth if the community develops. Although comprehensive

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<sup>39</sup> AFC, p. 4-5.

<sup>40</sup> <http://www.slocountywater.org/site/Frequent%20Downloads/Master%20Water%20Plan/T able%20of%20Contents/pdf/Inventory%20of%20Exsisting%20Water%20Supplies.pdf>, p. WPA 8-6.

information on water resources is available, future water studies in this area are necessary. Full development of California Valley under this Land Use Element could possibly house as many as 20,000 people on already existing lots. The area would need approximately 3,300 acre-feet of water annually to support such a population. **The entire Carrizo Plains area is currently in an overdraft situation.** The water quality is poor, sometimes exceeding the U.S. Public Health Service recommended limits. Some groundwater obtained in the area is unsuitable for either agricultural or domestic uses. **Because of the poor quality and limited water quantity, the only solution for future development would be the importation of supplemental water.** However, present estimates of the cost of water, for example, from the state Water Project would most likely be prohibitive. **As a result, the future development of California Valley is anticipated to be limited by water availability.**<sup>41</sup>

Because the entire Carrizo Plains area is currently in an overdraft situation and projected to be in further overdraft, a numerical groundwater model should be prepared to estimate the Project's impacts from groundwater withdrawal on existing and future well yields. If the Project cannot be constructed without impacting groundwater supplies, mitigation measures, such as groundwater recharge, should be considered. If mitigation is not feasible because of limited surface water flow, the availability of alternative water supplies, such as the State Water Project, should be identified.

### **Data Requests**

18. Please provide a numerical groundwater model and analysis that estimates the Project's impacts from groundwater withdrawal on existing and future well yields. Please provide all modeling files in an accessible (not password-protected) electronic format.
19. If the Project's groundwater model shows impacts on existing and future well yields, please identify mitigation measures, such as groundwater recharge, that the Project will employ.
20. If no mitigation measures are identified, please identify alternative water supplies, such as the State Water Project.
21. Please provide a copy of the hydrology/hydrogeology report for the Project.

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<sup>41</sup> <http://www.slocounty.ca.gov/Assets/PL/Area+Plans/Shandon-Carrizo+Inland+Area+Plan.pdf>, p. 3-2 (emphasis added).

## **BIOLOGICAL RESOURCES**

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### **Background: IMPACTS TO THE AMERICAN BADGER**

At least one American badger (*Taxidea taxus*), as well as several badger dens were detected within the Project area during the course of the Applicant's field surveys.<sup>42</sup> The American Badger is a California Department of Fish and Game ("CDFG") species of special concern. American badgers are nocturnal and diurnal, and they exhibit variable periods of torpor (or reduced surface activity) during the winter.<sup>43</sup> During periods of inactivity American badgers occupy burrows, which they dig in friable soils.<sup>44</sup>

Badgers within the Project area may be subject to various forms of Project-related impacts, including direct mortality if occupied burrows are disturbed by Project construction. The AFC provides no discussion of potential impacts to the American badger, or mitigation measures that will be implemented to ensure less than significant impacts to the species.

### **Data Request**

22. Please provide a discussion of potential direct, indirect, and cumulative impacts to the American badger from construction and operation of the Project.
23. Please provide mitigation measures for potential impacts to the American badger from construction and operation of the Project.

### **Background: IMPACTS TO SPECIAL-STATUS ANIMAL SPECIES FROM PROJECT FENCING**

The AFC states that the entire Project will be enclosed with a 10-foot chain-link fence.<sup>45</sup> Fencing may restrict animal movement out of the Project site, including movement of special-status species such as the American

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<sup>42</sup> AFC, p. 5.6-11.

<sup>43</sup> Long, C. A. 1973. *Taxidea taxus*. Mammal. Species. No. 26. 4pp.

<sup>44</sup> Messick, JP., Hornocker MG. 1981. Ecology of the badger in southwestern Idaho. Wildl. Monogr. No.76, 53pp.

<sup>45</sup> AFC, p. 1-2.

badger. Animals trapped within the Project area may be subject to various types of direct and indirect mortality (e.g., collision with vehicles, loss of habitat). Similarly, fencing may serve as a barrier to animal movement into (or through) the Project site. This may result in impacts to species that require the Project site as habitat, or use it as a corridor for movement.

### **Data Requests**

24. Please specify the timing of Project fence installation in relation to pre-construction surveys, proposed wildlife mitigation measures, Project construction, and any other Project activities that may affect resident wildlife species.
25. Please identify the wildlife species for which proposed fencing may act as a barrier.
26. Please identify potential impacts to biological resources from fencing.
27. Please discuss any measures that will be implemented to mitigate potential adverse impacts on biological resources from fencing.

### **Background: IMPACTS TO THE WESTERN BURROWING OWL**

The Western burrowing owl (*Athene cunicularia hypugaea*) is a federal and state species of special concern. The AFC states the burrowing owl was assumed to “utilize the Project study area, and that protocol surveys were not necessary.”<sup>46</sup> The Applicant appears to have misinterpreted the intent of the protocol, which was not designed to simply determine presence of owls. Rather, the protocol was developed to “meet the need for uniform standards when surveying burrowing owl populations and evaluating impacts from development projects.”<sup>47</sup> Additionally, the protocol states:

*Owls can be affected by disturbance and habitat loss, even though there may be no direct impacts to the birds themselves or their burrows. There is often inadequate information about the presence of owls on a project site until ground disturbance is*

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<sup>46</sup> AFC, p. 5.6-6.

<sup>47</sup> See Burrowing Owl Survey Protocol and Mitigation Guidelines, prepared by The California Burrowing Owl Consortium, April 1993, available online at: <http://www.dfg.ca.gov/wildlife/species/docs/boconsortium.pdf>

*imminent. When this occurs there is usually insufficient time to evaluate impacts to owls and their habitat. The absence of standardized field survey methods impairs adequate and consistent impact assessment during regulatory review processes, which in turn reduces the possibility of effective mitigation. These guidelines are intended to provide a decision-making process that should be implemented wherever there is potential for an action or project to adversely affect burrowing owls or the resources that support them.*

The Applicant proposes mitigation for permanent impacts to three breeding owl territories.<sup>48</sup> Proposed mitigation includes a pre-construction survey, establishing set-backs from active burrows, passive relocation of owls, and provision of offsite compensation lands. Compensation lands will be provided through kit fox mitigation requirements. The Applicant has proposed 6.5 acres of compensation lands per owl territory lost, which it states is in accord with guidance on burrowing owl mitigation.<sup>49</sup>

Proposed offsite habitat compensation does not comply with mitigation guidance established by the California Burrowing Owl Consortium and adopted by the CDFG, which specifies that compensation should use one of the following ratios:

- I. *Replacement of occupied habitat with occupied habitat: 1.5 times 6.5 (9.75) acres per pair or single bird.*
- II. *Replacement of occupied habitat with habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.*
- III. *Replacement of occupied habitat with suitable unoccupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.<sup>50</sup>*

Furthermore, mitigation guidance requires offsite compensation to be suitable burrowing owl habitat as defined by the protocol.<sup>51</sup> Consequently, kit fox mitigation will not necessarily constitute adequate mitigation for the burrowing owl.

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<sup>48</sup> AFC, p. 5.6-24.

<sup>49</sup> Ibid.

<sup>50</sup> See Burrowing Owl Survey Protocol and Mitigation Guidelines, prepared by The California Burrowing Owl Consortium, April 1993, available online at: <http://www.dfg.ca.gov/wildlife/species/docs/boconsortium.pdf>

<sup>51</sup> Ibid.

## Data Requests

28. Please provide the survey methods that will be used to adequately identify Project impacts to burrowing owls.
29. Please discuss how the proposed pre-construction survey compares to the established survey protocol in identifying occupied burrows and territories, and the need for avoidance or passive relocation.
30. Please discuss whether the Applicant will follow all mitigation guidelines, including the compensation ratios, established by the California Burrowing Owl Consortium and adopted by the CDFG.

## Background: IMPACTS TO NESTING BIRD SPECIES

Migratory birds have the potential to nest within the Project site. The Migratory Bird Treaty Act prohibits “take” of migratory birds and their active nests containing eggs or young. To comply with the Migratory Bird Treaty Act, the Applicant proposed Project vegetation clearing activities during the non-breeding season.<sup>52</sup> The AFC does not provide consistent information on what the Applicant considers the non-breeding season.<sup>53</sup>

## Data Requests

31. Please clarify the months in which vegetation clearing activities will be conducted.
32. Please explain if any other mitigation measures will be implemented to ensure no take of migratory birds and their active nests containing eggs or young.

## Background: IMPACTS TO THE PALLID BAT

The pallid bat (*Antrozous pallidus*) is a CDFG species of special concern. Day and night roosts for pallid bats can include various human structures such as barns, porches, and buildings.<sup>54</sup> Pallid bats are opportunistic feeders

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<sup>52</sup> AFC, p. 5.6-26.

<sup>53</sup> Ibid; AFC p. 5.6-24.

<sup>54</sup> Western Bat Working Group. 2005. Species account for the pallid bat: *Antrozous pallidus* [internet; cited 2008 Jun 12]. Available from: [http://wbwg.org/species\\_accounts/vespertilionidae/anpa.pdf](http://wbwg.org/species_accounts/vespertilionidae/anpa.pdf)

that forage over a variety of open habitat types.<sup>55</sup> The Project area contains abundant open habitat for foraging and structures that could serve as roost sites.<sup>56</sup> Nevertheless, the AFC states no habitat for the pallid bat exists within the Project area.<sup>57</sup>

### **Data Requests**

33. Please provide scientific justification for the conclusion that the Project area does not provide habitat for the pallid bat.
34. Please specify any measures that will be implemented to mitigate potential impacts to the pallid bat from construction and operation of the Project.

### **Background: IMPACTS TO THE HORNED LARK**

The California horned lark (*Eremophila alpestris*) is a CDFG Watch List species. The AFC states horned larks may be common in grazed pastures, bare fields, and other agricultural settings and that horned larks were observed several times in the Project study area.<sup>58</sup> Although the AFC acknowledges the presence and special-status of the horned lark, it fails to address Project impacts to the species.

### **Data Request**

35. Please discuss potential impacts on the horned lark from construction and operation of the Project.

### **Background: INCREASED RAPTOR PREDATION AND BIRD COLLISIONS ASSOCIATED WITH PROJECT STRUCTURES**

The Project will include 56-foot tall receivers associated with the reflector bays. The AFC recognizes that these receivers may be used as perching sites for songbirds and raptors but fails to discuss any impacts on threatened and endangered species due to increased raptor predation in an

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<sup>55</sup> Ibid.

<sup>56</sup> AFC, p. 5.6-9.

<sup>57</sup> AFC, p. 5.6-3.

<sup>58</sup> AFC, p. 5.6-14.

area that currently has few elevated structures or trees that provide raptor perches. The AFC further concludes, with no analysis whatsoever, that the receivers “are not expected to present a substantial collision hazard” to birds.<sup>59</sup> Mortality resulting from birds striking windmills, buildings, towers, and other man-made, elevated structures has been well-documented in the scientific literature.<sup>60</sup> In addition, a 1986 study of avian mortality at a solar energy plant in the Mojave Desert concluded that 81% of dead birds found on site died from collision with physical structures of the solar field.<sup>61</sup>

### **Data Requests**

36. The Project infrastructure, particularly the 56-foot receivers, would facilitate predator access by providing elevated perches that could be used for hunting. Please evaluate the impacts of increased predation from elevated perches on all threatened and endangered species and recommend mitigation to reduce these impacts.
37. Please provide a discussion of bird collisions, particularly migratory birds, with the proposed receiver structures and other structure on-site. Please discuss specifically how Project structures would pose a lesser threat to birds than other, similar man-made structures that have been extensively documented as sources of avian mortality.
38. Please provide any studies that would support the AFC’s conclusion that Project receivers (and other Project structures) would not present a substantial collision hazard to birds.

### **Background: GENERAL WILDLIFE AND RAPTOR SURVEYS**

The AFC indicates that surveys for general wildlife and raptors were conducted concurrent with surveys for the blunt-nosed leopard lizard (*Gambelia sila*).<sup>62</sup> According to the AFC, no additional surveys were conducted specifically to characterize biological resources within the Project

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<sup>59</sup> AFC, p 5.6-22.

<sup>60</sup> US Fish and Wildlife Service, Office of Migratory Bird Management. 1998. Bird kills at towers and other human-made structures: An annotated partial bibliography (1960-1998) [internet; cited 2008 Jun 12]. Available at: [Hhttp://www.fws.gov/migratorybirds/issues/tower.html](http://www.fws.gov/migratorybirds/issues/tower.html)H.

<sup>61</sup> McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. Avian mortality at a solar energy power plant. J. Field Ornithol. 135-141.

<sup>62</sup> AFC, p. 5.6-6.

study area.<sup>63</sup> The blunt-nosed leopard lizard (“BNLL”) is known to be very fast and often difficult to detect.<sup>64</sup> Consequently, surveyors must focus their attention on the ground and on being prepared for potentially rapid movements and identification of a BNLL. Aside from the burrowing owl, few raptor species are regularly observed on the ground. Furthermore, BNLL surveys are only required in potential BNLL habitat, whereas raptors and other wildlife species have the potential to occur in other habitats present in the Project area (e.g., developed areas).

### **Data Requests**

39. Please discuss the ability of surveyors to detect raptors and other airborne birds and other wildlife while conducting BNLL surveys, and thus the AFC’s ability to adequately characterize Project impacts to common wildlife and raptor species.
40. Please provide a map of BNLL survey routes and associated plant communities.
41. Please provide a copy of the original notes for BNLL surveys and general wildlife and raptor surveys.

### **Background: GENERAL MITIGATION MEASURES**

The Applicant proposed general mitigation measures that include preparation of “construction monitoring and compliance reports that analyze the effectiveness of mitigation measures.”<sup>65</sup> However, general analyses are of very little use unless there are established standards for comparison and means for adaptive management.

### **Data Requests**

42. Please discuss proposed success criteria for each mitigation measure that will be analyzed and reported.
43. Please discuss frequency of proposed monitoring and reporting.

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<sup>63</sup> AFC, Table 5.6-2.

<sup>64</sup> California Department of Fish and Game. 2004. Approved survey methodology for the blunt-nosed leopard lizard [internet; cited 12 Jun 2008]. Available at: [Hhttp://www.dfg.ca.gov/wildlife/species/docs/BNLLrevisedprotocol.pdf](http://www.dfg.ca.gov/wildlife/species/docs/BNLLrevisedprotocol.pdf)H.

<sup>65</sup> AFC, p. 5.6-26.

44. Please discuss any mechanisms for adaptive management, the triggers for such management, and remedial measures that will be implemented if mitigation measures do not meet success criteria.

## **Background: SITE PREPARATION AND CONSTRUCTION IMPACTS**

Project construction will permanently remove 640 acres of foraging and potential nesting habitat for wildlife species.<sup>66</sup> The AFC states the Project site is a small part of the larger landscape, and because the adjacent habitat (i.e., plant community) is similar to the Project site, it can be utilized by species in the same manner.<sup>67</sup> However, habitat use at the individual, population, and species levels is considerably more complex than implied by the AFC. The presence of similar habitat adjacent to the Project site does not necessarily dictate use. For example, some species depend on specific habitat “elements” (e.g., friable soil, banks, logs) in order to survive. Identifying the presence of these habitat elements requires more than cursory landscape-level analysis. For some species, the ability to use habitat can be dictated by predator-prey relationships or the presence of competition. These factors may or may not be present on land adjacent to the Project site.

In absolute terms, 640 acres is a large impact, particularly to any species with a limited distribution and a small home range. For example, the Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), one of the special-status species identified as having the potential to occur in the Project area, occurs in scattered, isolated areas.<sup>68</sup> This may include areas as small as 97 acres.<sup>69</sup>

### **Data Requests**

45. Please provide the results of any surveys or scientific analyses that support the statement that habitat adjacent to the Project site can be used by species in a similar manner.

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<sup>66</sup> AFC, p. 5.6-21.

<sup>67</sup> Ibid.

<sup>68</sup> Sacramento Fish and Wildlife Office. Nd. Species account for the Tipton kangaroo rat, *Dipodomys nitratooides nitratooides* [internet; cited 12 Jun 2008]. Available at: [http://www.fws.gov/sacramento/es/animal\\_spp\\_acct/tipton\\_krat.htm](http://www.fws.gov/sacramento/es/animal_spp_acct/tipton_krat.htm)

<sup>69</sup> Ibid.

## CUMULATIVE IMPACTS

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### **Background: CUMULATIVE IMPACTS ANALYSES**

CEQA Guidelines section 15130 requires that a Project's cumulative impacts be discussed when "[t]he incremental effect is cumulatively considerable..." Cumulative impacts are:

[t]wo or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- (a) The individual effects may be changes resulting from a single project or a number of separate projects.
- (b) 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.<sup>70</sup>

The AFC lists 41 projects as potential cumulative projects considered in its cumulative impact analysis.<sup>71</sup> However, the AFC fails to analyze cumulative impacts associated with the OptiSolar Topaz Solar Farm, a proposed 550-MW solar photovoltaic project located on approximately 5,000 acres, approximately one half mile from the southern edge of the Project.<sup>72</sup>

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<sup>70</sup> CEQA Guidelines section 15355.

<sup>71</sup> AFC, p. 18-2.

<sup>72</sup> See County of San Luis Obispo Department of Planning and Building (Environmental Division) Pre-application Notes for OptiSolar Inc.

## Data Requests

46. Please provide a revised cumulative impact analysis for each resource area (*e.g.*, air resources, biological resources) that includes the OptiSolar Topaz Solar Farm project.

Dated: June 13, 2008

Respectfully submitted,

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/s/

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Energy

# STATE OF CALIFORNIA

## Energy Resources Conservation and Development Commission

In the Matter of:

The Application for Certification for the  
Carrizo Energy Solar Farm by Carrizo  
Energy, LLC

Docket No. 07-AFC-8

### PROOF OF SERVICE

I, Bonnie Heeley, declare that on June 13, 2008, transmission via electronic mail of the attached **CALIFORNIA UNIONS FOR RELIABLE ENERGY DATA REQUESTS, SET ONE** was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.6, and 1210. All electronic copies sent to all those identified on the Proof of Service listed below.

Via U.S. Mail to:  
CALIFORNIA ENERGY  
COMMISSION  
DOCKET UNIT  
ATTN: Docket Unit 07-AFC-8  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512

Via email to:  
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[jbyron@energy.state.ca.us](mailto:jbyron@energy.state.ca.us)  
[gfay@energy.state.ca.us](mailto:gfay@energy.state.ca.us)  
[mdyas@energy.state.ca.us](mailto:mdyas@energy.state.ca.us)  
[cholmes@energy.state.ca.us](mailto:cholmes@energy.state.ca.us)  
[mdoughto@energy.state.ca.us](mailto:mdoughto@energy.state.ca.us)  
[pao@energy.state.ca.us](mailto:pao@energy.state.ca.us)  
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I declare under penalty of perjury that the foregoing is true and correct. Executed at Sacramento, California, on June 13, 2008.

\_\_\_\_\_/s/\_\_\_\_\_  
Bonnie Heeley