



RESPONSES TO CURE DATA REQUESTS SET ONE

APPLICATION FOR CERTIFICATION (07-AFC-8)
Carrizo Energy Solar Farm
Carrizo Energy, LLC



Submitted to:
California Energy Commission



Submitted by:
Carrizo Energy, LLC

With Support from:

URS

1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108

July 2008

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| DOCKET |
| 07-AFC-8 |
| DATE <u>JUL 11 11 AM</u> |
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July 11, 2008

Ms. Melissa Jones
Executive Director
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: Carrizo Energy Solar Farm (07-AFC-8)
Applicant's Responses to CURE Data Requests Set One
URS Project No. 27658060.01800

Dear Ms. Jones:

On behalf of Ausra CA II, LLC (dba Carrizo Energy, LLC), URS Corporation Americas (URS) hereby submits the Applicant's Responses to CURE Data Requests Set One (Carrizo Energy Solar Farm 07-AFC-8).

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit the Applicant's Responses to CURE Data Requests Set One on behalf of Carrizo Energy, LLC.

Sincerely,

A handwritten signature in black ink, appearing to read "Angela Leiba", is positioned above the typed name and title.

Angela Leiba
Project Manager

AL:ml

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TECHNICAL AREA: AIR QUALITY

- Background:** Maximum Annual and Daily Construction Equipment Combustion Emissions
- Data Request 1:** Please revise project construction emissions estimates for combustion equipment for those months during which the highest emissions occur.
- Response:** Revised air quality impact modeling for Project construction is in progress and the results will be submitted to the CEC in late July, 2008.

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TECHNICAL AREA: AIR QUALITY

Background: Fugitive Dust Emissions from Bulldozing/Earth Clearing and Dirt Piling/
Material Handling

Data Request 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.

Response: Routine watering to suppress dust during bulldozing/earth clearing and from dirt
piling/material handling is expected to maintain a moisture content of 15% in the
top layers of soil that would be primarily disturbed by these activities.
Accordingly, revision of the fugitive dust emissions calculations is not required to
account for lower soil moisture.

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TECHNICAL AREA: AIR QUALITY

Background: Watering Control Efficiency

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

Response: The 90% dust control efficiency used in the CESF fugitive dust calculations is meant to reflect more than the application of water and/or dust suppressants, although routine watering of disturbed areas can achieve this level of control. However, even if these measures were used to achieve only 60 or 70% control, a number of other dust control measures are anticipated to bring the overall percent reduction to a level of 90%. Note that the multiple measures that will be stipulated by CEC as air quality Conditions of Certification for the construction phase of power generation projects **must** result in an overall level of control that will achieve the objectives of no visible dust plumes that have the potential to be transported (1) off the project site or (2) 200 feet beyond the centerline of the construction of linear facilities or (3) within 100 feet upwind of any regularly occupied structures not owned by the project owner (see Response to CURE Data Requests 7, 8 and 9, below). CEC's Condition AQSC-3 specifically states that "All unpaved roads and disturbed areas in the project and linear construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of AQ-SC4", i.e., the visible plume limitations summarized above. The dispersion modeling is conducted to estimate maximum off-site impacts due to construction activities; thus, it is realistic to use emissions in such modeling that reflect compliance with these restrictions on visible plume generation. Based on these considerations, it is unnecessary to recalculate dust emissions from construction activities to reflect a lower level of dust control.

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TECHNICAL AREA: AIR QUALITY

Background: Watering Control Efficiency

Data Request 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.

Response: Please see Response to CURE Data Requests 7 and 8, below.

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TECHNICAL AREA: AIR QUALITY

Background: Wind Erosion of Exposed Area

Data Request 5: Please provide a schedule for re-vegetation of disturbed areas.

Response: The Applicant envisions that stabilizing disturbed areas with revegetation or other treatment would occur in a phased manner as construction is completed.

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TECHNICAL AREA: AIR QUALITY

Background: Wind Erosion of Exposed Area

Data Request 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).

Response: Watering of graded areas, possibly supplemented by chemical dust suppressants, as necessary, is expected to stabilize these surfaces to a degree that wind erosion, i.e., particulate matter emissions raised by winds across the site, will be negligibly small and do not warrant calculation.

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TECHNICAL AREA: AIR QUALITY

Background: Mitigation Measures for Fugitive Dust and Construction Equipment Combustion Exhaust

Data Request 7: Please revise all air quality mitigation measures to include specific information regarding timing and other performance goals to ensure enforceability.

Response: A series of six conditions aimed at control of fugitive dust and equipment exhaust emissions during construction is routinely included among the air quality Conditions of Certification for every project licensed by CEC. These conditions have been established by CEC in consultation with USEPA and CARB, and are specifically designed to ensure compliance with the CEQA air quality criteria during construction of power generation facilities. In addition, the conditions are enforced throughout the term of construction by the CEC Compliance Manager, and contain Verification requirements for strict documentation of compliance with each required measure. The Applicant's anticipates these, or similar, conditions for the control of construction emissions will be applied to this Project and that these will be adequate to ensure that construction emissions will be held to acceptable levels. Note that these conditions require sufficient dust control to achieve the objective of no visible plume leaving the site.

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TECHNICAL AREA: AIR QUALITY

Background: Mitigation Measures for Fugitive Dust and Construction Equipment Combustion Exhaust

Data Request 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:

- a. Additional mitigation measures contained in the San Luis Obispo County Air Pollution Control District’s CEQA Guidelines:
 - 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. (SJVAPCD¹⁵)
 - 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)
 - 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 biodiesel¹⁶ or equivalent alternative fuels.
 - Use alternative diesel engines, including turbocharged engines with or without aftercooler or CTS Version I or II rebuilds. (MBUAPCD¹⁷)
 - The engine size of construction equipment shall be the minimum practical size. (SBCAPCD¹⁸)

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- 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^{19,20})
- 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)
- During smog season, the construction period should be lengthened to minimize the number of vehicles and equipment operating at the same time. (VCAPCD²¹)
- 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% NOx reduction and 45% particulate reduction compared to the most recent CARB fleet average at time of construction. (SMAQMD²²)
- 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)

Response: The Applicant will comply with conditions of certification specifically imposed for the Carrizo Energy Solar Farm project.

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TECHNICAL AREA: AIR QUALITY

Background: Mitigation Measures for Fugitive Dust and Construction Equipment Combustion Exhaust

Data Request 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 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. (CCHD²³)
 - 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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- 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. (BAAQMD24, SJVUAPCD, SCAQMD Rule 403 Handbook25, ADEQ26,27).
- Where feasible, use bedliners in bottom-dumping haul vehicles. (SCAQMD Rule 403 Handbook)
- 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. (BCAQMD28)
- 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)

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- 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)
- 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)

Response: Please refer to Applicant's Response to CURE Data Request 8, above.

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TECHNICAL AREA: AIR QUALITY

Background: Firewater Pump Emissions

Data Request 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 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.

Response: The Applicant is willing to accept permit conditions limiting the testing of the firewater pump engine to the annual operating hours presented in the Project AFC and the ATC permit. Thus, the unit would not operate more than 30 hours per year for maintenance/testing. The proposed firewater pump engine is Tier 2 certified by CARB and thus will comply with the Tier 2 emission standards currently in effect for such engines. Based on the extreme low level of usage planned for the engine, there is no requirement to employ different or more stringent emission controls.

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TECHNICAL AREA: AIR QUALITY

Background: Firewater Pump Emissions

Data Request 11: Please discuss alternative equipment or add-on control equipment available for the reduction of NO_x emissions from the firewater pump to avoid potential violations of the California 1-hour NO₂ ambient air quality standard.

Response: Please refer to Applicant's Response to CURE Data Request 10, above.

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TECHNICAL AREA: AIR QUALITY

Background: Ambient Air Quality Impact Modeling

Data Request 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.

Response: Revised air quality impact modeling for Project construction is in progress and the results will be submitted to the CEC in late July, 2008.

**Carrizo Energy Solar Farm
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TECHNICAL AREA: AIR QUALITY

Background: Ambient Air Quality Impact Modeling

Data Request 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.

Response: Please refer to Applicant's Response to CURE Data Requests 6, 10, and 11, above. Also refer to Applicant's Supplement to the Carrizo Energy Solar Farm Application for Certification, submitted to the CEC on July 3, 2008.

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TECHNICAL AREA: SOCIOECONOMICS

Background: Construction Workforce

Data Request 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

Response: Applicant's response to CURE Data Request 14 is included within Sections 1.0 and 2.10 of the Supplement to the Carrizo Energy Solar Farm Application for Certification, submitted to the CEC on July 3, 2008.

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TECHNICAL AREA: SOCIOECONOMICS

Background: Construction Workforce

Data Request 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.

Response: Applicant's response to CURE Data Request 15 is included within Sections 1.0 and 2.10 of the Supplement to the Carrizo Energy Solar Farm Application for Certification, submitted to the CEC on July 3, 2008.

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TECHNICAL AREA: SOCIOECONOMICS

Background: Construction Workforce

Data Request 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.

Response: Ausra will select a general contractor to build the Project. The Contractor will determine which subcontractors and specific skilled labor to use to construct the Project. As such the Contractor will determine the level of workers needed at any particular time for each task to construct the Project in the time provided in the contract. Please refer to Table 5.10-5 of the Project AFC for an estimated breakdown of the labor personnel requirements.

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TECHNICAL AREA: SOCIOECONOMICS

Background: Construction Workforce

Data Request 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.³⁸ 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.

Response: As stated in Response to CURE Data Request 16, Ausra will select a general contractor to construct the Project. The general contractor will determine the most cost effective way to construct the Project and meet all of the performance and timing requirements of the contract. Please see Table 5.10-5 of the Project AFC for an estimated breakdown of the labor personnel requirements for each month of construction. Please also see the Supplement to the Carrizo Energy Solar Farm Application for Certification, Section 1.4 for a discussion of onsite manufacturing proposed for the Project which will reduce the Project's impacts due to truck size and number of trips.

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TECHNICAL AREA: WATER RESOURCES

Background: Groundwater Supplies

Data Request 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.

Response: Applicant's response to CURE Data Request 18 is included within the Hydrology/Hydrogeological Report, submitted to the CEC on June 27, 2008.

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TECHNICAL AREA: WATER RESOURCES

Background: Groundwater Supplies

Data Request 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.

Response: Applicant's response to CURE Data Request 19 is included within the Hydrology/Hydrogeological Report, submitted to the CEC on June 27, 2008.

**Carrizo Energy Solar Farm
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TECHNICAL AREA: WATER RESOURCES

Background: Groundwater Supplies

Data Request 20: If no mitigation measures are identified, please identify alternative water supplies, such as the State Water Project.

Response: Applicant's response to CURE Data Request 20 is included within the Hydrology/Hydrogeological Report, submitted to the CEC on June 27, 2008.

**Carrizo Energy Solar Farm
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TECHNICAL AREA: WATER RESOURCES

Background: Groundwater Supplies

Data Request 21: Please provide a copy of the hydrology/hydrogeology report for the Project.

Response: Applicant's Hydrology/Hydrogeological Report was submitted to the CEC on June 27, 2008.

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the American Badger

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.

Response: Potential impacts to American badger will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the American Badger

Data Request 23: Please provide mitigation measures for potential impacts to the American badger from construction and operation of the Project.

Response: Mitigation measures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to Special-Status Animal Species from Project Fencing

Data Request 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.

Response: The fence will be installed when the site has been graded and excavated to the extent required in order to continue to progress efficiently while the fence is in place. This will occur after any pre-construction surveys, and before Project construction as referring to the installation of the solar field or power block foundations and equipment.

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to Special-Status Animal Species from Project Fencing

Data Request 25: Please identify the wildlife species for which proposed fencing may act as a barrier.

Response: Kit fox, badger, and pronghorn may be affected by the fencing. These impacts and the proposed mitigation measures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to Special-Status Animal Species from Project Fencing

Data Request 26: Please identify potential impacts to biological resources from fencing.

Response: Potential impacts to biological resources from fencing will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to Special-Status Animal Species from Project Fencing

Data Request 27: Please discuss any measures that will be implemented to mitigate potential adverse impacts on biological resources from fencing.

Response: Potential mitigation measures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

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TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the Western Burrowing Owl

Data Request 28: Please provide the survey methods that will be used to adequately identify Project impacts to burrowing owls.

Response: Burrowing owl were identified on the Project site in 2007 as well as 2008. Additional surveys are not required since owl are known to be present. Project impacts will be identified based on the documented number of occupied burrowing owls present. Burrows will be scoped to assess activity prior to Project implementation.

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the Western Burrowing Owl

Data Request 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.

Response: No protocol surveys are necessary for burrowing owl because they were observed onsite. Pre-construction clearance surveys will be included in the mitigation measures, which includes avoidance and passive relocation if necessary.

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the Western Burrowing Owl

Data Request 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.

Response: The Applicant envisions that habitat mitigation for potential kit fox impacts will be adequate to cover compensatory habitat mitigation for burrowing owl.

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to Nesting Bird Species

Data Request 31: Please clarify the months in which vegetation clearing activities will be conducted.

Response: Vegetation clearing activities will occur between September and February which is outside of the bird breeding season.

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to Nesting Bird Species

Data Request 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.

Response: Vegetation clearing will not occur during nesting season; therefore, take of active nests or young will be avoided.

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the Pallid Bat

Data Request 33: Please provide scientific justification for the conclusion that the Project area does not provide habitat for the pallid bat.

Response: Potential impacts to pallid bat will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the Pallid Bat

Data Request 34: Please specify any measures that will be implemented to mitigate potential impacts to the pallid bat from construction and operation of the Project.

Response: Potential impacts to pallid bat will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Impacts to the Horned Lark

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

Response: Potential impacts to horned lark will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Increased Raptor Predation and Bird Collisions Associated With Project Structures

Data Request 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.

Response: Potential raptor predation and bird collisions associated with Project structures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Increased Raptor Predation and Bird Collisions Associated With Project Structures

Data Request 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.

Response: Potential raptor predation and bird collisions associated with Project structures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Increased Raptor Predation and Bird Collisions Associated With Project Structures

Data Request 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.

Response: Potential raptor predation and bird collisions associated with Project structures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: General Wildlife and Raptor Surveys

Data Request 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.

Response: The Project site is comprised of two open agricultural fields, with vegetation that is less than 3 feet tall. There are no obstructions to visually observing a bird flying overhead. Furthermore, the biologists conducting the BNLL surveys are trained to identify bird species visually as well as by vocalizations. Most often the birds were identified by their vocalizations. Due to the lack of obstructing vegetation that would obscure their presence, all other wildlife species were also easily observed if present. In addition, a general wildlife and vegetation survey was conducted prior to focused surveys. Hundreds of field hours conducted onsite by qualified wildlife biologists are sufficient to document wildlife species present onsite. All raptors common to the Project vicinity were documented during the field assessment effort.

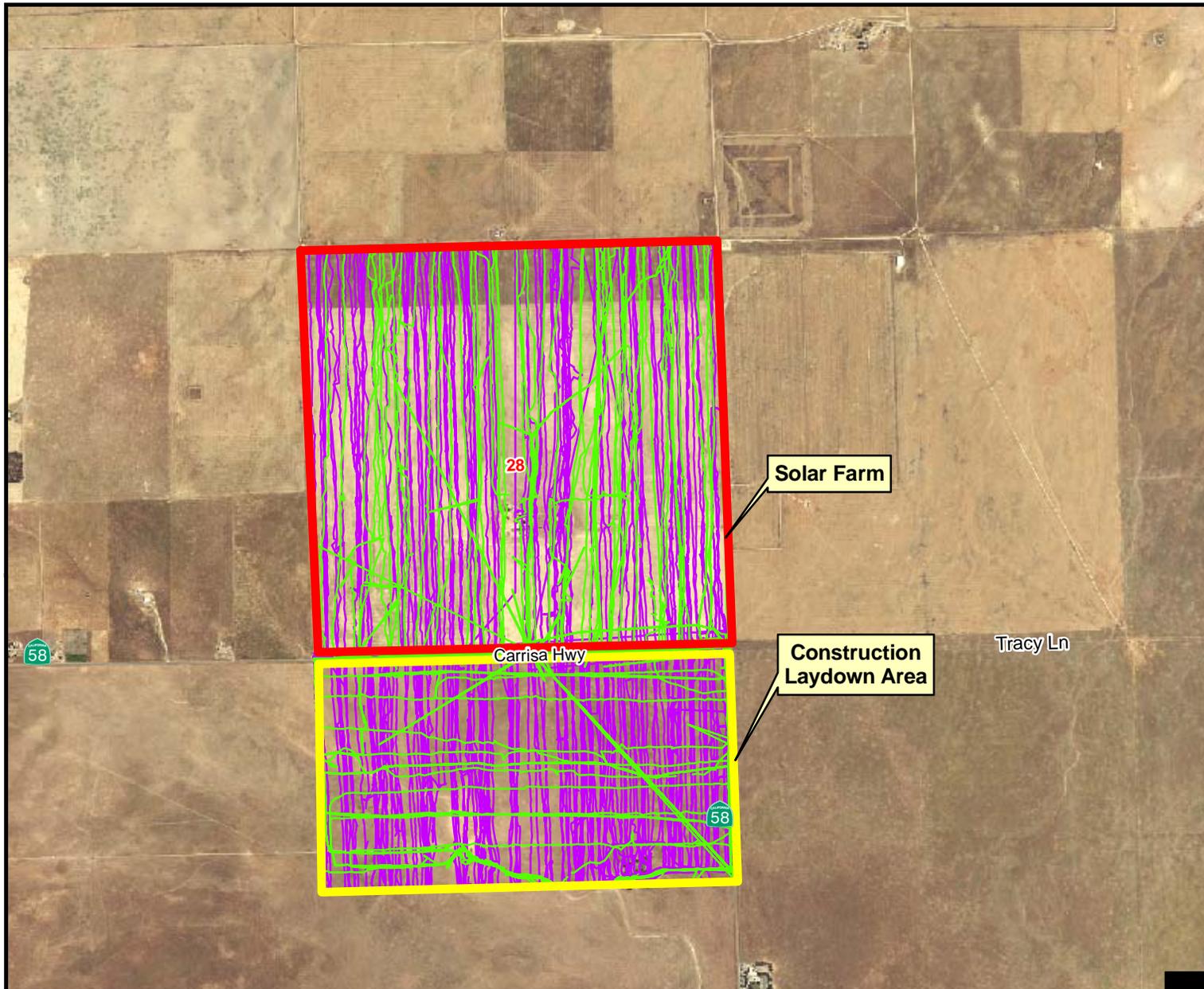
**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: General Wildlife and Raptor Surveys

Data Request 40: Please provide a map of BNLL survey routes and associated plant communities.

Response: Please see the attached map (Figure 1) of survey transects. Survey data sheets have been provided in the Project AFC. Data sheets for the second year of surveys will be provided upon completion of the 2008 BNLL surveys, which is expected to be in August 2008. The BNLL surveys were conducted according to the CDFG protocol.



Solar Farm

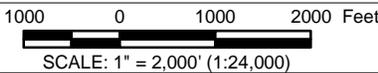
Construction Laydown Area

Carrisa Hwy

Tracy Ln

SURVEY EFFORTS ON THE CARRIZO ENERGY SOLAR FARM (CESF) PROJECT

SOURCES: USDA FSA Aerial Photography
Field Office: County image mosaic for San Luis Obispo, CA (2005).



CREATED BY: CM
PM: AL

DATE: 07-09-08
PROJ. NO: 22239472

FIG. NO: 1

LEGEND

-  Solar Farm
-  Construction Laydown Area
-  Rare Plant Transects
-  Blunt-Nosed Leopard Lizard Transects

G:\gis\projects\1577\22239320\msd\bia_transects_rare_plants.mxd

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: General Wildlife and Raptor Surveys

Data Request 41: Please provide a copy of the original notes for BNLL surveys and general wildlife and raptor surveys.

Response: Please see the attached map of survey transects provided in Response to CURE Data Request 40, above. Survey data sheets have been provided in the Project AFC. Additional data sheets will be provided upon completion of the 2008 BNLL surveys, which is expected to be in August 2008. Refer to the list of species detected during the 2007 biological surveys.

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: General Mitigation Measures

Data Request 42: Please discuss proposed success criteria for each mitigation measure that will be analyzed and reported.

Response: Success criteria will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: General Mitigation Measures

Data Request 43: Please discuss frequency of proposed monitoring and reporting.

Response: Mitigation measures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: General Mitigation Measures

Data Request 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.

Response: Mitigation measures will be discussed in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CURE Data Requests Set One
07-AFC-8**

TECHNICAL AREA: BIOLOGICAL RESOURCES

Background: Site Preparation and Construction Impacts

Data Request 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.

Response: Results of surveys and analyses will be included in the updated biological resources report upon completion of the 2008 biological surveys (anticipated report submittal to CEC in 4th quarter 2008).

**Carrizo Energy Solar Farm
Responses to CEC Data Requests 79-100
07-AFC-8**

TECHNICAL AREA: CUMULATIVE IMPACTS

Background: Cumulative Impacts Analysis

Data Request 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.

Response: Per a conversation with John McKenzie, Planner at San Luis Obispo County, on Tuesday June 17th, 2008, the OptiSolar Topaz Solar Farm Project has not been submitted for permitting to the County's planning division and its impacts are therefore not yet public information. Please also refer to #16 in Applicant's Responses to Comments from the CEC Workshop Held on April 12, 2008.

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

APPLICATION FOR CERTIFICATION
For the CARRIZO ENERGY
SOLAR FARM PROJECT

Docket No. 07-AFC-8

PROOF OF SERVICE
(Revised 5/15/2008)

INSTRUCTIONS: All parties shall either (1) send an original signed document plus 12 copies or (2) mail one original signed copy AND e-mail the document to the address for the Docket as shown below, AND (3) all parties shall also send a printed or electronic copy of the document, which includes a proof of service declaration to each of the individuals on the proof of service list shown below:

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1516 Ninth Street, MS-14
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DECLARATION OF SERVICE

I, Kristen E. Walker, declare that on July 11, 2008, I deposited copies of the attached Applicant's Responses to CURE Data Requests Set One (Carrizo Energy Solar Farm 07-AFC-8) in the United States mail (FedEx) with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

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

