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# APPLICANT'S COMMENTS ON PRELIMINARY STAFF ASSESSMENT

## 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


**December 2008**

URS

December 12, 2008

Mr. John Kessler
Project Manager
Attn: Docket No. 07-AFC-8
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814-5512

Subject: Carrizo Energy Solar Farm (07-AFC-8)
Applicant's Comments on Preliminary Staff Assessment
URS Project No. 27658060.01800

Dear Mr. Kessler:

On behalf of Ausra CA II, LLC (dba Carrizo Energy, LLC), URS Corporation Americas (URS) hereby submits the Applicant's Comments on Preliminary Staff Assessment (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 Comments on Preliminary Staff Assessment on behalf of Carrizo Energy, LLC.

Sincerely,

URS CORPORATION

Angela Leiba
Project Manager

URS Corporation
1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108
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# AIR QUALITY

**General comment:**

The discussion in the PSA refers to the analyses conducted in the AFC submitted October 2007, but does not incorporate the changes made in the Supplement to the AFC submitted July 2008 or in the subsequent data request responses.

**AIR QUALITY Page 4.1-8**

The project includes a diesel-fired 300-horsepower fire pump engine.

**Comment:**

The project description identifies the only emission source as the diesel fire water pump. In the Supplement to the AFC submitted July 2008, the operational analysis included two sources, a diesel fire water pump and a diesel emergency generator.

**AIR QUALITY Page 4.1-10**

Air Quality Table 4
Maximum Project Construction Impacts

| Pollutants | Avg. Period | Impacts ($\mu g/m^3$) | Background [1] ($\mu g/m^3$) | Total Impact ($\mu g/m^3$) | State Standard ($\mu g/m^3$) | Percent of Standard |
|---|---|---|---|---|---|---|
| $NO_2$ | 1-hr. | 149 | 105 | 254 | 338 | 75% |
| CO | 8-hr. | 25.7 | 1,367 | 1,393 | 10,000 | 14% |
| PM10 | 24-hr. | 9.4 | 55 | 64.4 | 50 | **129%** |

1. Background measurements are measured at the nearest monitoring stations to provide the most representative ambient air quality.

Source: AFC, Table 5.2-15 (CESF2007a).

**Comment:**

The results presented in Air Quality Table 4, Maximum Project Construction Impacts are for the analyses conducted in the AFC submitted October 2007, but do not incorporate the changes made in the Supplement to the AFC submitted July 2008 and the CURE Data Responses submitted on July 30, 2008.

**AIR QUALITY Page 4.1-13**

**Air Quality Table 5**
**Facility's Maximum Daily and Annual Operating Emissions**

| Equipment | NOx | VOC | SOx | CO | PM10 |
|---|---|---|---|---|---|
| Maximum Daily Emissions (lbs/day) [3] | | | | | |
| All terrain vehicles | 0.06 | 6.21 | 0.035 | 11.31 | 0.024 |
| Trucks for mirror cleaning equipment [1] | 0.081 | 0.193 | 0.003 | 1.88 | 0.005 |
| Maintenance trucks [1] | 0.081 | 0.193 | 0.003 | 1.88 | 0.005 |
| Worker's vehicles | 0.008 | 0.008 | .0001 | 0.081 | 0.001 |
| Fugitive PM10 [2] | | | | | 2.94 |
| **Total Daily Emissions** (lbs/day) | **0.23** | **6.60** | **0.04** | **15.15** | **2.98** |
| | | | | | |
| Maximum Annual (tons/year) | | | | | |
| All maintenance activities | 0.042 | 1.204 | 0.007 | 2.766 | 5.42 |
| Emergency fire pump [3] | 0.02 | Neg | Neg | 0.001 | Neg |
| Emergency diesel generator [3] | 0.11 | Neg | Neg | 0.004 | Neg |
| | | | | | |
| **Total Annual Emissions** (tons/year) | **0.062** | **1.205** | **0.007** | **2.767** | **5.42** |

Notes:
1. Emissions of gasoline powered Ford F150 trucks operating approximately 10 miles a day.
2. Fugitive emissions of vehicles traveled on watered or chemical treated unpaved roads at 5mile per hour limit.
3. Emissions from emergency fire pump and emergency generator engines estimated using 30 hours of testing per year. Daily emissions from testing are negligible and not shown here.

Source: AFC Table 5.2-12, 2/26/08 Data Response (CESF2008a), and AFC Supplement (CESF2008h)

**Comment:**

The emissions presented in Air Quality Table 5, Facility's Maximum Daily and Annual Operating Emissions do not match the emissions from the most recent analyses that include both the firewater pump and the emergency generator.

**AIR QUALITY Page 4.1-13**

Air Quality Table 6
Project Operation Emission Impacts

| Pollutants | Avg. Period | Impacts ($\mu g/m^3$) | Background ($\mu g/m^3$) [4] | Total Impacts ($\mu g/m^3$) | Standard ($\mu g/m^3$) | Percent of Standard |
|---|---|---|---|---|---|---|
| $NO_2$ | 1-hour | 138.3 | 105.3 | 243.6 | 338[1] | 69% |
| | Annual | 0.02 | 17 | 17.02 | 56[1] | 30% |
| $SO_2$ | 1-hour | 0.154 | 309 | 309 | 655 [1] | 47% |
| | 24-hour | 0.002 | 52.5 | 52.5 | 105 [1] | 50% |
| CO | 1-hour | 11.2 | 2,415 | 2,426 | 23,000 [1] | 11% |
| | 8-hour | 0.080 | 1,367 | 1,367 | 10,000 [1] | 14% |
| PM10 | 24-hour | 0.037 | 55 | 55 | 50 [1] | **110%** |
| | Annual | 0.001 | 18 | 18 | 20 [1] | 90% |
| PM2.5 | 24-hour | 0.037 | 30.7 | 30.8 | 35 [2] | 88% |
| | Annual | 0.001 | 8.3 | 8.3 | 12 [1] | 69% |

Notes
1. State standards
2. Federal standards
3. Including impacts from emergency and fire pump engines.
4. Background measurements are measured at the nearest monitoring stations to provide the most representative ambient air quality levels.

Source: AFC Air Quality Modeling Analysis (CESF2007b).

**Comment:**

The results presented in Air Quality Table 6, Project Operation Emission Impacts do not match the results from the most recent analyses that include both the firewater pump and the emergency generator.

**AIR QUALITY Page 4.1-14**

The project would add close to 7 lbs per day of NOx and VOC (ozone precursors) (CESF2008h), dominated by emissions from the all-terrain vehicles, to the ambient air…staff believes that the project emissions impacts on ozone air quality standards are likely significant.

**Comment:**

The CESF site was previously used for active agricultural purposes. To prepare, maintain, and harvest the fields, it is highly likely that diesel agricultural equipment was used that would have emitted more NOx and VOC than the proposed project, thus, there is no increase in emissions over baseline.

**AIR QUALITY Page 4.1-15**

However, staff believes that the project direct and fugitive emissions impacts on PM10 air quality standards are likely significant.

**Comment:**

As previously stated, the CESF site was used for active agricultural purposes, and the diesel agricultural equipment that was likely used would have emitted more PM10 than the proposed project, thus there is no increase in emissions over baseline. Also, the implementation of the proposed mitigation measures during operations (AQ-SC6 and AQ-SC7) would substantially eliminate the potential PM10 impacts to less than significant level.

**AIR QUALITY Pages 4.1-21**

**AQ-SC6** The project owner shall use gasoline powered light trucks, equivalent to a FORD F150 model, for mirror washing activities and facility maintenances. In addition only electric-powered vehicles shall be used to support maintenance crew within the facility.

**Comment:**

Applicant does not agree with Staff's conclusion of potentially significant air quality impacts from maintenance operations driving the requested use of electric vehicles. For other reasons, the applicant will evaluate the feasibility of using electric-powered vehicles to support maintenance crew within the facility.

**AIR QUALITY Pages 4.1-26**

**APPENDIX AIR-1 - GREENHOUSE GAS EMISSIONS**

**General comment:**

The California Global Warming Solutions Act of 2006 (AB32) requires certain facilities to report their greenhouse gas emissions on an annual basis starting 2008. As outlined in the California Code of Regulation title 17, sections 95100-95133, the GHG reporting requirements do not apply for "electricity generating facilities that are solely powered by nuclear, hydroelectric, wind or solar energy". They also do not apply to "generating units designated as backup or emergency generators in a permit issued by an air pollution control district or air quality management district".

Furthermore, this project is also deemed in compliance with the Emissions Performance Standard, "(b) The following types of powerplants are determined to be compliant with the EPS:

> (1) Any in-state or out-of-state powerplant that meets the criteria of a renewable electricity generation facility as defined in Chapter 8.6 of Division 15 of the Public Resources Code and as specified by guidelines adopted there under, except for hybrid systems;" (20 C.C.R. Section 2903(b).)"

Thus, the applicant feels that the reporting requirements of the proposed condition of certification GHG-1 on pages AIR QUALITY 4.1-35-36 are not applicable to the CESF project.

**AIR QUALITY Page 4.1-35**

GHG-1 Until the California Global Warming Solutions Act of 2006 (AB 32) is implemented, the project owner shall either participate in a GHG registry approved by the Compliance Project Manager (CPM), or report on a annual basis to the CPM the quantity of greenhouse gases (GHG) emitted as a direct result of facility electricity production.

The project owner shall maintain a record of fuels types and carbon content used on-site for the purpose of power production. These fuels shall include but are not limited to each fuel type burned: (1) in combustion turbines, (2) boilers, heat recovery steam generators (if applicable) or auxiliary boiler (if applicable), (4) internal combustion engines, (4) flares, and/or (5) for the purpose of startup, shutdown, operation or emission controls.

The project owner may perform annual source tests of CO2 and CH4 emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of pounds CO2-equivalent per million British Thermal Units (mmMMBtu) of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel.

| Pollutant | Test Method |
|---|---|
| CO2 | EPA Method 3A |
| CH4 | EPA Method 18<br>(VOC measured as CH4) |

As an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the CO2, CH4 and N2O emissions using the appropriate fuel-based carbon content coefficient (for CO2) and the appropriate fuel-based emission factors (for CH4 and N2O).

The project owner shall convert the N2O and CH4 emissions into CO2 equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all SF6 that is used for replenishing on-site transformers. At the end of each reporting period, the project owner shall total the mass of SF6 used and convert that to a CO2 equivalent emission using the IPCC GWP for SF6. The project owner shall maintain a record of all PFCs and HFCs that are used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and convert that to a CO2 equivalent emission using the IPCC GWP.

On an annual basis, the project owner shall report the CO2 and CO2 equivalent emissions from the described emissions of CO2, N2O, CH4, SF6, PFCs, and HFCs.

**Verification:** The project annual greenhouse gas emissions shall be reported, as a CO2 equivalent, by the project owner to a climate action registry approved by the CPM, or to the CPM as part of the fourth Quarterly or the annual Air Quality Report, until such time that GHG reporting requirements are adopted and in force for the project as part of the California Global Warming Solutions Act of 2006.

**Comment:**

The discussion under the proposed condition of certification **GHG-1** discusses maintaining records of fuels types and carbon content used on-site for the purpose of power production in combustion turbines, boilers, heat recovery steam generators, auxiliary boilers, internal combustion engines and flares. The only sources of GHG emissions from the CESF project are a firewater pump, an emergency generator, and a few maintenance vehicles. None of this discussion is applicable to the CESF project.

As stated above, the applicant feels that the reporting requirements of the proposed condition of certification **GHG-1** on pages AIR QUALITY 4.1-35-36 are not applicable to the CESF project. If at some future time GHG reporting requirements are mandated for solar electricity generating facilities, the applicant will comply with these requirements.

# BIOLOGICAL RESOURCES

**General comment:**

Many issues were not made clear to the applicant by staff prior to the release of the PSA. Applicant feels that many issues could have been resolved if applicant had the opportunity to address them prior to the docketing of the PSA. Applicant requests that staff make applicant aware of new information prior to the release of the FSA. Applicant also requests that Staff provide information about the proposed wildlife corridor study. Applicant would like the opportunity to review and comment on the study protocol, assumptions, and inputs. Applicant is particularly concerned about the application of this modeling effort on actively farmed land whereas the model has been previously used for lands that were not subject to active agricultural operations.

**BIOLOGICAL RESOURCES Page 4.2-1**

Habitat compensation for permanent and temporary impacts remains an unresolved issue arising from two divergent views regarding the quality and importance of the habitat on the project site. Energy Commission biological resources staff, in consultation with the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) have concluded that the 1020-acre project area connects blocks of natural land and important populations of the federally-endangered and state-threatened San Joaquin kit fox (*Vulpes macrotis mutica,* kit fox), and has an important role in the regional recovery strategy for the San Joaquin kit fox. Conversely, the applicant contends that the project site provides marginal kit fox foraging and pass-through habitat, and is merely a disturbed former agricultural field.

**Comment:**

The CESF Project site represents a small piece of a very extensive landscape of agricultural lands within California Valley that provide marginal foraging and movement habitat for San Joaquin kit fox (SJKF). Non-listed game species such as pronghorn and tule elk, a variety of raptors, badger, and other wildlife species common to the San Joaquin Valley also occur in California Valley and the more biologically diverse Carrizo Plain National Monument located south of California Valley.

Furthermore, CEC staff is inconsistent in their description of the vegetation at the CESF Project site. On page 4.2-12, staff characterizes the habitat as "The existing land uses on the project site provide some habitat value and allow for movement for multiple wildlife species, including the pronghorn, tule elk, American badger, and the federal and state endangered San Joaquin kit fox". However in other text in habitat assessment worksheets for San Joaquin kit fox, staff and CDFG rate the habitat value as very high for kit fox. In the Land Use Section of the PSA, the site is characterized as sensitive agricultural lands. Staff characterizes the site as a "former" agricultural field. In fact, the site is an active agricultural field owned by farmers intending to plant crops each year.

Staff misrepresents the habitat found on the CESF Project site and in the surrounding area. The main use of the project site as well as the majority of the surrounding lands is cultivation of agricultural crops and cattle grazing on a nearly year-round basis. During the 2007 surveys, the 640-acre site was a mostly unvegetated dirt field that had been recently disked and was sparsely populated with fiddle-neck and other disturbance-

related annual species. In January 2008, the site had been disked in anticipation of planting additional crops in the spring. The landowner had planned to plant carrots the late spring of 2008; however; because of the ongoing surveys required by CDFG, the landowner agreed to a request from the applicant, CDFG, and Energy Commission staff to discontinue their usual use of the Project site until after the biological surveys were completed. The lands in Section 33 were planted with barley in 2008 and were actively grazed during Summer and Fall of 2008. However, CEC Biology Staff state that the site is a fallow field while , conversely, CEC Land Use Staff characterize it is an agricultural field. Applicant feels CEC Biology staff's characterization is inaccurate since staff only recently precluded the landowner from using the property in its customary land use. While the CESF Site may currently support plant species that are found in annual grasslands, this is only because the landowner has not been allowed to cultivate the crops as they wish. In normal circumstances, the landowner would remove the annual vegetation during disking of the site for cultivation of agricultural crops. Therefore, it is not appropriate to call the vegetation on the Project site typical of annual grassland because the actual land use of the site would not maintain the species composition that defines this community. It is better characterized as cultivated dry land farming and grazed lands, which would also characterize the site more accurately as marginal kit fox foraging and pass-through habitat and merely a disturbed agricultural field.

Furthermore, the Land Use section of the PSA identifies the Project site as ***currently and historically used as agricultural lands according to CEC Staff analysis and San Luis Obispo County Department of Agriculture. As stated on Pages 4.5-9 and 4.5-10 of the PSA: "The site and area have a long and continuous history of use for dry-farmed grain production and for cattle grazing, both important components of the County's agricultural economy" (SLOC 2008d). Any habitat that exists on the property is and has been annually disturbed by farming activities and composed of land used for agriculture.' "Therefore, the conversion of any lands from agricultural production to protected biological resources habitat could result in agricultural land conversion impacts similar to those described …for the 640-acre CESF site*****." [emphasis added]**

On page 4.5-23, CEC Land Use Staff recommends Condition of Certification LAND-1, which requires Applicant to mitigate at a 1:1 ratio. It is expected that any mitigation for loss of habitat that would occur through the proposed compensation of agricultural lands would not necessitate any further mitigation for loss of additional agricultural lands. Alternatively, non-farmland could be used to mitigate for habitat loss and would not necessitate any further mitigation for loss of agricultural land.

Applicant does not understand the apparent contradiction between CEC Land Use Staff (who claim land is disturbed agricultural land) and CEC Biology Staff (who claim land is important SJKF habitat). Both staff are apparently asking the Applicant to mitigate for their conclusions, which are contradictory.

Any requirement to mitigate for loss of agricultural lands caused by mitigation for loss of habitat would amount to a penalty to the Project owner for choosing to site the project on already disturbed land. This appears to contradict the purpose of protecting either or both agricultural and biological resources in future projects.

| | |
|---|---|
|  | **Photograph #1:**<br>**Section 28 (proposed project site) in 2007. Note the recently disked nature of the field.** |
|  | **Photograph #2:**<br>**Section 28 (proposed project site) in 2008. Note the fiddleneck-dominated field.** |

| | |
|---|---|
|  | **Photograph #3:**<br>**Section 33 (proposed construction laydown area) in 2007. Note the recently disked nature of the field. This field was subsequently planted with barley that germinated sparsely due to poor rain conditions in 2007.** |
|  | **Photograph #4:**<br>**Section 33 (proposed construction laydown area) in 2007. Note the recent harvesting of the barley and evidence that the site is intensively used as agriculture.** |

**BIOLOGICAL RESOURCES Page 4.2-1**

The applicant has proposed mitigation in their 2008 Biological Surveys Report to address habitat loss impacts for the San Joaquin kit fox, California Species of Special Concern American badger (*Taxidea taxus*), and the rare native game species pronghorn (*Antilocapra americana)* by providing 705 acres of agricultural lands or naturalized habitats. However, staff and the CDFG are concerned that the agricultural uses of this habitat could impair the habitat value of that land, resulting in a deficient compensation proposal. Staff, in consultation with CDFG and USFWS, believe that a significantly

enhanced and expanded suite of measures will be required to mitigate these impacts... This habitat compensation land could mitigate for direct habitat loss impacts to kit fox, pronghorn, American badger, and burrowing owl (*Athene cunicularia*), and the rare native game species tule elk (*Cervus elaphus*), as well as mitigate for the loss of foraging habitat for raptors and California Species of Special Concern pallid bat (*Antrozous pallidus).*

**Comment:**

The current use of the land proposed for mitigation is agricultural use and fallow fields; pronghorn are found consistently in this habitat in its present condition. The land proposed for mitigation is the same land that pronghorn, SJKF, burrowing owl, raptors, and American badger have recently been recorded or observed in, and the land would remain intact in the current condition to maintain the existing habitat value. Applicant feels Staff and CDFG are not correctly representing the existing condition of the CESF Project site, its inherent biological value, and the habitat proposed for mitigation.

The expectation of staff, CDFG and FWS to create mitigation lands that are of higher value than the existing habitat that is currently utilized by the wildlife in the area is inappropriate based on the actual habitat value and use by the species that will be impacted. CEC Land Use staff have expressed a concern that enhancing these lands for biological values would be a significant land use impact that would require further mitigation.

There is no substantial evidence that the CESF Project site supports tule elk or pallid bat. CDFG GPS/aerial data indicates that tule elk use mostly the foothill lands located further east of the project site. No point location data for elk occurs near the CESF Project site.

Pallid bats inhabit rocky outcrop areas where they commonly roost in rock crevices, caves, and mine tunnels but they also roost in the attics of houses, under the eaves of barns, behind signs, in hollow trees, and in abandoned buildings. URS biologists searched the existing unoccupied buildings onsite as well on the adjacent property for the presence of roosting bats. No bat roosts were detected. This bat species does not have any specific foraging habitat preferences, and the entire western North American continent supports populations of this bat. Conservation concerns are more related to their roost sites rather than any limitation of foraging habitat. The International Union for the Conservation of Nature (IUCN) lists this bat species as a Species of Least Concern because of its wide distribution, presumed large population, occurrence in a number of protected areas and because it is unlikely to be declining at nearly the rate required to qualify for listing in a threatened category.

Tule elk and pallid bat have not been shown to use the CESF project area. The project will not significantly impact tule elk or pallid bat or their movement through the valley. Mitigation is not required for any species that is not significantly impacted by a project. All data that has been distributed by CDFG regarding tule elk show that this species uses the area of the valley closest to the foothills east and north of the project site, with focused areas to the north and northeast where calving grounds have been identified. If CDFG has data that illustrates otherwise, the applicant requests that these data be provided to the applicant as soon as possible.

**BIOLOGICAL RESOURCES Page 4.2-3**

**"BIOLOGICAL RESOURCES Table 1**
**Laws, Ordinances, Regulations, and Standards" Applicable Law Description**

| | |
|---|---|
| Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515) | Designates certain species as fully protected and prohibits the take of such species **or their habitat** unless for scientific purposes (see also California Code of Regulations Title 14, section 670.7). |

**Comment:**

The description for fully protected species is incorrect as to prohibition of loss of habitat. In Table 1, Description for Fully Protected Species: "Designates certain species as fully protected and prohibits take of such species or their habitat". The administering agency is CDFG. Fish and Game Code Section 86 defines "Take" as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill". There is no mention of habitat or habitat modification in the State definition of "Take".

Likewise, Fish and Game codes 3511, 4700, 5050, 5515 - dealing with identifying Fully Protected Species- makes no mention of habitat or habitat modification.

Applicant recommends that the LORS description delete "or their habitat" since Take is defined as killing of an individual that is listed as a fully protected species or listed under CESA. Occupied habitat and a direct mortality event must occur to have Take. Harassment is also not included in the State definition of Take. Applicant requests Table 1 be revised as follows:

**"BIOLOGICAL RESOURCES Table 1**
**Laws, Ordinances, Regulations, and Standards" Applicable Law Description**

| | |
|---|---|
| Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515) | Designates certain species as fully protected and prohibits the take of such species ~~or their habitat~~ unless for scientific purposes (see also California Code of Regulations Title 14, section 670.7). |

**BIOLOGICAL RESOURCES Page 4.2-5**

The system impact study PG&E conducted in March 2008 (PG&E 2008) does not reach a conclusion about the necessity of reconductoring a 75-mile section of the Morro Bay-Midway transmission line. The transmission line corridor traverses largely undeveloped and unpopulated areas within San Luis Obispo and Kern counties, with a high likelihood of encountering sensitive biological resources (CESF 2008c). If reconductoring is required, additional biological surveys will be necessary to identify the presence of sensitive biological resources and the potential effects that reconductoring would have on those resources. The results of those additional surveys would provide the

information necessary to avoid or mitigate potential impacts to biological resources along the transmission corridor.

**Comment:**

Because the Morro Bay Power Plant repower has dropped out of the California ISO queue, there will be no reconductoring required for this project. There is plenty of capacity on the existing lines. That line comes from Morro Bay and goes right next to the site (Transcript Page 20, Lines 2-8. Hearing - Motion to Compel Before the California Energy Resources Conservation and Development Commission, November 17, 2008).

**BIOLOGICAL RESOURCES Page 4.2-8**

Biological Resources Table 2
Special-Status Species Potentially Occurring in CESF Project Area

| Plants | Scientific Name | Status* |
|---|---|---|
| Indian Valley spineflower | *Aristocapsa insignis* | / /1B.2 |
| Heartscale | *Atriplex cordulata* | __/__/1B.2 |
| Lost Hills crownscale | *Atriplex vallicola* | __/__/1B.2 |
| San Luis Obispo mariposa lily | *Calochortus simulans* | / /1B.3 |
| Dwarf calycadenia | *Calycadenia villosa* | FSC/__/1B.1 |
| Lemmon's jewel-flower | *Caulanthus coulteri var. lemmonii* | __/__/1B.2 |
| Hall's tarplant | *Deinandra halliana* | / /1B.1 |
| Recurved larkspur | *Delphinium recurvatum* | __/__/1B.2 |
| Round-leaved filaree | *Erodium macrophylla* | __/__/1B.1 |
| Diamond-petaled California poppy | *Eschscholzia rhombipetala* | / /1B.1 |
| Coulter's goldfields | *Lasthenia glabrata* ssp. *coulteri* | __/__/1B.1 |
| Pale-yellow layia | *Layia heterotricha* | __/__/1B.1 |
| Munz's tidy-tips | *Layia munzii* | __/__/1B.2 |
| Jared's pepper-grass | *Lepidium jaredi* ssp. *jaredi* | __/__/1B.2 |
| Showy madia | *Madia radiate* | __/__/1B.1 |
| Parish's checkerbloom | *Sidalcea hickmanii* ssp. *parishii* | FC/SR/1B.2 |
| **Invertebrates** | | |
| Vernal pool fairy shrimp | *Branchinecta lynchii* | FT/__ |
| Longhorn fairy shrimp | *Branchinecta longiantenni* | FE/__ |
| **Amphibians** | | |
| Western spadefoot | *Spea hammondii* | __/CSC |
| **Reptiles** | | |
| Blunt-nosed leopard lizard | *Gambelia sila* | FE/SE/FP |
| **Birds** | | |
| Golden Eagle | *Aquila chrysaetos* | /CSC/FP |
| Burrowing owl | *Athene cunicularia* | __/CSC |
| Ferruginous hawk | *Buteo regalis* | |
| Northern harrier | *Circus cyaneus* | /CSC |
| Horned lark | *Eremophila alpestris* | __/CSC |
| Prairie falcon | *Falco mexicanus* | __/CSC__ |
| California condor | *Gymnogyps californianus* | FE/SE/FP |
| Bald Eagle (wintering) | *Haliaeetus leucocephalus* | __/SE/FP |
| Loggerhead shrike (nesting) | *Lanius ludovicianus* | __/CSC |
| Oregon vesper sparrow | *Pooecetes gramineus affinis* | /CSC |
| **Mammals** | | |
| Nelson's or San Joaquin antelope squirrel | *Ammospermophilus nelsoni* | /ST |
| Pronghorn | *Antilocapra americana* | |
| Pallid bat | *Antrozous pallidus* | __/CSC |
| Tule elk | *Cervus elaphus* | |
| Giant kangaroo rat | *Dipodomys ingens* | FE/SE |
| Tipton kangaroo rat | *Dipodomys nitratoides nitratoides* | FE/SE |
| Tulare grasshopper mouse | *Onychomys torridus tularensis* | FE/CSC |
| McKittrick pocket mouse | *Perognathus inornatus neglectus* | |
| American badger | *Taxidea taxus* | __/CSC |
| San Joaquin kit fox | *Vulpes macrotis mutica* | FE/ST |

*Status Legend (Federal/State/California Native Plant Society (CNPS) lists, CNPS list is for plants only): **FE** = Federally listed Endangered; **FT** = Federally listed Threatened; **FC** = Candidate Species for Listing; **SE** = State-listed Endangered; **ST** = State-listed Threatened; **SR** = State-listed Rare; **FP** = Fully Protected against take; **CSC** = California Species of Concern; **List 1B** = Rare or Endangered in California and elsewhere; **.1** = Very endangered in California; **.2** = Rare, threatened, or endangered in California, more common elsewhere; **.3** = Not very endangered in California; __ = not listed in that category. (Sources: CESF 2007a; CNDDB 2008).

**Comment:**

The species list provided by staff has additional species than the species list provided in the AFC document and 2008 Survey Report provided by the applicant. It is apparent that staff included species that are beyond the 10-mile buffer of the Project site. Applicant

requests clarification of staff's sources for these species, as CNDDB is the only source listed in the table. Applicant also requests justification for inclusion of several species, including longhorn fairy shrimp as this species was not included within a 10-mile buffer search; and for McKittrick pocket mouse, pronghorn and Tule elk, as these are not special-status species. CEC staff note in the PSA section text that most of the species listed in the table do not occur on the CESF project site. If CEC leaves these species in the table, the Applicant requests that a column be added to the list to note which species are documented on the project site and which are not, as shown below.

## Biological Resources Table 2
## Special-Status Species Potentially Occurring in CESF Project Area

| Plants | Scientific Name | Status* | Detected Onsite? |
|---|---|---|---|
| Oval-leaved snapdragon | *Antirrhinum ovatum* | __/__/4.2 | No |
| Indian Valley spineflower | *Aristocapsa insignis* | __/__/1B.2 | No |
| Heartscale | *Atriplex cordulata* | __/__/1B.2 | No |
| Lost Hills crownscale | *Atriplex vallicola* | __/__/1B.2 | No |
| San Luis Obispo mariposa lily | *Calochortus simulans* | __/__/1B.3 | No |
| Dwarf calycadenia | *Calycadenia villosa* | __/__/1B.1 | No |
| California jewel-flower | *Caulanthus californicus* | FE/SE/1B.1 | No |
| Lemmon's jewel-flower | *Caulanthus coulteri* var. *lemmonii* | __/__/1B.2 | No |
| Hall's tarplant | *Deinandra halliana* | __/__/1B.1 | No |
| Recurved larkspur | *Delphinium recurvatum* | __/__/1B.2 | No |
| Hoover's eriastrum | *Eriastrum hooveri* | FD/__/4.2 | No |
| Round-leaved filaree | *Erodium macrophylla* | __/__/1B.1 | No |
| Diamond-petaled California poppy | *Eschscholzia rhombipetala* | __/__/1B.1 | No |
| Coulter's goldfields | *Lasthenia glabrata* ssp. *coulteri* | __/__/1B.1 | No |
| Pale-yellow layia | *Layia herterotricha* | __/__/1B.1 | Yes – One Individual Plant |
| Munz's tidy-tips | *Layia munzii* | __/__/1B.2 | No |
| Jared's pepper-grass | *Lepidium jaredi* ssp. *jaredi* | __/__/1B.2 | No |
| Showy golden madia | *Madia radiate* | __/__/1B.1 | No |
| Parish's checkerbloom | *Sidalcea hickmanii* ssp. *parishii* | FC/SR/1B.2 | No |
| **Invertebrates** | | | |
| Vernal pool fairy shrimp | *Branchinecta lynchii* | FT/__ | No |
| Longhorn fairy shrimp | *Branchinecta longiantenni* | FE/__ | No – not known within 10 mile assessment area |
| **Amphibians** | | | |
| Western spadefoot | *Spea hammondii* | __/CSC | No |
| **Reptiles** | | | |
| Southwestern pond turtle | *Actinemys marmorata pallida* | __/CSC | No |
| Blunt-nosed leopard lizard | *Gambelia sila* | FE/SE/FP | No |
| **Birds** | | | |
| Golden Eagle | *Aquila chrysaetos* | __/CSC/FP | No – Yes in vicinity |
| Burrowing owl | *Athene cunicularia* | __/CSC | No – Yes on adjacent land |

## Biological Resources Table 2
## Special-Status Species Potentially Occurring in CESF Project Area
## (Continued)

| Plants | Scientific Name | Status* | Detected Onsite? |
|---|---|---|---|
| Ferruginous hawk | *Buteo regalis* | | No |
| Northern harrier | *Circus cyaneus* | __/CSC | No – Yes in vicinity |
| Horned lark | *Eremophila alpestris* | __/CSC | Yes |
| Prairie falcon | *Falco mexicanus* | __/CSC | No |
| California condor | *Gymnogyps californianus* | FE/SE/FP | No |
| Bald Eagle (wintering) | *Haliaeetus leucocephalus* | __/SE/FP | Yes-and In Vicinity |
| Loggerhead shrike (nesting) | *Lanius ludovicianus* | __/CSC | No |
| Oregon vesper sparrow | *Pooecetes gramineus affinis* | __/CSC | No |
| **Mammals** | | | |
| Nelson's or San Joaquin antelope squirrel | *Ammospermophilus nelsoni* | __/ST | No |
| Pronghorn | *Antilocapra americana* | No Status | Yes |
| Pallid bat | *Antrozous pallidus* | __/CSC | No |
| Tule elk | *Cervus elaphus* | No Status | No |
| Giant kangaroo rat | *Dipodomys ingens* | FE/SE | No |
| Tipton kangaroo rat | *Dipodomys nitratoides nitratoides* | FE/SE | No |
| Tulare grasshopper mouse | *Onychomys torridus tularensis* | FE/CSC | No |
| San Joaquin pocket mouse | *Perognathus inornatus inornatus* | No Status | No |
| McKittrick pocket mouse | *Perognathus inornatus neglectus* | No Status | Yes |
| American badger | *Taxidea taxus* | __/CSC | Yes |
| San Joaquin kit fox | *Vulpes macrotis mutica* | FE/ST | Yes |

***Status Legend** (Federal/State/California Native Plant Society (CNPS) lists, CNPS list is for plants only): **FE** = Federally listed Endangered; **FT** = Federally listed Threatened; **FC** = Candidate Species for Listing; **FD** = Federally Delisted; **SE** = State-listed Endangered; **ST** = State-listed Threatened; **SR** = State-listed Rare; **FP** = Fully Protected against take; **CSC =** California Species of Concern; **List 1B** = Rare or Endangered in California and elsewhere; **.1 =** Very endangered in California; **.2** = Rare, threatened, or endangered in California, more common elsewhere; **.3 =** Not very endangered in California; __ = not listed in that category. (Sources: CESF 2007a; CNDDB 2008).

Yellow Highlighted species indicate those that were not on the CNDDB query (September 2007) and that CEC added in the PSA. Additions in red are new species in the CNDDB query within the 10-mi assessment area after 2007.

| Mammals | Scientific Name | Status |
|---|---|---|
| Pronghorn | Antilocapra americana | None |
| Tule elk | Cervus elaphus | None |
| McKittrick pocket mouse | Perognathus inornatus neglectus | None |

**BIOLOGICAL RESOURCES Page 4.2-10**

Rare plant surveys were conducted during the dry 2007 season, and also during the 2008 season. An individual of pale-yellow layia was found near the abandoned homestead on the project site. According to the California Native Plant Society's Inventory of Rare and Endangered Plants, this species is a List 1 B.1 species, which

means it is rare, threatened, or endangered in California and elsewhere, and seriously endangered in California (CNPS 2008). While the applicant characterizes loss of a single individual as less than significant, this individual is representative of a larger population of a rare species. It is possible that conditions were not conducive for germination and flowering in 2008, but no other populations were visited to determine this. Staff has suggested mitigation measures (e.g., preservation of existing off-site occurrences, creation of off-site occurrences through transplantation or seed collection) in the event that rare plants are located in the project area and loss of plants is unavoidable. Staff recommends the applicant conduct rare plant surveys according to CDFG protocols in 2009, and salvage seed from flowering rare plants that are found (see proposed Condition of Certification **BIO-11**). The applicant will develop a rare plant mitigation plan, with the input and approval of CDFG and Energy Commission biological resources staff. The details of a rare plant mitigation plan will be approved by Energy Commission staff and CDFG, and included in the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP, see proposed Condition of Certification **BIO-6)**.

**Comment:**

The statement ''It is possible that conditions were not conducive for germination and flowering in 2008, but no other populations were visited to determine this" is incorrect. Reference populations for all rare plants with the potential to occur in the Project vicinity were visited during each botanical survey period as requested by CDFG staff. This was stated in the methods section of the Biological Resources Report Update dated October 9, 2008. Furthermore, the pale-yellow layia referenced above was observed during the botanical surveys, not during subsequent surveys in the blooming season in 2008. It is not likely to be present in 2009 due to planned agricultural activities and the applicant feels a third year of surveys are excessive and not warranted given the site is an active agricultural field and is not necessary per CEQA guidelines.

Applicant also does not agree with staff that the loss of one individual plant species is a significant impact. One individual does not constitute a population and it would likely be destroyed during disking of the site by the landowner during normal agricultural activities. This individual plant was detected in an atypical habitat (an agricultural field) and is not a part of a larger population since the Project site is surrounded by lands with similar agricultural land uses. Mitigation is not required by CEQA for non-significant impacts; therefore, applicant does not agree with the mitigation measures proposed by staff for the loss of the single individual plant of a non-ESA listed species. No ESA listed species are present onsite and no mitigation for rare plants is warranted.

**BIOLOGICAL RESOURCES Page 4.2-11**

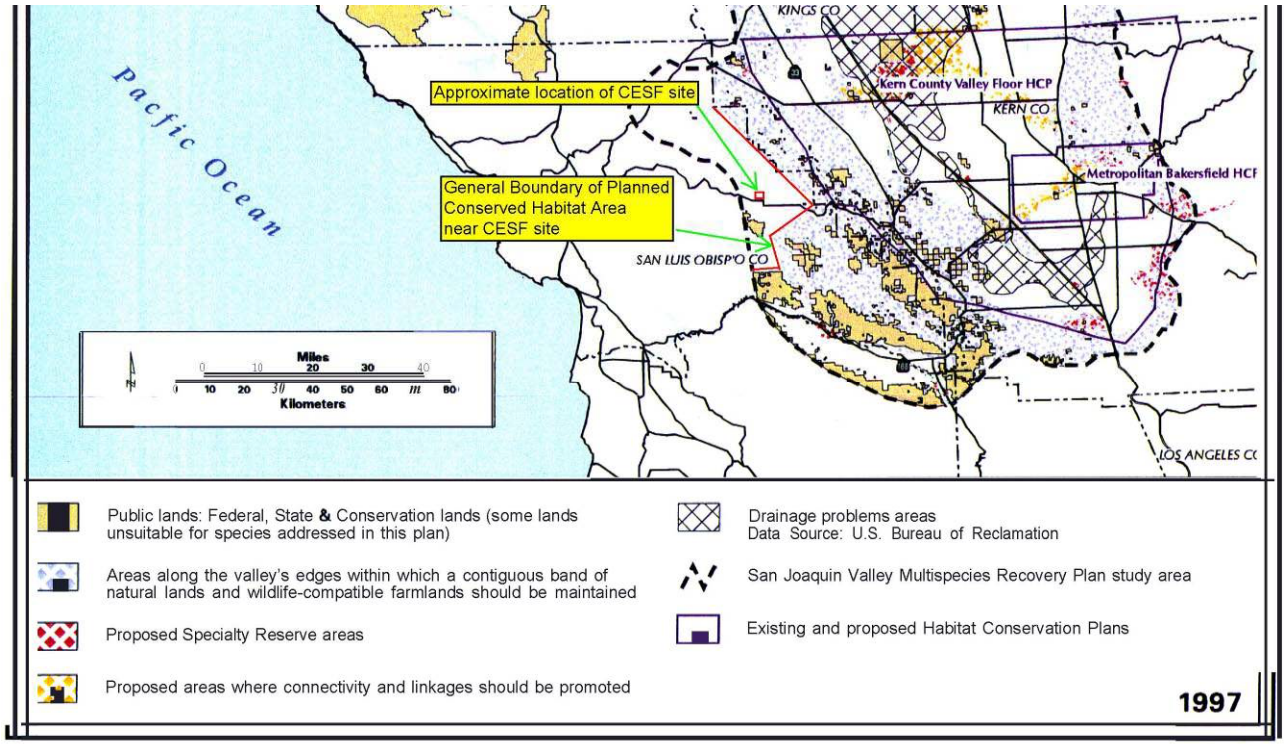
The CESF project area is important flat-land kit fox habitat because it provides suitable habitat between the core Carrizo Plain kit fox population in the Carrizo Plain National Monument to the south and the Salinas-Pajaro population to the northwest and western Kern populations to the east. The 1020-acre project area serves to connect blocks of natural land to core and other populations, and is intended to play an important role in the regional strategy to recover the San Joaquin kit fox… Kit fox may use vacant badger dens for shelter (CDFG 2008a). The CESF project site is active territory for American badger, and provides foraging and potential shelter habitat for kit fox.

**Comment:**

The CESF Project area is a 1-mile square section of agricultural land that is located within a much larger open landscape that provides an unconstrained connection between core populations of kit fox. The customary use of the CESF Project site is active agricultural farming, which is marginal kit fox habitat. The prey base of kangaroo rats is absent from the project site, and denning habitat is not available due to the presence of the active badger territories onsite and on adjacent lands. Badgers are known to predate on kit fox, are ecological competitors (both feed on rodents), and kit fox tend to use holes that are small enough so that coyote and badger can not fit into them. Badgers can easily dig out a denning fox in an agricultural field. It is unreasonable to state that kit fox may use vacant badger dens in an actively occupied badger territory. Resident badgers will exclude kit fox from the site and adjacent lands.

The project site is a one square mile site within a landscape dominated by agricultural lands. The Carrizo Plain (California Valley plus the Carrizo Plain Monument) covers over 750 square miles of potential habitat for kit fox. It is not appropriate to state that the project site alone connects blocks of natural land over a 100-mile long route between the two populations. The CESF site is a fraction (approximately 0.13%) of the much larger landscape-scale blocks of land that the Project site is situated within. Furthermore, wildlife habitat values are not significantly affected by the Project with applicant's proposed mitigation. Grasslands and agricultural lands are the dominant land cover within the western coastal region of California, representing over 44% of the County land cover and 55% in the Carrizo Plain.

While the project vicinity may be intended to play a role in kit fox recovery; this is at best only a vague reference in the Recovery Plan for Upland Species of the San Joaquin Valley, as shown by several figures excerpted from the Recovery Plan. California Valley was identified as a general area in text but is not expectedly shown as a core area in the Recovery Plan's maps that show the planned corridors. The applicant feels that if the project vicinity was truly important for kit fox recovery, it would have been explicitly included in the Plan's mapping to begin with, and that data are lacking to support the statements of CEC staff, CDFG and USFWS. A close reading of the Recovery Plan indicates that the Plan makes no definitive policy goal that can be implied as being relevant to the assessment of the project site. The open landscape surrounding the project site provides ample opportunities for kit fox and other wildlife to move between areas considered regionally important for wildlife.




**Recovery Plan Map showing corridors and areas of planned conserved habitat.**

**BIOLOGICAL RESOURCES Page 4.2-11**

Although the California condor is not currently active in the vicinity of the CESF (CESF 2008e), there is a possibility that condors may be encouraged to return to the area (CDFG 2008a). Staff is continuing to coordinate with USFWS and CDFG to determine the potential for the CESF to impact condors.

**Comment:**

The CESF Project impact assessment can not be based on speculative actions that are not documented in any planning document that has been subject to public review and comment or approval by the Fish & Game Commission. California Condors are not documented in California Valley, but forage in the adjacent foothills west of the project site. California Valley is dominated by privately owned lands. Where would the inferred condor management activity take place relative to the CESF Project site? The applicant's consultant is concerned that the habitat enhancement alluded to will negatively impact current and planned land uses described in the County General Plan, and private landowners' expectations. Such a management action would need to be assessed under CEQA and approved by the Fish & Game Commission and regional USFWS management. The CESF project impact assessment can only be based on existing conditions and existing approved planning documents and not undocumented conclusions.

**BIOLOGICAL RESOURCES Page 4.2-12**

Pronghorn cross State Route 58 at the project site; this crossing location may be crucial to maintaining connectivity within the home range of one of the pronghorn herds and within the entire San Luis Obispo County pronghorn population. Tule elk are known to utilize the project site and may use it for calving (CDFG 2008a).

**Comment:**

The CDFG data indicate that elk use the eastern foothills for transit and that calving occurs northeast of the Project site. Tule elk have not been observed on the Project site, and are not expected to use the site because the site is not suitable and is located several miles from the foothills that the elk utilize. No substantial evidence has been provided to indicate that elk use the CESF Project site, and personal communications are not data since there is no documentation detailing the date(s) of observation. If CDFG has detailed data (field notes, photos, etc.) that demonstrates substantial use by tule elk on the Project site, then the applicant requests that this information be provided to the Applicant as soon as possible. Using CDFG GIS/aerial survey data, URS identified three highway segments that are used by Pronghorn. The CESF site is associated with only one of these highway crossings. It should be noted that this crossing is associated with the watering facility located in the south half of Section 33. Pronghorn cross the highway to access this water source.

**BIOLOGICAL RESOURCES Page 4.2-12**

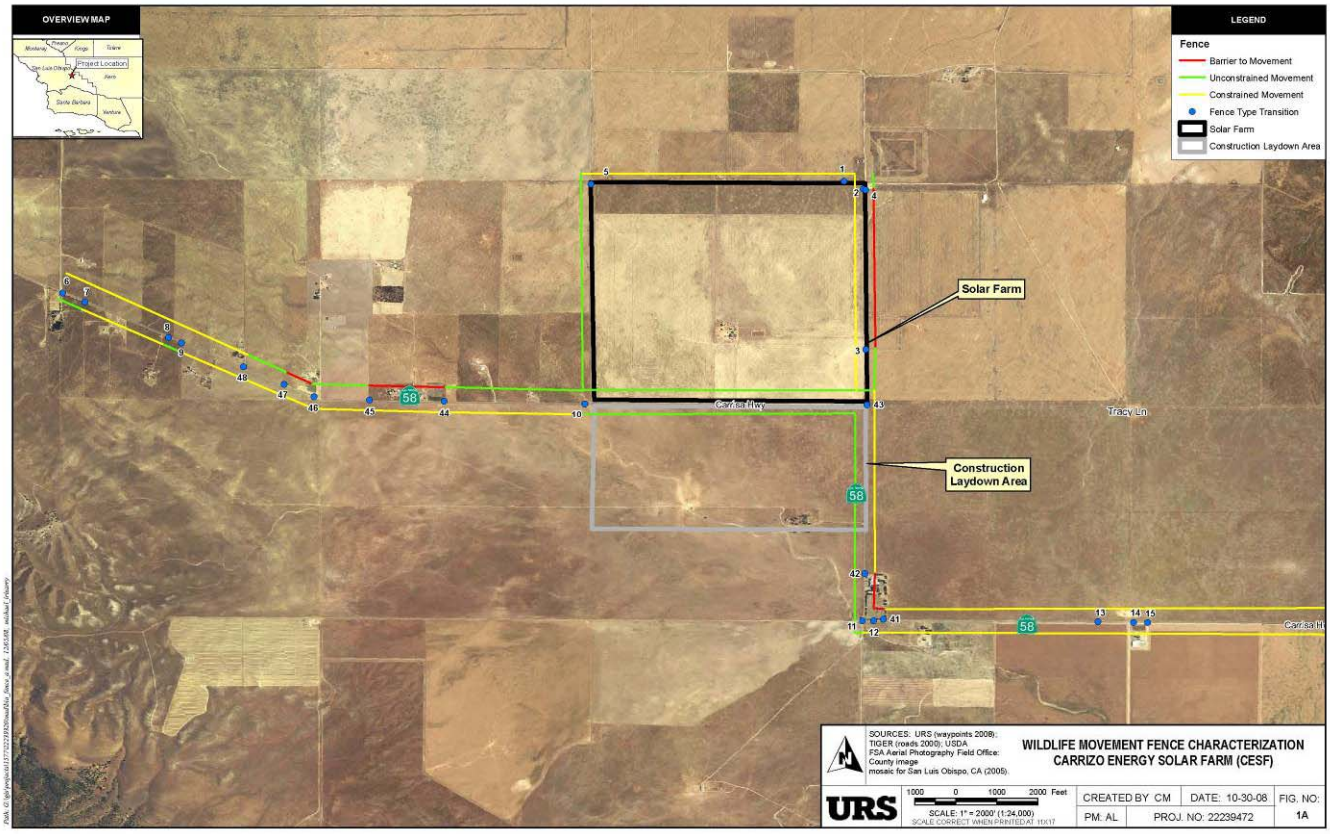
The proposed impermeable fencing is also likely to inhibit fawns and adults during pursuits, thereby increasing coyote predation. This is a known effect on pronghorn of livestock fencing and would be even greater with the proposed chain-link fence… The applicant did receive some data regarding pronghorn from CDFG, but misunderstood the origin of the data and its implications. The pronghorn data points received by the applicant were from aerial surveys, not radio telemetry as stated in the applicant's 2008 Biological Surveys Report (CESF 2008e). The applicant also states in the surveys report that there are three SR-58 highway crossings for pronghorn, with the furthest east crossing also used by tule elk. CDFG has observed only a single pronghorn crossing, at the project site. CDFG observations indicate that the elk herd does not cross SR-58 (CDFG 2008a).

**Comment:**

The data show the elk using the habitat immediately to the north of the SR-58, east of the Project site and to the north/northwest. The calving areas are located to the northeast. If elk cross SR-58, they would likely cross at the location of highest density use east of the Project site and not at the CESF site, as there are no data that show elk using lands on or near the Project site. Pronghorn have been observed utilizing the habitat immediately east of the Carissa Plains Elementary School north of SR-58. This would indicate that the pronghorn cross the highway at this location and not only at the highway at the CESF site. Additional sightings further east associated with the Tule elk use area are also used by pronghorn.

URS conducted a fence survey to determine how well the fencing complied with the CDFG guidelines for wildlife-friendly fences. With the exception of the few areas along SR-58 where there are no fences at all, no fence type surveyed completely follows the CDFG recommended guidelines for being a wildlife friendly fence. During the fence characterization survey, pronghorn were observed on both sides of Hwy 58 and cross regardless of fence types. Figures 1A-1C below show the results of the fence survey within the vicinity of the CESF Project site from Bitterwater Road to Seven Mile Road along SR-58. Pronghorn presence on both sides of the highway indicates they are not constrained by fencing along the highway. The location of the CESF project will not constrain pronghorn or any other wildlife due to the unconstrained landscape surrounding the project site.

It is important to note that, although CDFG and CEC are concerned about the viability of the local pronghorn and elk populations with respect to the CESF Project, these species are game animals, are CDFG-introduced populations to the Carrizo Plain, and there are currently no CDFG policy directives or site-specific planning documents regarding management of pronghorn or elk specific to these populations that should be considered in land use planning decisions of the private lands in California Valley.


OVERVIEW MAP
Project Location
LEGEND
Fence
Barrier to Movement
Unconstrained Movement
Constrained Movement
Fence Type Transition
Solar Farm
Construction Laydown Area
Solar Farm
Construction Laydown Area
Carrizo Hwy
Tracy Ln
58
SOURCES: URS (waypoints 2008); TIGER (roads 2000); USDA FSA Aerial Photography Field Office: County image mosaic for San Luis Obispo, CA (2005).
WILDLIFE MOVEMENT FENCE CHARACTERIZATION
CARRIZO ENERGY SOLAR FARM (CESF)
URS
1000 0 1000 2000 Feet
SCALE: 1" = 2000' (1:24,000)
SCALE CORRECT WHEN PRINTED AT 11X17
CREATED BY CM
DATE: 10-30-08
FIG. NO: 1A
PM: AL
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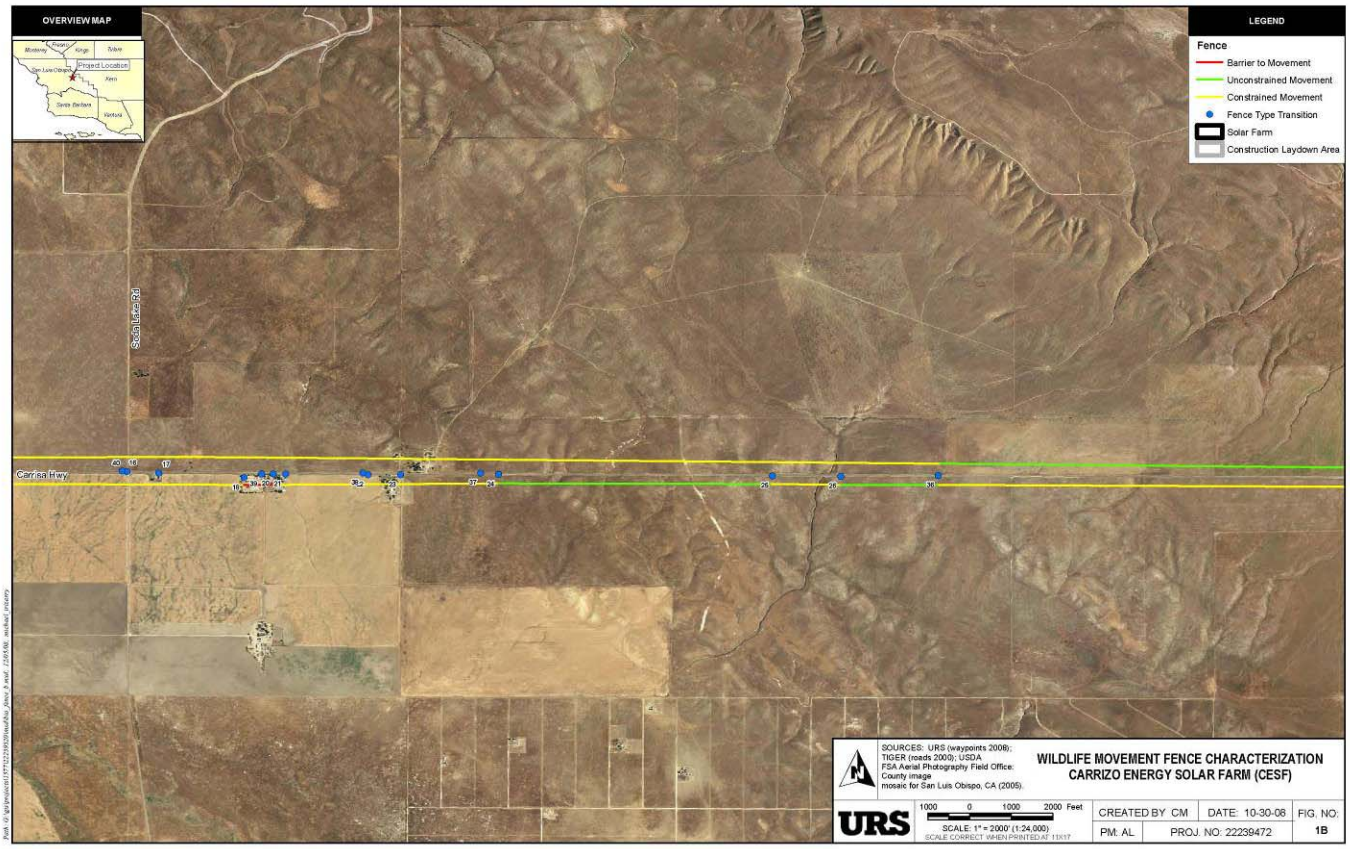
OVERVIEW MAP
Project Location
LEGEND
Fence
Barrier to Movement
Unconstrained Movement
Constrained Movement
Fence Type Transition
Solar Farm
Construction Laydown Area
Carrizo Hwy
Soda Lake Rd
SOURCES: URS (waypoints 2008); TIGER (roads 2000); USDA FSA Aerial Photography Field Office: County image mosaic for San Luis Obispo, CA (2005).
WILDLIFE MOVEMENT FENCE CHARACTERIZATION
CARRIZO ENERGY SOLAR FARM (CESF)
URS
1000 0 1000 2000 Feet
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SCALE CORRECT WHEN PRINTED AT 11X17
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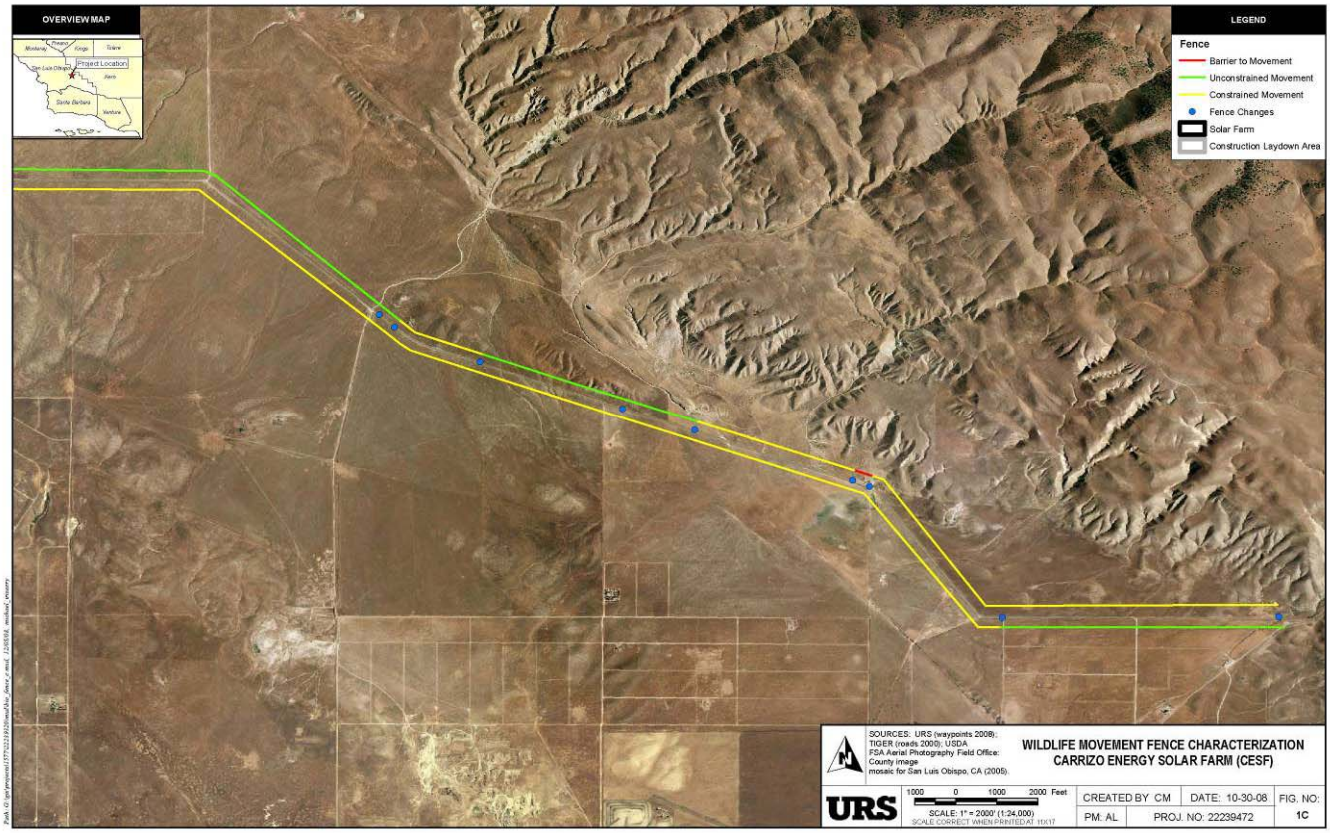


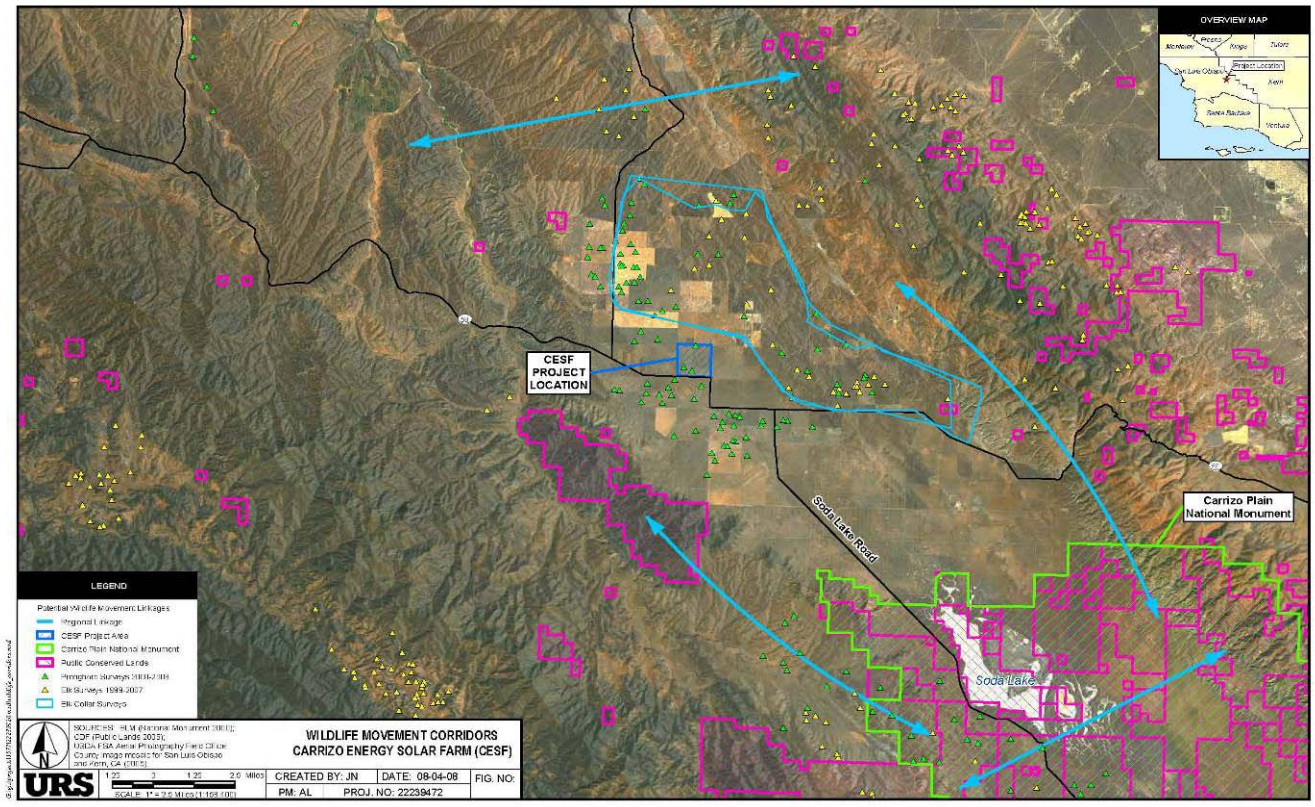

**BIOLOGICAL RESOURCES Page 4.2-13**

The applicant incorrectly describes the project area as not an important corridor area in the USFWS Recovery Plan for Upland Species of the San Joaquin Valley. The project area is in the corridor linking the Carrizo Plains National Monument to satellite populations of San Joaquin kit fox in the Salinas River and Pajaro River watersheds (CDFG 2008b). The federal Recovery Plan for Upland Species of the San Joaquin Valley identifies this corridor as essential to maintaining and recovering those kit fox populations and the species, as connections between populations counteract inbreeding or declines in any one population. The specified recovery action which applies to this site is: "Protect and enhance corridors for movement of kit foxes through the Salinas-Pajaro Region and from the Salinas Valley to the Carrizo Plain and San Joaquin Valley" (USFWS 1998).

**Comment:**

Applicant is unable to find and USFWS has admitted the USFWS Recovery Plan for Upland Species does not identify California Valley as critical habitat or as an important or critical corridor area for recovery of the kit fox. Applicant requests that CEC Staff point to the specific page and reference within the USFWS Recovery Plan for Upland

Species of the San Joaquin Valley where it states the Project location is critical habitat or within a critical corridor for the kit fox. Furthermore, the Project site is a fraction of the area identified in the Recovery Plan. The area identified by CEC staff encompasses several million acres: the CESF Project site is 640 acres. Applicant feels CEC Staff is overstating project impacts to SJKF movement. The project will not preclude kit fox or any other wildlife from exchanging individuals between regional populations (see attached figure below). The Applicant feels the CESF Project does not constrain any wildlife movement given the proposed mitigation lands being offered.




**BIOLOGICAL RESOURCES Page 4.2-13**

Additional mitigation is likely to be necessary. Staff and CDFG believe that the applicant's proposed mitigation is insufficient to meet the California Endangered Species Act (CESA) obligation that project impacts be fully mitigated. The applicant's proposed watering facilities will need to be evaluated, as this may expose the pronghorn to increased likelihood of predation.

**Comment:**

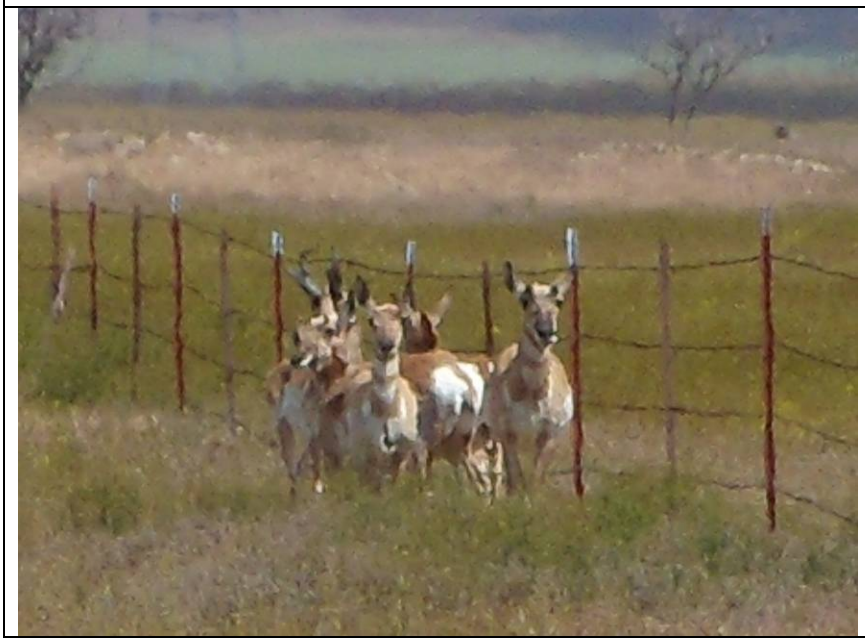
The proposed watering facilities wouldn't expose the pronghorn to increased predation any more than the existing watering facilities at the laydown site do currently. Herding

behavior by pronghorn is this species' behavioral strategy to minimize predation. Water is a limiting resource for pronghorn and other wildlife, as was observed in 2007. Pronghorn in the dry 2007 were in poor condition compared to wet 2008, as shown in the photographs below. One reason pronghorn use Section 33 is because of the water source provided by the cattle operation. The proposed mitigation specifically mitigates the limited biological values associated with the CESF Project site. Providing a water source north of the highway would allow pronghorn access to a water source without crossing the Highway to access the water source in Section 33. Hence, potential for roadkill may be lessened with provision of water north of Highway 58.

CEQA requires mitigation only for significant impacts, and that mitigation measures must be practicable and reasonably proportional to the impacts assessed. See detailed response regarding habitat mitigation ratios below.

**Photograph #1:**

**Pronghorn in poor condition in 2007. Also note that this pronghorn is using the existing disked agricultural field in Section 33 where the Construction Laydown Area is proposed.**

| | |
|---|---|
|  | **Photograph #2:**<br>**Pronghorn in 2007. Also note that these pronghorn are using the existing disked agricultural land use in the proposed Construction Laydown Area.** |
|  | **Photograph #3:**<br>**Pronghorn in 2008. Note the much more robust condition of these animals.** |

| | |
|---|---|
|  | **Photograph #4:**<br>**Pronghorn in 2008. Note the much more robust condition of these animals.** |

**BIOLOGICAL RESOURCES Page 4.2-13**

Other potential wildlife corridor mitigation may include replacement of fencing with fencing that allows passage of pronghorn, the construction of special fence crossings, and additional signage or other measures yet to be developed.

**Comment:**

URS conducted a fence characterization survey to determine how well the existing fencing complied with the CDFG guidelines for wildlife-friendly fences. With the exception of the few areas along SR-58 where there are no fences at all, no fence type within the survey area completely follows the CDFG recommended guidelines for being a wildlife-friendly fence. However, the fence characterization survey, pronghorn were seen around SR-58 and are believed to still cross the all fence types. Figures 1A-1C above show the results of the fence survey within the vicinity of the CESF Project site from Bitterwater Road to Seven Mile Road along SR-58. CESF has proposed mitigation measures that include replacement of fencing near the Project site to allow less constrained passage of pronghorn and other wildlife. Discussions between CEC, CDFG and CalTrans to implement measures that would slow down traffic along the highway segments where pronghorn cross need to be initiated to reduce the potential for roadkill. This could include a solar-powered speed indicator sign to make drivers more aware of their speed as they approach the wildlife crossing segments. CEQA requires mitigation only for significant impacts, and that mitigation measures must be practicable and reasonably proportional to the impacts assessed. See detailed response regarding habitat mitigation ratios below.

**BIOLOGICAL RESOURCES Page 4.2-14**

Projects such as the CESF that are larger than 40 acres are required to complete a San Joaquin kit fox habitat evaluation that is used to judge the quality of habitat that a project would impact and the compensation ratio that would be required. The habitat quality is

measured on a 100-point scale, with a score of zero indicating no habitat impacts to kit fox, and a score of 100 indicating the potential for substantial impacts to important kit fox habitat. If the project area scores between 50 and 59, then a compensation ratio of 1:1 is required, with the ratio increasing for each 10-point increase in score, so that a project scoring 90 or higher would be required to compensate at a ratio of 5:1 (CDFG 2008a). The applicant completed the habitat evaluation and arrived at a score of 50, suggesting a compensation ratio of 1:1. However, Energy Commission staff, in coordination with CDFG, completed the habitat evaluation for the CESF and arrived at a score of 92 for the project site, and a score of 87 (CDFG 2008a) for the construction laydown area. The habitat evaluation results calculated by CDFG and staff would result in a habitat compensation ratio of 5:1 for the project site and 4:1 for the laydown area (forms attached in Appendix A).

**Comment:**

As stated above, the Applicant feels CEC staff and CDFG have misrepresented the habitat found on the CESF Project site and in the surrounding area. This results in an inflated habitat suitability index. The main use of the project site as well as the majority of the surrounding lands is cultivation of agricultural crops and cattle grazing on a year-round basis. While the CESF Site may currently support plant species that are found in annual grasslands, the actual typical vegetation cover of the site would not maintain the species composition that defines this community. It is more accurately described and properly represented as cultivated dry land farming and grazed lands, which is marginal for kit fox foraging and is primarily pass-through habitat for fox to access suitable habitat further to the east and west of the site. The CESF site is an active agricultural field that is tilled two or three times each year.

The habitat evaluation results as calculated by CDFG and staff are higher than the applicant's scores because staff and CDFG overestimated the values of the existing habitat. The four questions where staff and CDFG scores divert from the applicant's scores are discussed below.

**Question 1** of the evaluation form rates the importance of the project area relative to the Recovery Plan for Upland Species of the San Joaquin Valley. CDFG and staff claim that the Project would block an existing corridor linking core populations or isolate a subpopulation, which is a score of 20 points. The 1-mile square (640 acres) site is a small portion of the overall larger open landscape (750 square miles) that it is located within. It does not in any way block or degrade corridors or isolate a subpopulation. The project is best characterized as 'within known kit fox range' (score of 5). The Recovery Plan does not indicate that California Valley is a focal area for habitat conservation.

In **Question 2** of the form staff and CDFG inaccurately characterize the site as fallow ag fields and alfalfa crops (score of 7). Again, at this moment the site may be fallow; however, its customary, long-term use is intensively maintained row crops and it is disked on a regular basis (score of 0). The only reason it was "fallow" in 2008, is because CDFG staff asked that the site not be planted with crops during the biological surveys in 2008. The site was tilled in 2007 and January 2008.

**Question 3** characterizes isolation of the project area, and again, staff and CDFG inaccurately represent the condition of the Project site. Staff and CDFG claim that the 'Project is surrounded by contiguous kit fox habitat' (score of 15 points). The site is not in fact surrounded by kit fox habitat; but is isolated by row crops or development and is greater than 200 yards from potential habitat' (0 points). Hence why the site is characterized as pass-through habitat for kit fox.

**Question 4** discusses mortality of kit fox. Staff and CDFG characterize this as increased mortality likely (score of 10); however, the applicant's consultant maintains that the mortality effects are unknown or will remain the same as the current conditions due to the existing potential for road kill along Hwy 58 (score of 5). Construction BMPs and additional proposed mitigation related to construction traffic will minimize any additional potential for road kill. Construction traffic will be during the day-time, when fox are not likely to be at risk of being roadkilled.

In addition, **Question 7** of the evaluation form also misrepresents the facts. The site is not a linear shape, but it is also not a large block in relation to the large open landscape that it is situated within. The correct suitability index is 50 points, as assessed by the project proponent and justifies the proposed mitigation ratio per CEQA requirements. A 4:1 or 5:1 mitigation ratio is not practicable nor proportional to the resource values present at the CESF site. The proposed mitigation program is practicable, proportional, and specific to the significant impacts assessed at both project and cumulative levels.

**BIOLOGICAL RESOURCES Page 4.2-15**

The USFWS considers impacts to be "temporary" if they persist for 2 years or less, (USFWS 2008a). The construction laydown area would be in use and not available for use by badger and kit fox for at least 35 months, which the USFWS would consider to be a "permanent" impact. The nearly three-year period of disturbance for the construction laydown area could impact an entire generation of these animals. The isolating nature of the large barrier posed by the construction laydown area can impact the viability of local populations, prevent juvenile dispersal, and have implications for the gene flow and viability of other populations in the region.

**Comment:**

The CESF construction laydown area is 380 acres in a landscape of over 480,000 acres that comprises the topographical feature of the Carrizo Plain (15 miles wide by 50 miles long, and includes the 250,000 acres of the Carrizo Plain National Monument to the southeast of the CESF site). Badger were minimally active on the laydown site, and no kit fox dens or other sign were observed during the surveys of the laydown area. The one kit fox that was observed was a road kill on the edge of the property along SR-58; this is the only positive proof kit fox actually occur in the immediate the Project vicinity. The lack of sign and dens on the project site or vicinity and the location of the road kill would indicate that kit fox do not use the laydown area on a regular basis, and would therefore not be subject to isolation as a result of the presence of the construction laydown area for 35 months. They would likely travel around the site and use pass-through habitat that is adjacent.

Furthermore, kit fox are highly adaptable with well established populations thriving in areas of increasing suburbanization (Bakersfield, Coalinga, Starwood, Panoche). It is likely that their life cycle would not be significantly impacted by the presence of the construction laydown area for 3 years, as kit fox have been reported to live up to 7 or 8 years of age in the wild, and up to 10 years in captivity (FWS Recovery Plan 1998). They do not become sexually mature until 22 months of age. Therefore, the applicant feels that the laydown area should not represent a permanent impact. Furthermore, with proposed mitigation, wildlife habitat values in the surrounding area would not be significantly affected by the Project.

Proposed mitigation for kit fox also adequately mitigates the temporary displacement of badger from the laydown area. So long as California ground squirrels remain in the project vicinity, badgers will remain in the area. Notably, the IUCN lists badger as a Species of Least Concern since the species has large range and is relatively common over much of range, but probably has declined substantially in areas converted from grassland to intensive agriculture and where colonial rodents such as prairie dogs and ground squirrels have been reduced or eliminated. Badger is also threatened by collisions with vehicles and by direct persecution but not at a rate sufficient to qualify for a threat category. The California range of badger has not been reduced, but select local populations such as in the west-central coastal region of the State are declining due to suburbanization, roadkill, and rodenticide programs by agricultural interests and others.

**BIOLOGICAL RESOURCES Page 4.2-15**

The applicant has proposed designating a 705-acre agricultural easement as mitigation for impacts to San Joaquin kit fox habitat at a 1.1:1 ratio. However, the conservation of an adjacent area does not offset the 640-acre net loss of kit fox habitat, and the USFWS will not accept an agricultural easement as habitat compensation (USFWS 2008a). The applicant must coordinate with staff, CDFG, and USFWS to establish the easement conditions for the habitat compensation lands, find a public agency or approved non-profit organization, such as the California Wildlife Foundation (CDFG 2008a), to manage the easement, and establish a non-wasting endowment for the management of the property in perpetuity, as recommended in staff's proposed Condition of Certification **BIO-17**.

**Comment:**

As discussed above, the current use of the land proposed for mitigation is active agricultural land and grazing lands. Pronghorn are consistently found in this habitat type in its present condition. Kit fox were only found near the site as road kill; no other evidence of this species use of the Project site is documented. The land proposed for mitigation is the same land that kit fox, pronghorn, burrowing owl, raptors, and American badger have recently been recorded or observed in, and the land would remain intact in the current condition to maintain existing habitat values. This is In-Kind habitat mitigation. There is no need for an endowment since the existing economic use of the lands placed under agricultural easement would remain intact.

**BIOLOGICAL RESOURCES Page 4.2-16**

The applicant states that burrowing owls will still be able to use the site after construction of the project, but staff and CDFG believe the extensive vertical columns and guy wires will likely preclude burrowing owls from using the site once the project is built (CDFG 2008a).

**Comment:**

Burrowing owl (and other raptor species) are known to perch on fences and other elevated areas to forage and to begin hunting forays as well as look out for potential predators. Please note; however, that burrowing owl are not present on the Project site at this time, and the nearest known owl location in 2008 was greater than 500 feet away. Regardless, the proposed offsite mitigation lands will benefit burrowing owl and other raptors.

**BIOLOGICAL RESOURCES Page 4.2-16**

The applicant has not yet filed a Section 2081 Incidental Take Permit application or Streambed Alteration Agreement application with CDFG. Potential compensation lands for mitigation of impacts to biological resources from loss of habitat, migratory corridor impacts, and cumulative impacts have yet to be identified.

**Comment:**

A 2081.1 concurrence would be requested once the Biological Opinion is received from USFWS.

Compensation lands have been identified and total 705 acres in Sections 32 & 33.

**BIOLOGICAL RESOURCES Page 4.2-17**

If the project is unable to avoid impacting Carrissa Creek, the applicant would likely need a Clean Water Act Section 401 certification from the Central Coast Regional Water Quality Control Board, a Section 404 permit from the U.S. Army Corps of Engineers, and a Streambed Alteration Agreement from CDFG (see proposed Conditions of Certification **BIO-9, BIO-13, BIO-14,** and **BIO-16**).

**Comment:**

Applicant is aware of and is in the process of acquiring of the above permit, certification and agreement.

**BIOLOGICAL RESOURCES Page 4.2-17**

The applicant has proposed mitigation, such as timing construction outside the breeding season of sensitive species and conducting biological monitoring, to minimize the direct impact of noise to sensitive biological resources surrounding the site.

**Comment:**

Note that the proposed mitigation recommends timing vegetation removal to occur outside of the breeding season of sensitive species. Construction activities would occur once vegetation is removed and would not be limited by breeding season or other temporal constraints once initiated.

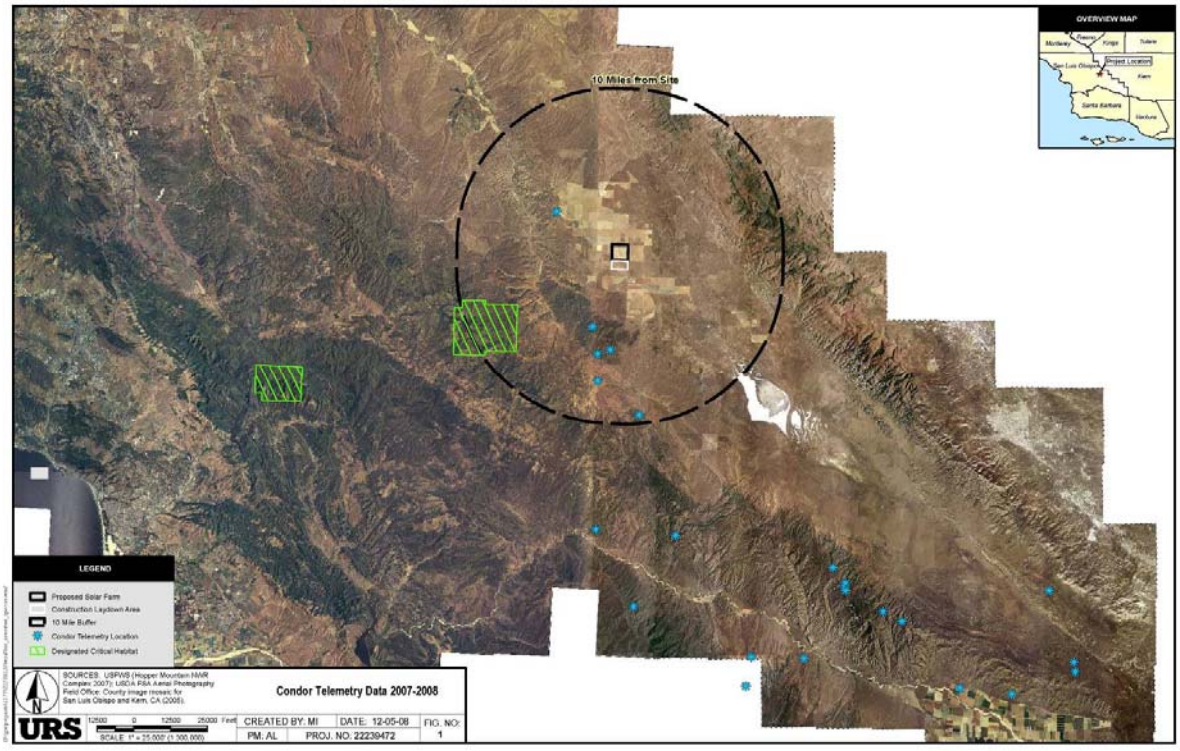
**Biological Resources Page 4.2-19**

The 56-foot tall receiver structures would require guy wires for stabilization, resulting in a network of guy wires throughout the solar field (CESF 2007). These guy wires may pose a collision threat, and could require the use of bird flight diverters or other mitigation measures to reduce the likelihood of bird collisions. Staff will continue working with the applicant, USFWS, and CDFG to assess the potential for impacts to sensitive birds, including California condor, and will discuss the potential impacts and recommended mitigation measures in the Final Staff Assessment.

**Comment:**

While significant rates of bird collisions with the guy wires and other structures in the CESF Project site are not anticipated, the applicant will implement such necessary and practicable mitigation measures suggested by CEC staff to minimize this potential adverse affect.

Data provided by the USWFS indicates that condor clearly do not use this area, and restrict their activities to the adjacent foothills west and south of the project site, as shown in the figure below. There is no substantial evidence to support staff's assessment that condor may be significantly impacted by loss of foraging area at the Project site. Furthermore, potential habitat enhancement activities in the vicinity are speculative and cannot be used in the assessment of the CESF Project. No incidental take of condor is expected.




**BIOLOGICAL RESOURCES Page 4.2-22**

**Biological Resources Table 3**
**Laws, Ordinances, Regulations, and Standards Compliance**

| | |
|---|---|
| Fish and Wildlife Conservation Act | Unresolved – Appropriate habitat and wildlife corridor compensation has not yet been identified and approved by USFWS. |

**Comment:**

This LOR is not relevant to the assessment. Fish and Wildlife Conservation Act is related to funding between USFWS and state agencies and is not relevant to impact and mitigation of habitat or wildlife corridors. Recommend removing from LORS Compliance Table. This law is also not included in the Table 1 LORS table.

**BIOLOGICAL RESOURCES Page 4.2-22**

**Biological Resources Table 3**
**Laws, Ordinances, Regulations, and Standards Compliance**

| | |
|---|---|
| Fully Protected Species | Unresolved – While blunt-nosed leopard lizards are not present on the project site, potential impacts to California condor are still being assessed and mitigation may be necessary. |

**Comment:**

As discussed above, the description for fully protected species is incorrect as to prohibition of loss of habitat. In Table 1 Description for Fully Protected Species: "Designates certain species as fully protected and prohibits take of such species or their habitat. The administering agency is CDFG. Fish and Game code section 86 defines "Take" means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. There is no mention of habitat or habitat modification. Likewise, Fish and Game codes 3511, 4700, 5050, 5515 - dealing with identifying Fully Protected Species- makes no mention of habitat or habitat modification. Furthermore, CA condor impacts are not significant and CEQA does not require mitigation for impacts that are less than significant. Therefore, recommend listing this as Resolved since potential impacts to protected species are adequately addressed.

**Biological Resources Page 4.2-22**

**Biological Resources Table 3**
**Laws, Ordinances, Regulations, and Standards Compliance**

| | |
|---|---|
| Native Plant Protection Act of 1977 | Unresolved – rare plant mitigation measures and 2009 survey results will be necessary. |

**Comment:**

The California Native Plant Protection Act directs CDFG to preserve, protect and enhance native plants. It gave the Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting or selling such plants. NPPA is not applicable since no plants designated by the F&GC are known from the site, CNPS 1B species are not protected under NPPA. From the Species List in the PSA, only Parish's checkerbloom falls under NPPA protection and it does not occur on the project site.

**Biological Resources Page 4.2-23**

**Biological Resources Table 3**
**Laws, Ordinances, Regulations, and Standards Compliance**

| | |
|---|---|
| San Luis Obispo County General Plan | Unresolved – Appropriate habitat and wildlife corridor compensation has not yet been identified and approved. |

**Comment:**

The proposed land use is consistent with the General Plan underlying zoning; therefore, no significant impacts would occur and mitigation is not required under the County General Plan. This should be "Resolved".

**BIOLOGICAL RESOURCES Page 4.2-30**

Mitigation Management to Avoid Harassment or Harm

**BIO-8** The project owner shall implement the following measures to manage their construction site and related facilities in a manner to avoid or minimize impacts to local biological resources:

**Comment:**

This mitigation measure extends the language typical for FESA listed species to include impacts to all wildlife. This is inappropriate. Recommend changing language in this measure to identify only listed species (kit fox).

**BIO-8** The project owner shall implement the following measures to manage their construction site and related facilities in a manner to avoid or minimize impacts to San Joaquin Kit Fox.

**BIOLOGICAL RESOURCES Page 4.2-31**

Nesting or Migratory Bird Surveys and Impact Avoidance

BIO-9 The project owner shall implement the following measures to avoid or minimize impacts to nesting birds:

**Comment:**

Recommend substituting the text below for this mitigation measure:

To avoid any direct impacts to raptors and/or any migratory birds, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the breeding season for these species (January 15 to August 31). If removal of habitat on the proposed area of disturbance must occur during the breeding season, the applicant

shall retain an approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The preconstruction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the CEC for review and approval prior to initiating any disturbing activities. If nesting birds are detected, a letter report or mitigation plan as deemed appropriate by the CEC, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CEC for review and approval and implemented to the satisfaction of the CEC. The Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during initial ground disturbing activities.

**BIOLOGICAL RESOURCES Page 4.2-32**

Burrowing Owl Impact Avoidance and Minimization Measures

BIO-10 The project owner shall implement the following measures for the burrowing owl:

4. Consult with CDFG to determine compensation ratio(s) for direct loss of nesting and foraging habitat;

**Comment:**

Mitigation for loss of nesting and foraging habitat for burrowing owl would be covered by the mitigation required for kit fox since these species use the same habitat.

**BIOLOGICAL RESOURCES Page 4.2-32**

**Verification:** The project owner shall submit a report to CDFG and USFWS at least 14 days prior to the start of project-related ground disturbance activities that describes when burrowing owl surveys were completed, what was observed, and suggested mitigation measures. If artificial burrows need to be installed, the project owner shall coordinate with and report to CDFG on the number of new burrows, their locations, and how burrowing owls will be protected for the life of the project. The end-of-construction report shall be provided to the CPM, CDFG, and USFWS at least 30 days prior to the start of commercial operation.

**Comment:**

It is not necessary to consult or report to USFWS if no mortality of USFWS-listed species results from the Project.

**BIOLOGICAL RESOURCES Page 4.2-31 and 32**

Rare Plant Survey and Mitigation Plan

BIO-11 A qualified botanist shall survey for rare plants on the power plant site in the spring of 2009, (and other appropriate identification periods if needed) according to the CDFG's Botanical Survey Guidelines. If no rare plants are found, the

botanist shall provide survey data to Energy Commission staff and CDFG, and no further mitigation will be required.

**Comment:**

Pre-construction surveys will be adequate mitigation for this species since significant impacts will not occur. No further surveys are necessary before CEC certification. Delete reference to Spring 2009 and state that surveys will occur the spring prior to initial construction.

BIO-11 A qualified botanist shall survey for rare plants on the power plant site in the spring prior to initial construction. ~~of 2009, (and other appropriate identification periods if needed) according to the CDFG's Botanical Survey Guidelines. If no rare plants are found, the botanist shall provide survey data to Energy Commission staff and CDFG, and~~ No further mitigation will be required.

**BIOLOGICAL RESOURCES Page 4.2-33**

CDFG Incidental Take Permit

BIO-12 The project owner shall acquire an Incidental Take Permit from the California Department of Fish and Game (CDFG) and incorporate the terms and conditions into the project's BRMIMP.

Verification: At least 30 days prior to the start of any project-related ground disturbance activities, the project owner shall submit to the CPM a copy of the final CDFG Incidental Take Permit, incorporate the conditions of the Incidental Take Permit in to the BRMIMP, and implement them.

**Comment:**

Applicant would like to clarify that a 2081.1 concurrence with the USFWS Biological Opinion is what is required rather than an incidental take permit from CDFG.

**BIOLOGICAL RESOURCES Page 4.2-34 and 35**

Habitat Compensation

BIO-17 To compensate for temporary and permanent impacts to San Joaquin kit fox, American badger, pallid bat, burrowing owl, their habitat and wildlife corridors, the project owner shall implement a habitat compensation strategy that guarantees the perpetual care of an appropriate amount of habitat in the region of the proposed project to fully mitigate the impacts of the CESF. The selected compensation land must be suitable for the special-status species as determined in consultation with the Energy Commission staff, CDFG, and USFWS. The project owner shall attempt to acquire parcels that are as contiguous as possible in a similar timeframe to avoid significantly separated parcels and "piecemeal" acquisition. This mitigation acreage shall not overlap with other previously planned compensation land requirements set aside for other projects. This habitat compensation land must provide a high level of

wildlife corridor function, connecting the Carrizo Plain core population of kit fox with other kit fox populations.

The resulting landscape must function at a level comparable to existing conditions. Enhancement must increase the productivity of remaining habitat such that the target species populations are not diminished by the proposed project's habitat losses.

In addition to the habitat compensation lands, the project owner must provide funds for use as principal for a permanent, non-wasting capital endowment. The endowment amount shall be determined through a PAR analysis. Interest from this amount shall be available for the operation, management and protection of the habitat compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the habitat compensation lands. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the CPM, in consultation with CDFG, to ensure the continued viability of the species on the habitat compensation lands. The CPM, in consultation with CDFG, will decide how the funds will be spent.

**Comment:**

The requirements for this mitigation measure are not proportional to the impacts that have been assessed for the Project. Furthermore, staff states that 'the resulting landscape must function at a higher level compared to existing conditions. As discussed above, in the AFC, and in several documents that respond to staff or public comments, the habitat will be restored to the condition it was found in. This habitat is currently used by the species that staff and CDFG wish to compensate for loss of habitat. Therefore, applicant feels that staff is overestimating the type and amount of compensation necessary for mitigation in relation to the impacts of the Project. CEQA Biology guidelines should be used to determine the significance threshold that will guide mitigation requirements.

**BIOLOGICAL RESOURCES Page 4.2-35**

Wildlife Corridor Impact Mitigation Plan

**Comment:**

BIO-18 is not necessary since the proposed mitigation lands address the project-specific wildlife movement issue. It is not a corridor issue for the CESF project, but there may be concerns associated with the two PV projects if they were to be approved by the County. There are currently no wildlife movement constraints in the Project vicinity that are not mitigated by the project. The CESF Project would not constrain wildlife movement given the proposed mitigation lands being offered.

**Other general comments:**

The applicant has responded to several rounds of public and agency comments. Applicant feels that staff did not review these responses prior to development of the PSA because several issues had been addressed through the data responses or follow-up documentation to public hearings that are not cited in the PSA.

The letter from CDFG dated March 26, 2008 is full of errors and unverified/ undocumented assertions that some species are present onsite. See comments above regarding mitigation ratios.

# CULTURAL RESOURCES

**CULTURAL RESOURCES Page 4.3-1, 1st Paragraph**

Staff's cultural resources analysis has determined that the Carrizo Energy Solar Farm (CESF) project, proposed by Ausra CA II, LLC (Ausra) would have no impact on any known prehistoric archaeological sites, or on any known ethnographic resources, or on any individual built-environment resources, or on the Northern Carrizo Plain Cultural Landscape Historic District, with the adoption and implementation of Conditions of Certification **CUL-1** through **CUL-7**.

**Comment:**

Overall, the use of the term 'resources' implies that the historic-period properties are considered historical resources for purposes of CEQA per CEQA Guidelines (Section 15064.5). As a result of this study, the properties were found not to be eligible for listing to the CRHR and (therefore) are not considered historical resources.

This sentence should be revised to include the following language:

*Staff's cultural resources analysis has determined that the Carrizo Energy Solar Farm (CESF) project, proposed by Ausra CA II, LLC (Ausra) would have no impact on any known prehistoric archaeological sites, or on any known ethnographic resources,* ~~or on any known ethnographic resources, or on any individual built-environment resources, or on the Northern Carrizo Plain Cultural Landscape Historic District~~ or on any individually significant built-environment historic-period properties*, or on the Northern Carrizo Plain Cultural Landscape Historic District, with the adoption and implementation of Conditions of Certification* ***CUL-1*** *through* ***CUL-7****.*

**CULTURAL RESOURCES Pages 4.3-15, 4.3-17 to 4.3-20, 4.3-24 to 4.3-27, 4.3-31, 4.3-41, 4.3-42, 4.3-44**

[regarding use of term "resources"]

**Comment:**

Based on this above comment for Page 4.3-1, the following phrases should also be modified throughout the PSA.

- Change 'historical resources' to 'historic-period properties' on pages 4.3-15 and 4.3-19
- Change 'built-environment resources' to 'historic-period built-environment properties' on pages 4.3-17, 4.3-18 (paragraphs 1 and 3), 4.3-19 (paragraphs 1 and 2), 4.3-20 (2nd and 4th full paragraph), 4.3-24 (paragraphs 1, 3), 4.3-25 (paragraph 2), 4.3-26 (2nd heading), 4.3-27 (table heading), 4.3-31 (paragraphs 1 and 2), 4.3-41 (5th full paragraph), 4.3-42 (1st full paragraph), 4.3-44 (2nd full paragraph),

**CULTURAL RESOURCES Page 4.3-22, 3rd Paragraph**

Mr. Burch expressed concern that portions of the Cultural Resources section of the Application for Certification (AFC) were not correct. He said that he had an appointment with Jeremy Hollins of URS to discuss potential corrections.

**Comment:**

On October 8, 2008, Mr. Jeremy Hollins met Mr. John Burch at the CESF project area to provide a tour for Mr. Burch and the Salinan tribe the project site and laydown area. Mr. Hollins and Mr. Burch discussed the project objectives and descriptions, methodologies, and findings. Mr. Burch and Mr. Hollins did not meet to discuss potential corrections to the report, but met to discuss the cultural resources reporting methods and findings to date.

The sentences should be revised to include the following language:

Staff spoke again with John Burch on September 30, 2008. Mr. Burch expressed concern that portions of the Cultural Resources section of the Application for Certification (AFC) were not correct. He said that he had an appointment with Jeremy Hollins of URS to discuss ~~potential corrections~~ the cultural resources reporting methods and findings to date. Mr. Burch and Mr. Hollins met in the Carrizo Plain on October 8, 2008, and toured the CESF project site and laydown area.

**CULTURAL RESOURCES Page 4.3-27, Table 2**

| | | | | |
|---|---|---|---|---|
| 3. Carrisa Highway (Highway 58) | Main Carrizo Plain artery since 19th - century; alignment in project area dates to 1941. | Ausra: Resource is not individually eligible for the CRHR. Potential contributor to NCPCLHD due to lack of integrity representing the landscape's Period of Significance. | None. | None. |

**Comment:**

The third column contains a typographic error and should be corrected to read "Not a potentially contributor…"

The column should be revised to include the following language:

| | | | | |
|---|---|---|---|---|
| 3. Carrisa Highway (Highway 58) | Main Carrizo Plain artery since 19th - century; alignment in project area dates to 1941. | Ausra: Resource is not individually eligible for the CRHR. Not a Potential contributor to NCPCLHD due to lack of integrity representing the landscape's Period | None. | None. |

**CULTURAL RESOURCES Page 4.3-34, 1st Full Paragraph**

The standards for integrity for a resource considered CRHR-eligible under Criterion 1 are less stringent than the standards of integrity for a resource considered CRHR-eligible under Criterion 3.

**Comment:**

The National Parks Service and Office of Historic Preservation recognize seven aspects of integrity and not 'standards.' The sentence should be changed to address this.

Also, the concept of integrity (meaning the ability of a property to convey its significance) and the seven aspects which comprise it are not "less stringent" under Criterion 1 (Events) than under Criterion 3 (Design). Per National Register Bulletin 15, to assess the integrity of any property, a property must retain its essential physical features and aspects of integrity from the period of significance that convey its importance (based on the evaluative criterion). For example, if the property is associated with a major event in the 1930s (Criterion 1), the property must physically resemble the property during this period and retain several (usually most) of its historic integrity aspects. Alterations to a property would make it ineligible for listing no matter the evaluative criterion due to its loss of physical features and aspects of integrity. Therefore, integrity aspects are not less stringent between Criterion 1 (Events) and Criterion 3 (Design); rather, certain integrity aspects become more relevant or important when used to illustrate certain evaluation criterion.

Revise as follows:

The ~~standards for integrity~~ most important or relevant aspects of historic integrity for a resource considered CRHR-eligible under Criterion 1 ~~less stringent than the standards of integrity for~~ oftentimes differ from a resource considered CRHR-eligible under Criterion 3.

**CULTURAL RESOURCES Page 4.3-43, Last Paragraph**

In the abstract, direct impacts to cultural resources are those associated with project development, construction, and coexistence. Construction usually entails surface and subsurface disturbance of the ground, and direct impacts to archaeological resources may result from the immediate disturbance of the deposits, whether from vegetation

removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historic standing structures when those structures must be removed to make way for new structures or when the vibrations of construction impair the stability of historic structures nearby. New structures can have direct impacts on historic structures when the new structures are stylistically incompatible with their neighbors and the setting, and when the new structures produce something harmful to the materials or structural integrity of the historic structures, such as emissions or vibrations."

**Comment:**

Typically, cultural resources can be affected from noise, vibration, and impacts to feeling and setting which considered "indirect effects" and not "direct effects." A direct effect is typically when the project physically alters a property in the APE (e.g., demolition or materially alters). An indirect effect would be a construction related impact from increased noise, vibration, and dust, or an impact to aspects of historic integrity (like feeling and setting) caused by new construction or viewshed obstructions.

This sentence should be revised to include the following language:

"In the abstract, direct impacts to cultural resources are those associated with project development, construction, and coexistence. Construction usually entails surface and subsurface disturbance of the ground, and direct impacts to archaeological resources may result when those structures must be removed to make way for new structures or from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have indirect impacts on historic standing structures ~~when those structures must be removed to make way for new structures or~~ when the vibrations of construction impair the stability of historic structures nearby. New structures can have indirect impacts on historic structures when the new structures are stylistically incompatible with their neighbors and the setting, and when the new structures produce something harmful to the materials or structural integrity of the historic structures, such as emissions or vibrations."

**CULTURAL RESOURCES Page 4.3-46, Last Paragraph**

Native American Monitoring
CUL-5: In order to ensure participation by interested members of the Native American community, it is recommended that a Native American monitor be present during archaeological testing and/or data recovery for cultural resources that appear to have a prehistoric or ethnographic component. The monitor will be retained either directly by the applicant or by the consultant conducting the actual fieldwork.

**Comment:**

CUL-5 is a typographic error and should be removed. Revise as follows:

~~CUL-5:~~ In order to ensure participation by interested members of the Native American community, it is recommended that a Native American monitor be present during archaeological testing and/or data recovery for cultural resources that

appear to have a prehistoric or ethnographic component. The monitor will be retained either directly by the applicant or by the consultant conducting the actual fieldwork.

**CULTURAL RESOURCES Page 4.3-52, 3rd Full Paragraph**

Since the impacts from the proposed CESF project would be mitigated to a less-than-significant level by the project's compliance with proposed Conditions of Certification **CUL-1** through **CUL-10**, and since similar protocols can be applied to other projects in the area, staff does not expect any incremental effects on cultural resources of the proposed CESF project to be cumulatively considerable when viewed in conjunction with other projects.

**Comment:**

This sentence contains a typographic error, since the PSA only has Conditions of Certification CUL-1 through CUL-8 and does not have Conditions of Certification CUL-9 through CUL-10.

The sentence should be revised to include the following language:

Since the impacts from the proposed CESF project would be mitigated to a less-than-significant level by the project's compliance with proposed Conditions of Certification **CUL-1** through ~~**CUL-10**~~ **CUL-8**, and since similar protocols can be applied to other projects in the area, staff does not expect any incremental effects on cultural resources of the proposed CESF project to be cumulatively considerable when viewed in conjunction with other projects.

**CULTURAL RESOURCES Page 4.3-53**

Staff's cultural resources analysis has determined that the Carrizo Energy Solar Farm (CESF) project, proposed by Ausra CA II, LLC (Ausra) would have no impact on any known prehistoric archaeological sites, or on any known ethnographic resources, or on any individual built-environment resources, or on the Northern Carrizo Plain Cultural Landscape Historic District, with the adoption and implementation of Conditions of Certification **CUL-1** through **CUL-7**.

**Comment:**

Overall, the use of the term 'resources' implies that the historic-period properties are considered historical resources for purposes of CEQA per CEQA Guidelines (Section 15064.5). As a result of this study, the properties were found not to be eligible for listing to the CRHR and (therefore) are not considered historical resources.

This sentence should be revised to include the following language:

*Staff's cultural resources analysis has determined that the Carrizo Energy Solar Farm (CESF) project, proposed by Ausra CA II, LLC (Ausra) would have no impact on any known prehistoric archaeological sites, or on any known ethnographic resources,* ~~or on any known ethnographic resources, or on any individual built-environment resources, or on the Northern Carrizo Plain Cultural Landscape Historic District~~ *or on any individually significant built-environment historic-period properties, or on the Northern*

*Carrizo Plain Cultural Landscape Historic District, with the adoption and implementation of Conditions of Certification* ***CUL-1*** *through* ***CUL-7****.*

**CULTURAL RESOURCES Page 4.3-63 Last Paragraph (in CUL-8)**

To prepare the two sites for archaeological testing and data-gathering, the CRS shall systematically photograph the two sites as found to record the distribution of structures and materials across the sites for later comparison to archaeological discoveries, then the project owner shall remove all above- ground structures, equipment, materials, and debris from the two sites, but leave in place the structure foundations and trash piles and scatters.

**Comment:**
Producing a map (in addition to photographs) will help with the baseline information needed for later comparison with baseline studies to compare with any archaeological discoveries.

This sentence should be revised to include the following language:

To prepare the two sites for archaeological testing and data-gathering, the CRS shall systematically map and photograph the two sites as found to record the distribution of structures and materials across the sites for later comparison to archaeological discoveries, then the project owner shall remove all above.

## HAZARDOUS MATERIALS MANAGEMENT

The Applicant has no comments regarding Hazardous Materials Management.

# LAND USE

## LAND USE Page 4.5-10

"In addition, there is a potential for the CESF to necessitate compensation for the loss of sensitive biological resources habitat (see the Biological Resources section for detailed analysis of Project impacts to wildlife and plants). Therefore, the conversion of any lands from agricultural production to protected biological resources habitat could result in agricultural land conversion impacts similar to those described above for the 640-acre CESF site."

**Comment:**

The Project site is currently and has historically been agricultural land according to CEC Staff analysis and San Luis Obispo County Department of Agriculture. As stated on Page 4.5-9: "The site and area have a long and continuous history of use for dry-farmed grain production and for cattle grazing, both important components of the County's agricultural economy" (SLOC 2008d). Any habitat that exists on the property is and has been annually disturbed by farming activities and composed of land used for agriculture.

The project site is currently used for agriculture and provides habitat according to CEC Staff Analysis (see the Biological Resources section for a detailed analysis of Project impacts to wildlife and plants). Land in compensation for loss of habitat at the site would not necessarily involve conversion of farmland, nor would the compensation lands necessarily be non-agricultural, since the habitat currently available on-site is composed of agricultural lands. On page 4.5-23, Staff recommends Condition of Certification LAND-1, which requires Applicant to mitigate at a 1:1 ratio. It is expected that any mitigation for loss of habitat (See Biological Resources) through the proposed compensation of agricultural lands would count toward mitigation for loss of agricultural land.

## LAND USE Page 4.5-23

**LAND-1**
The Project owner shall mitigate for the loss of 640 acres of significant farmland, as defined by the California Agricultural Land Evaluation and Site Assessment (LESA) Model (DOC 1997), at a level not to exceed a one-to-one ratio.

**Verification:** The project owner shall provide a mitigation fee payment to an agricultural land trust such as the Land Conservancy of San Luis Obispo County or any other land trust that has been previously approved by the Compliance Project Manager (CPM) at least 120 days prior to the start of construction. The fee payment will be determined by an independent appraisal conducted on available, comparable, farmland Property on behalf of the agricultural land trust. The project owner shall pay all costs associated with the appraisal. The project owner shall provide documentation to the CPM that the fee has been paid and that the 640 acres of farmland and/or easements shall be purchased within three years of start of operation as compensation for the 640 acres of agricultural land to be converted by the CESF. The documentation also shall guarantee that the land/easements purchased by the trust will be located in San Luis Obispo County and

will be farmed in perpetuity. If no available land or easements can be purchased in San Luis Obispo County, then the purchase of lands/easements in other Central Valley Counties is acceptable. The project owner shall provide to the CPM updates in the Annual Compliance Report on the status of farmland/easement purchase(s).

**Comment:**
As the Project site is classified as agricultural land and farmland of local importance, and will be utilized as a solar power facility, Applicant understands that this is necessary to mitigate for the loss of agricultural lands in the area; however, mitigation for biological resources would count toward mitigation for agricultural land, as discussed above in comment to LAND Page 4.5-10.

# NOISE AND VIBRATION

**Applicant Summary**

In the AFC and Supplement to the AFC, Applicant determined no significant impact for construction because the Applicant considered the 35-month construction period temporary. Since the PSA indicates that the CEC does not consider the 35-month Project construction duration term as temporary, the Applicant will draft a noise mitigation plan to evaluate feasible and reasonable noise control and sound attenuation options that have the potential for reducing estimated construction noise level ranges for the Project.

Additionally, the Applicant agrees to comply with the following conditions of certification that cover complaint resolution and construction equipment limitations as written in the PSA: NOISE-1, NOISE-2, NOISE-3, NOISE-5, NOISE-6, NOISE-7 and NOISE-8. With respect to NOISE-4, the Applicant has a concern regarding field verification of the currently stated goal levels that it believes can be addressed with reasonable and practical modifications.

**NOISE Page 4.6-1, paragraph 2**

"Staff needs for the applicant to prepare a draft noise mitigation plan that demonstrates that the significant noise impacts identified for project construction and operation can be reduced to less than significant levels."

**Comment:**

The Applicant will draft a noise mitigation plan to consider options for reasonable and feasible mitigating measures with emphasis on construction noise for the following noise-sensitive receivers known by their Applicant survey locations as: ML3, Strobridge, Bell Future, Bell Existing, and Reyes. Attention will be given to the Strobridge receiver with respect to Project operation noise.

**NOISE Page 4.6-3, paragraph 2**

"The State of California, Office of Noise Control, prepared the Model Community Noise Control Ordinance, which provides guidance for acceptable noise levels in the absence of local noise standards."

**Comment:**

While acknowledging that the CMCNCO has been referenced in this PSA and in previous CEC assessments for other power projects, the Applicant has relied on the existing local noise ordinance, as described by CEC staff on pages 4.6-2, 4.6-3, and 4.6-4.

**NOISE Page 4.6-6, paragraph 3**

"5. Location SR10: Located near a residence, approximately 1,400 feet west of the project's western boundary. The applicant did not report the date(s) and time(s) of the measurements in the AFC."

**Comment:**

The sound level measurement was not conducted at SR10. SR10 is a sensitive receptor created in the model of the Applicant's AFC to predict the future noise level near the residence.

**NOISE Page 4.6-7, Noise Table 4**

| Measured One-Hour Noise Levels, dBA | |
|---|---|
| Nighttime Hour Leq | Average During Daytime Hours[1] Leq |
| 54 | 45 |

Source: CESF 2008f, Data Response 81

[1] Data Response 81 and staff calculations of average noise levels (see Noise Appendix A)

**Comment:**

The following is the table from the Applicant's Data Request Response 81.

| Date | Start Time | End Time | $L_{eq}$ | $L_{10}$ | $L_{50}$ | $L_{90}$ | Wind (mph) | Temp. (F°) | Humidity (%) |
|---|---|---|---|---|---|---|---|---|---|
| 6-3-08 | 15:10 | 16:10 | 50.6 | 51.5 | 43.9 | 36.6 | 5 | 91 | 24 |
| 6-3-08 | 23:15 | 0:15 | 53.8 | 58.3 | 50.1 | 31.7 | Calm | 67 | 48 |
| 6-4-08 | 8:40 | 9:40 | 40.1 | 40.8 | 34.2 | 31.0 | Calm | 64 | 59 |

Note: Please refer to the Project AFC, Section 5.12, Noise, for a discussion on noise descriptors (i.e., $L_{eq}$, $L_{10}$, $L_{50}$, $L_{90}$).

Based on the two one-hour daytime Leq values shown, the 45 dBA average daytime level appearing in Noise Table 4 seems to be an arithmetic average. The Applicant used a logarithmic averaging method that is consistent with an accepted acoustical reference* and generates an energy-average daytime level of 48 dBA, not 45 dBA.

* see Bies and Hansen, Engineering Noise Control, 3rd ed., 2003, pg. 108, eq. 3.18.

**NOISE Page 4.6-9, Noise Table 5**

| Measurement Sites | Measured One-Hour Noise Levels, dBA | |
|---|---|---|
| | Nighttime Hour Leq | Average During Daytime Hours[1] Leq |
| Strobridge | 35 | 44 |
| Bell Future | 28 | 39 |
| Bell Existing | 32 | 39 |

Source: CESF 2008f, Data response 83

[1] Data Response 83 and staff calculations of average noise levels (see Noise Appendix A)

**Comment:**

The following is the table from Applicant's Data Request Response 83 presenting Strobridge property sound level measurement data. It would appear that the nighttime hour Leq reported in Noise Table 5 may be the L90 value. To be consistent with Leq descriptors, the Applicant believes the reported value should instead be 46 dBA (i.e., 45.9 rounded to the nearest integer value).

| Date | Start Time | End Time | $L_{eq}$ | $L_{10}$ | $L_{50}$ | $L_{90}$ | Wind (mph) | Temp. (F8) | Humidity (%) |
|---|---|---|---|---|---|---|---|---|---|
| 6-3-08 | 15:15 | 16:15 | 41.6 | 43.8 | 40.6 | 35.9 | Calm | 86 | 24 |
| 6-4-08 | 0:30 | 1:30 | 45.9 | 49.8 | 43.0 | 35.4 | Calm | 65 | 57 |
| 6-4-08 | 8:50 | 9:50 | 45.9 | 45.8 | 41.3 | 39.6 | Calm | 62 | 54 |

Note: Please refer to the Project AFC, Section 5.12, Noise, for a discussion on noise descriptors (i.e., $L_{eq}$, $L_{10}$, $L_{50}$, $L_{90}$).

Similarly, the following is the table presenting Bell Future property sound level measurement data from the Applicant's Data Request Response 83. This data suggests that the reported nighttime hour Leq in Noise Table 5 should be 30 dBA, not 28 dBA as currently shown.

| Date | Start Time | End Time | $L_{eq}$ | $L_{10}$ | $L_{50}$ | $L_{90}$ | Wind (mph) | Temp. (F8) | Humidity (%) |
|---|---|---|---|---|---|---|---|---|---|
| 6-4-08 | 18:00 | 19:00 | 44.0 | 47.5 | 41.9 | 37.8 | 0-15 | 71 | 28 |
| 6-4-08 | 23:00 | 0:00 | 29.9 | 31.6 | 29.6 | 27.9 | Calm | 55 | 52 |
| 6-5-08 | 8:10 | 9:10 | 33.7 | 38.5 | 28.9 | 24.0 | Calm | 74 | 34 |

Note: Please refer to the Project AFC, Section 5.12, Noise, for a discussion on noise descriptors (i.e., $L_{eq}$, $L_{10}$, $L_{50}$, $L_{90}$).

Additionally, while the arithmetic mean for the daytime one-hour measurements would be 39 dBA, the Applicant used the aforementioned Bies & Hansen reference to calculate an energy-average sound level for the daytime hours of 41 dBA.

**NOISE Page 4.6-11, Noise Table 6**

| Measurement Sites | One-Hour Measurements, dBA | |
|---|---|---|
| | During Nighttime Leq | Average During Daytime Leq |
| ML1 | 43 | 48 |
| ML3 | 32 | 35 |
| SR10 | 50 | 50 |
| Measurement Sites | Long-Term Measurements, dBA | |
| | Average During Nighttime $L_{eq}$ | Average During Daytime Leq |
| LT1 | N/A | 47 |
| Strobridge | 24 | 33 |
| Bell Future | 25 | 30 |
| Reyes | 33 | 37 |
| ML7 | 40 | 43 |

Source: CEC 2008ae and staff calculations of average noise levels during measurement period (see Noise Appendix A)

**Comment:**

Via Brown-Buntin Associates, CEC staff actually conducted a short-term measurement at LT1, and not a long-term measurement as indicated in Staff's Table 6, above. The daytime sound level at LT1 was 50 dBA Leq.

It is the Applicant's understanding that CEC staff did not conduct a measurement at ML7. Instead, CEC staff conducted a long-term measurement at the Branch Mountain Equipment Yard. The measured daytime sound level was 44 dBA Leq and nighttime sound level was 42 dBA Leq.

At ML3, the arithmetic mean for the daytime hours would be 35 dBA. However, the energy-average sound level, per calculation by the aforementioned Bies & Hansen reference, for the daytime hours would be 41 dBA.

Based on such energy-average calculation techniques, revised (in **bold**) reported sound levels appear in the following suggested revised Noise Table 6:

| Measurement Sites | One-Hour Measurements, dBA | |
|---|---|---|
| | During Nighttime Leq | Average During Daytime Leq |
| ML1 | 43 | 48 |
| ML3 | 32 | **41** |
| SR10 | 50 | 50 |
| LT1 | **50** | 47 |
| Measurement Sites | Long-Term Measurements, dBA | |
| | Average During Nighttime $L_{eq}$ | Average During Daytime Leq |
| Strobridge | **25** | **46** |
| Bell Future | **26** | **33** |
| Reyes | **41** | **41** |
| **Branch Mountain** | **42** | **44** |

**NOISE Page 4.6-11, paragraph 1**

"Staff measured the existing ambient noise levels at the most noise-sensitive residential receptors, Reyes and Strobridge, continuously during a period of 44 hours. The applicant conducted only one-hour measurements at Strobridge with no measurements conducted at Reyes. Staff's survey, therefore, more realistically represents the noise environment at the project's most noise-sensitive residential receptors. Therefore, for the locations monitored by staff, staff uses the results of the staff's survey (the data in **Noise Table 6**) to evaluate the project's noise impacts at these locations."

**Comment:**

The Applicant conducted only short-term, one-hour measurements at Strobridge per CEC's Data Request 83. Continuous long term noise monitoring for 44 consecutive hours at this location was not requested.

The Reyes location was recently identified (via email correspondence to Applicant from

John Kessler [CEC] on September 19, 2008), after Applicant's original and supplemental AFC filing, as a potential noise-sensitive receiver and included as a new measurement location.

It is the Applicant's understanding that carefully conducted environmental noise measurements document sound pressure levels only for the acoustical and environmental condition that exist for a given period of time at a very specific point in space. Measurements conducted during a different time typically represent a different, and in many ways, unknowable set of conditions. Unless the noise environment is highly consistent in terms of the actual noise sources present and the meteorological conditions that exist during the time of the measurement, the resulting measured noise levels can be expected to be substantially different. A temperature inversion, a change in wind direction, the presence of a flock of birds, or a homeowner mowing his lawn three blocks away could easily change ambient noise levels by 10 dBA at the exact same measurement location at the exact same time of day, on two consecutive days. Therefore, it is important to consider that even with the most rigorously documented and carefully executed noise measurements, ambient noise measurement levels cannot be expected to be highly repeatable under real-life circumstances.

In light of the above, the Applicant believes that both its two surveys (i.e., June 2007 and June 2008) and the CEC staff survey contain valid data that represent the ambient noise environment. The Applicant's impact analyses to date have been based on its survey data.

**NOISE Page 4.6-11, paragraph 1**

"Staff's evaluation of the project noise environment shows that the noise environments at Bell Future and Bell Existing are very similar. Therefore, staff only surveyed one of these locations, Bell Future. For Bell Existing, staff uses the data from Bell Future to evaluate the project's noise impacts at this location."

**Comment:**

The Applicant observes that the locations identified as Bell Future and Bell Existing are actually on two different land parcels and are considerably distant from each other (approximately 2,000 feet), with the latter being closer to an acknowledged vehicle traffic noise source, Bitterwater Road, by 800 feet. Correspondingly, the noise contribution from Bitterwater Road at Bell Existing should be louder than that at Bell Future by 4 dBA based solely on the principle of sound propagation from a line source like a road. Hence, on the basis of this proximity to Bitterwater Road, a potentially dominant contributor to the ambient sound environment at these two locations, the Applicant believes they are acoustically dissimilar and using Bell Future data potentially misrepresents the sound at Bell Existing by a 4 dBA deficit.

Additionally, surveys conducted by the Applicant suggest that the daytime measured ambient noise levels for these two Bell positions varied by as much as 7 dBA, depending on conditions at the time of measurement.

**NOISE Page 4.6-12, paragraph 7**

"The CESF project construction would occur over a period of 35 months. Typical power plant construction is significantly shorter than this, generally 12 to 16 months. In addition, staff's analysis (below) shows that these activities would more than quadruple the existing ambient noise levels at some of the project's most noise-sensitive receptors. For typical power plants, staff normally considers construction activities that result in ambient noise levels that are as much as doubled to be less than significant. (An increase of 10 dBA is equivalent to doubling the noise level.) However, the loud construction noise resulting in more than quadrupling the ambient levels at some of the residences near the proposed CESF project site for as long as approximately three years has the potential to significantly disturb some of the residents living near the project site. For further analysis and conclusions, please see below."

**Comment:**

The Applicant observes that previous CEC Final Staff Assessments for power plant projects, such as Victorville 2 and Sutter, appear to consider project construction durations of 22-24 or even 27 months as typical for power plants and a temporary source of construction noise. As noted in paragraph 4 of Noise 4.6-5 of the PSA, temporary construction noise (with heavy equipment and activity limited to daytime hours, as the Applicant has agreed) is usually considered insignificant. In the AFC and Supplement to the AFC, Applicant determined no significant impact for construction because the Applicant considered the 35-month construction period temporary. Since the PSA indicates that the CEC does not consider the 35-month Project construction duration term as temporary, the Applicant will draft a noise mitigation plan to evaluate feasible and reasonable noise control and sound attenuation options that have the potential for reducing estimated construction noise level ranges for the Project.

**NOISE Page 4.6-13, Noise Table 7**

| Receptor | Range of Construction Noise Levels Over 35 Months, Leq (dBA) | Measured Existing Ambient, Average Daytime Leq[3] (dBA) |
|---|---|---|
| ML1 | 58-62[1] | 48 |
| ML3 | 62-66[1] | 35 |
| ML7 | 50-54[2] | 43 |
| SR10 | 59-63[1] | 50 |
| LT1 | 57-61[1] | 47 |

[1]CESF 2007a, AFC Table 5.12-5, Appendix P2

[2]CESF 2007a, AFC Table 5.12-5. Construction noise level at ML7 is not provided to staff. Therefore, staff uses the data available for the nearby receptor labeled SR7.

[3]Noise Table 6, above

**Comment:**

Based on previous comments regarding Noise Table 6, the Applicant believes Noise Table 7 should be modified to reflect 41 dBA average daytime Leq for receptor ML3.

Daytime measurement sound level at ML7 is assumed to be representative from Branch Mountain Equipment Yard, which should be 44 dBA.

**NOISE Page 4.6-14, Noise Table 8**

| Receptor | Approximate Distance from Center of Power Block (feet) | Range of Construction Noise Levels Over 35 Months, Leq[1] (dBA) | Measured Existing Ambient, Average Daytime Leq[5] (dBA) | Cumulative (dBA) | Change (dBA) |
|---|---|---|---|---|---|
| ML1 | 7,216 | 53-58 | 48 | 54-58 | 6-10 |
| ML3 | 6,317 | 53-59 | 35 | 53-59 | 18-24 |
| ML7 | Not Recorded | 43-48[2] | 43 | 46-49 | 3-6 |
| SR10 | 5,740 | 55-60 | 50 | 56-60 | 6-10 |
| LT1 | 9,348 | 52-56 | 47 | 53-57 | 6-10 |
| Strobridge | 3,230 | 59-65[3] | 33 | 59-65 | 26-32 |
| Bell Future | 10,207 | 49-55[3] | 30 | 49-55 | 19-25 |
| Bell Existing | 12,356 | 48-53[3] | 30 | 48-53 | 18-23 |
| Reyes | 4,232 | 56-62[4] | 37 | 56-62 | 19-25 |

[1]CESF 2008h, Table 2.12-1

[2]CESF 2008h, Table 2.12-1. Construction noise level at ML7 is not provided to staff. Therefore, staff uses the data available for the nearby receptor labeled SR7.

[3]CESF 2008f, Data Response 84; CESF 2008h, Table 2.12-1

[4]CESF 2008q

[5] Noise Table 7, above

**Comment:**

Due to the difference in actual measurement positions (i.e., between the Applicant's June 2007 sound survey and CEC staff's September 2008 survey) intended to represent the Strobridge property, usage of the CEC staff survey measurement position would require modification of the predicted construction noise level ranges in Noise Table 8. In addition to different ambient sound levels as discussed in previous comments and appearing in the proposed Noise Table 8 below, the modified range reflects the greater distance between the CEC staff survey position and the approximate center of the Project power block (i.e., the distance is 600 feet greater than that was used in the

Applicant's supplemental AFC filing).

| Receptor | Approximate Distance from Center of Power Block (feet) | Range of Construction Noise Levels Over 35 Months, Leq[1] (dBA) | Measured Existing Ambient, Average Daytime Leq[5] (dBA) | Cumulative (dBA) | Change (dBA) |
|---|---|---|---|---|---|
| ML1 | 7,216 | 53-58 | 48 | 54-58 | 6-10 |
| ML3 | 6,317 | 53-59 | **41** | 53-59 | **12-18** |
| ML7 | Not Recorded | 43-48[2] | **44** | **47-50** | 3-6 |
| SR10 | 5,740 | 55-60 | 50 | 56-60 | 6-10 |
| LT1 | 9,348 | 52-56 | 47 | 53-57 | 6-10 |
| Strobridge | 3,830 | 59-65[3] | **46** | 57-65 | **11-17** |
| Bell Future | 10,207 | 49-55[3] | **33** | 49-55 | **16-22** |
| Bell Existing | 12,356 | 48-53[3] | **33** | 48-53 | **15-20** |
| Reyes | 4,232 | 56-62[4] | **41** | 56-62 | **15-21** |

**NOISE Page 4.6-15, paragraphs 1 through 6; NOISE Page 4.6-16, paragraphs 1 and 2**

"Construction noise at monitoring location ML3 would range from 53 dBA to 59 dBA (Noise Table 8). The average ambient daytime Leq level at this location, as seen in Noise Table 8, is 35 dBA. The addition of the construction noise to the ambient would result in 53-58 dBA, 18-24 dBA above ambient, with an average increase of 21 dBA. An increase of 20 dBA is equivalent to quadrupling the noise level. In a rural environment, such as the CESF project area, where the noise environment is typically quiet, more than quadrupling the ambient noise levels, and as a result, increasing the existing ambient noise levels to as high as 53-58 dBA for as long as 35 months, can potentially be very intrusive. Thus, staff considers the impact at ML3 to be significant."

(content for other paragraphs omitted for brevity)

**Comment:**

Because there are potential differences greater than 10 dBA between predicted construction noise and existing ambient sound at several noise sensitive receivers, the Applicant will draft a noise mitigation plan to consider reasonable and feasible options for mitigating measures. The Applicant will include, as necessary, re-modeling of construction noise. It is understood that the emphasis of these options will be to help achieve reduction of these increases over ambient to less than 10 dBA..

**NOISE Page 4.6-16, paragraph 4**

"Nonetheless, staff proposes that the applicant implement additional mitigation measures to mitigate the significant impacts identified above. One example of an

additional construction mitigation measure, beyond what have been considered in the applicant's noise modeling, is erection of temporary sound walls. Portable sound walls or massive sound blankets that can be hung from a framing system are commonly used in the industry. Alternatively, barriers can be constructed from sheets of solid plywood and faced with absorptive material (e.g., fiber glass) on the side facing the construction activity. These barriers could be fixed in place or made portable so that the screening can move with the construction activity or construction phase."

**Comment:**

The Applicant observes that mitigation options could also include sound insulation at the impacted residence, as the following excerpts from previous CEC documents suggest:

- **Roseville Energy Park (03-AFC-1, FSA p. 4.6-15, 3rd paragraph).** "The applicant has offered to provide additional sound attenuation at residences whose occupants complain of disturbance from increased noise due to the project's operation (G&B 2004a). The specific attenuation measures would be case-specific, and could include: replacement of single-pane windows with dual-pane windows; replacement of hollow-core doors with solid-core doors and weather stripping; installation of air conditioning; and additional sound insulation in exterior walls. These treatments could be expected to reduce interior noise levels by 5 to 10 dBA, but would have no effect on project noise levels outdoors. In addition, staff proposes that exterior sound barriers be included as possible measures. Staff proposes Condition of Certification **NOISE-9** to ensure that the Applicant offers this mitigation to nearby residents. Staff believes this would constitute adequate feasible mitigation of impacts."
- **Victorville 2 (07-AFC-1, FSA, p. 4.6-11, last paragraph).** "Mitigating such a significant impact by quieting the power plant is extremely expensive; such mitigation can cost many millions of dollars. This is often regarded as rendering such mitigation infeasible. When the number of potentially affected residences is small (one at ML2), staff typically does not suggest further mitigation to quiet the power plant. Rather, staff commonly proposes a condition of certification requiring the project owner to offer noise mitigation measures at the affected residences, if the residents request it, to reduce the impacts to a level of insignificance. This mitigation can include upgrading the dwelling with double-pane windows and solid-core exterior doors, installing exterior wall insulation, installing air conditioning if it is not already in place, or erecting a sound wall near the residence. Staff recommends such an approach in this case; see proposed condition of certification **NOISE-8,** below."

**NOISE Page 4.6-16, paragraph 3**

"Typically, during construction, construction workload, equipment roster, work schedule, and work locations are constantly changing. Each construction activity typically moves along at a rapid pace, lasting only a few days. Thus, the level and character of the noise produced during construction are almost always changing. It is, therefore, not practical to require the project owner to meet specific noise level limits for construction at the noise receptors listed above."

**Comment:**

The Applicant agrees that because construction activity is fluid, it is impractical to require compliance with specific construction noise level limits. However, in meeting CEC data adequacy requirements and despite this uncertainty with regard to construction activity, the Applicant has modeled construction noise with its present assumptions and techniques that result in ranges of predicted construction monthly Leq noise levels. As identified in the AFC, the differences between these ranges and the existing ambient sound levels at noise sensitive receivers can potentially be over 5 dBA. As the magnitude and duration of these differences depend greatly on the prediction model and the measured ambient sound levels, revisions to the model that contain greater certainty (e.g., more precise input parameters regarding the positions of heavy construction equipment near a noise sensitive receiver for a limited duration and not the entire 35-month currently anticipated construction period) could result in more accurate predictions that decrease these increases over ambient—perhaps in a manner that helps isolate noisier construction months to a period that is significantly shorter than 35 months and a term that the CEC might consider temporary and correspondingly insignificant.

**NOISE Page 4.6-16, paragraphs 4-5**

"Nonetheless, staff proposes that the applicant implement additional mitigation measures to mitigate the significant impacts identified above. One example of an additional construction mitigation measure, beyond what have been considered in the applicant's noise modeling, is erection of temporary sound walls. Portable sound walls or massive sound blankets that can be hung from a framing system are commonly used in the industry. Alternatively, barriers can be constructed from sheets of solid plywood and faced with absorptive material (e.g., fiber glass) on the side facing the construction activity. These barriers could be fixed in place or made portable so that the screening can move with the construction activity or construction phase.

Other examples of additional construction mitigation measures include spreading the high peak activities so that they would not occur simultaneously, building temporary earth berms around the construction site or near the affected receptors, implementing additional equipment mufflers, and using quieter equipment. These, among other feasible noise reducing measures used in the industry, can result in meaningful reduction in construction noise."

**Comment:**

As stated in an earlier comment, the Applicant will consider such options for reasonable and feasible mitigating measures that—if implemented—have the potential for reducing predicted construction noise as measured or perceived at a noise-sensitive receiver

**NOISE Page 4.6-17, paragraph 1**

"If a construction noise mitigation plan has been submitted and staff has concluded that the plan will be effective in limiting construction-related impacts to 10 dBA or less, staff

will recommend adoption of Conditions of Certification **NOISE-1** and **NOISE-2**, which would establish a noise complaint process to resolve any complaints regarding construction noise. If it is determined that the complaint is project related, the project owner must resolve the issue to the satisfaction of the complainant."

**Comment:**

The Applicant is very concerned that without any metrics or defined criteria, the phrase "must resolve the issue to the satisfaction of the complainant" is entirely subjective and thereby risks placement of unreasonable mitigation burden on the Applicant. Such phrasing is absent from previous CEC FSAs (e.g., Sutter, Victorville 2, etc.) and inconsistent with the language of NOISE-1 and NOISE-2 conditions that the Applicant acknowledges and accepts.

**NOISE Page 4.6-17, paragraph 3**

"In addition to Conditions of Certification **NOISE-1** and **NOISE-2**, staff proposes Condition of Certification **NOISE-6**, which would limit noisy construction activities to the daytime hours, and Condition of Certification **NOISE-7**, which would require that pile driving (typically the loudest construction activity) be performed using a quieter process (please see the following discussion under "Pile Driving")."

**Comment:**

As shown in Table P-1 of Appendix P-2 of the AFC filing, the Applicant's anticipated usage of pile driving equipment only occurs during months 3, 4 and 5. Also from Table P-1, the indicated reference sound power level is 103 dBA at 1 meter distance, which per usual sound propagation principles (i.e., -6 dBA per doubling of propagation distance from the source) translates into a sound level that falls within a noise level range consistent with that produced by a "semi-quiet" class of pile driving machines as described by the CEC-referenced Gill paper. Hence, Applicant believes it can accommodate NOISE-6 and NOISE-7.

**NOISE Page 4.6-17**

"As explained above, staff does not consider the 35-month construction period to be temporary. Therefore, in this analysis, staff has not declared the project's construction impacts as less than significant, on the basis of the temporary nature of construction activities. Instead, staff has considered the construction impacts resulting in more than doubling the ambient noise levels to be significant."

**Comment:**

In the AFC and Supplement to the AFC, Applicant determined no significant impact for construction because the Applicant considered the 35-month construction period temporary. Since the PSA indicates that the CEC does not consider the 35-month Project construction duration term as temporary, the Applicant will draft a noise mitigation plan to evaluate feasible and reasonable noise control and sound attenuation options that have the potential for reducing estimated construction noise level ranges for the Project.

**NOISE Page 4.6-21, Noise Table 9**

**Noise Table 9: Revised Predicted Operational Noise Levels, dBA**

| Receptor | Project | Measured Existing Ambient, Average Daytime Leq[1] | Cumulative | Change |
|---|---|---|---|---|
| ML1 | 33 | 48 | 48 | 0 |
| ML3 | 33 | 35 | 37 | +2 |
| ML7 | 17 | 43 | 43 | 0 |
| SR10 | 36 | 50 | 50 | 0 |
| LT1 | 29 | 47 | 47 | 0 |
| Strobridge | 41 | 33 | 42 | +9 |
| Bell Future | 28 | 30 | 32 | +2 |
| Bell Existing | 26 | 30 | 31 | +1 |
| Reyes | 38[2] | 37 | 41 | +4 |

[1] NOISE Table 6, above

[2]CESF 2008q, Noise Impact Analysis of Monitoring Location Reyes.

**Comment:**

Because the Applicant suggests revisions to Noise Table 6 (see above), below is a corresponding proposed Noise Table 9.

| Receptor | Project | Measured Existing Ambient, Average Daytime Leq 1 | Cumulative | Change |
|---|---|---|---|---|
| ML1 | 33 | 48 | 48 | 0 |
| ML3 | 33 | **41** | **42** | **+1** |
| ML7 | 17 | **44** | **44** | 0 |
| SR10 | 36 | 50 | 50 | 0 |
| LT1 | 29 | 47 | 47 | 0 |
| Strobridge | 40 | **46** | **47** | **+1** |
| Bell Future | 28 | **33** | **34** | **+1** |
| Bell Existing | 26 | **33** | **34** | +1 |
| Reyes | 38[2] | **41** | **43** | **+2** |

**NOISE Page 4.6-22, paragraph 1**

"As seen in Noise Table 9, second column, the project's operational noise levels at the project's noise-sensitive receptors would range from 17 dBA to 41 dBA, below the LORS limit of 50 dBA. Therefore, noise due to the operation of the CESF project would be in compliance with the applicable LORS."

**Comment:**

Although the proposed Noise Table 9 shows levels that are slightly different from the original Noise Table 9 appearing in the PSA, operational noise from the Project is still expected to comply with applicable LORS.

**NOISE Page 4.6-22, paragraph 5**

"As seen in Noise Table 9, last column, with the exception of Strobridge, project operation would result in a 0-4 dBA increase in the existing ambient noise levels at the project's noise-sensitive receptors. Staff considers an increase of up to 5 dBA as a less-than-significant impact. Staff proposes Condition of Certification NOISE-4 to ensure that the noise levels due to project operation would not create significant noise impacts at these other locations. Condition of Certification NOISE-4 requires the project owner to limit the noise to the values specified in Noise Table 9. If the noise exceeds those limits, the project owner must implement additional mitigation measures to reduce the noise to a level of compliance. (See Condition of Certification NOISE-4 for details.)"

**Comment:**

The Applicant believes that with its suggested revised ambient sound levels, project operation would result in a **0-2** dBA increase in the existing ambient noise levels at the project's noise-sensitive receptors—including Strobridge.

**NOISE Page 4.6-22, paragraph 7**

"Because project operation would elevate the ambient level at Strobridge by 9 dBA and because the project would result in 42 dBA above the recommended limit of 40 dBA, staff considers this impact to be significant. In order to reduce this impact to less than significant, the project plus ambient noise level must not exceed 40 dBA $_{Leq}$ at this location. To achieve this, the project's operational noise level alone must not be allowed to exceed 39 dBA at this location, 2 dBA below the applicant-proposed level. To ensure this, staff proposes Condition of Certification NOISE-4."

**Comment:**

The Applicant has concerns regarding the goals presented in NOISE-4. Please see the comments dedicated to NOISE-4 appearing later in this document.

**NOISE Page 4.6-23, paragraphs 1-4**

"To achieve this noise level at Strobridge… …drawing further conclusions."

**Comment:**

The Applicant's draft noise mitigation plan will consider options for reasonable and feasible noise control and sound attenuating techniques that could reduce the Project operation noise level to less than 40 dBA at Strobridge. The Applicant notes that this goal is based on the CEC's adoption of the CMCNCO recommended threshold, which is 10 dBA more stringent than SLO County's requirement of 50 dBA.

**NOISE Page 4.6-25, paragraph 3**

"Nonetheless, staff needs for the applicant to evaluate the possibility of using an electric-powered vehicle and battery-powered lighting equipment instead of a gasoline-powered vehicle and gasoline-powered lighting equipment for mirror washing. An electric-powered vehicle may result in meaningful noise reduction. Staff needs the applicant to include this evaluation in the draft noise mitigation plan. As seen in **Noise Table 10**, the noise levels from these nighttime activities would be below the LORS nighttime limit of 45 dBA $_{Leq}$ at all of the identified noise receptors. Thus, these activities would be in compliance with the applicable noise LORS."

**Comment:**

The Applicant will evaluate the feasibility and reasonableness of electrically-powered vehicles, portable lighting plant batteries, and electrically-powered reflector cleansing equipment (if any) as part of its draft noise mitigation plan.

**NOISE Page 4.6-30, NOISE-4**

"The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the operation of the project will not cause the noise levels due to plant operation alone to exceed an average of 33 dBA measured at or near monitoring location ML1 (8710 SR-58), an average of 33 dBA measured at or near monitoring location ML3 (9368 SR- 58), an average of 17 dBA measured at or near monitoring location ML7 (identified in Noise Figure 2), an average of 29 dBA measured at or near monitoring location LT1 (Carrisa Plains School), an average of 36 dBA measured at or near monitoring location SR10 (identified in Noise Figure 2)."

**Comment:**

As presented in Noise Table 9, the measured ambient noise levels at these locations are already higher, and in many cases by more than 10 dBA, than predicted project operation noise. Hence, and per the Applicant's understanding, if the future ambient noise is unchanged from existing levels, it may be impossible to perform any noise measurement to verify the goals that CEC staff indicates. The reasoning here is that, consistent with Table A3 from Noise Page 4.6-40, when two overall sound levels are quantitatively more than 10 dB apart, there is no change to the greater when the levels are logarithmically added together.

Alternately, and while other reasonable options may arise from discussion with the CEC, the Applicant proposes two suggestions: 1) that the Project operation noise levels at noise sensitive receivers be extrapolated from measurements made at positions much closer to the Project where existing ambient noise might have negligible acoustic influence; or 2) that the "Cumulative" levels in Noise Table 9 are used as acoustical goals—provided it can be demonstrated that background noise after Project construction has not significantly changed. The former of these suggestions resembles a technique suggested by the CEC as an approved post-construction noise measurement alternative for the Niland Gas Turbine Plant project.

**NOISE Page 4.6-31, NOISE-4 (continued)**

"Also, The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that nighttime project maintenance activities will not cause the noise levels due to plant maintenance alone to exceed an average of 27 dBA $_{Leq}$ measured at or near monitoring location ML1, an average of 28 dBA $_{Leq}$ measured at or near monitoring location ML3, an average of 12 dBA $_{Leq}$ measured at or near monitoring location ML7, an average of 36 dBA $_{Leq}$ measured at or near monitoring location SR1 0, an average of 33 dBA $_{Leq}$ measured at or near monitoring location Strobridge, an average of 20 dBA $_{Leq}$ measured at or near monitoring location Bell Future, an average of 17 dBA $L_{eq}$ measured at or near monitoring location Bell Existing, and an average of 27 dBA $L_{eq}$ measured at or near monitoring location Reyes."

**Comment:**

As presented in Noise Table 10, the measured ambient noise levels at many of these locations are already higher, and in some cases by more than 10 dBA, than predicted project operation noise. Hence, and per the Applicant's understanding, if the future ambient noise is unchanged from existing levels, it may be impossible to perform any noise measurement to verify the goals that CEC staff indicates. The reasoning here is that, consistent with Table A3 from Noise Page 4.6-40, when two overall sound levels are quantitatively more than 10 dB apart, there is no change to the greater when the levels are logarithmically added together.

Alternately, and while other reasonable options may arise from discussion with the CEC, the Applicant proposes two suggestions: 1) that the Project operation noise levels at noise sensitive receivers be extrapolated from measurements made at positions much closer to the Project where existing ambient noise might have negligible acoustic influence; or 2) that the "Cumulative" levels in Noise Table 9 are used as acoustical goals—provided it can be demonstrated that background noise after Project construction has not significantly changed. The former of these suggestions resembles a technique suggested by the CEC as an approved post-construction noise measurement alternative for the Niland Gas Turbine Plant project.

# PUBLIC HEALTH

**PUBLIC HEALTH Page 4.7-9**

**Operational Impacts**

The main health risk from operation of the proposed solar project would be associated with emissions from the occasional testing of its emergency diesel firewater pump engine to ensure its operability in case it is needed. The toxicants from such diesel combustion would be attached to the emitted particulate matter and can induce both short-term and long-term health effects when inhaled. The short-term effects include increased coughing, labored breathing, chest tightness, wheezing, and eye and nasal irritation. Long-term effects can include increased coughing, chronic bronchitis, reductions in long function, and inflammation of lungs. The status of diesel exhaust as a human carcinogen (cancer-causing agent) has been established by OEHHA from human and nonhuman studies. Since every exposure to a carcinogen is presently assumed to pose a specific risk of cancer (unlike non-cancer health impacts whose health effects are assumed to result from exposure above safe thresholds), the cancer end point is commonly used as the most sensitive measure of the acceptability of a source of both carcinogenic and non-carcinogenic pollutants. This cancer-related sensitivity accounts for the significance of cancer risk assessments in environmental risk assessments.

Using the previously noted cancer risk assessment approach, the applicant established a maximum risk of 0.061 in one million for the expected maximum from the intended use of the project's diesel firewater pump. This maximum risk was predicted to occur at a point 115 feet from this fire pump and coinciding with a location on an unpaved road on the northern boundary of the property lines. This risk represents the level of the proposed project's contribution to the area's cumulative cancer risk and is well below staff's significance criterion of 10 in one million for assessing either the significance of the incremental risk in question or the potential for significant risk additions of a cumulative nature. The total hazard index for chronic exposures was calculated as 0.0002, which is well below staff's significance criterion of 1.0. There presently is insufficient scientific data for establishing an acute hazard index for diesel exhaust. The results from the applicant's cancer risk assessment (presented in staff's PUBLIC HEALTH Table 1) were provided to staff along with documentation of the assumptions used (CESF 2007a, pp. 5.16-2, through 5.16-17 and Appendix R). This documentation included:

• pollutants considered;

• emission levels assumed for the pollutants involved;

• dispersion modeling used to estimate potential exposure levels;

• exposure pathways considered;

• the cancer risk estimation process;

• hazard index calculation; and

• characterization of project-related risk estimates.

Staff has found these assumptions to be acceptable for use in this analysis and has validated the applicant's findings with regard to the numerical public health risk estimates expressed either in terms of the hazard index for each non-carcinogenic pollutant, or a cancer risk for estimated levels of the carcinogenic pollutants.

**Comment:**

The discussion of the operational impacts identifies the only emission source as the diesel fire water pump. In the Supplement to the AFC submitted July 2008, the HRA analysis included two sources, a diesel fire water pump and a diesel emergency generator. Using the same techniques described in the AFC, the new HRA combined the peak impact from each source regardless of location, thus overestimating the predicted peak health impacts. The maximum cancer risk from the combination of the sources was predicted to be 0.713 in a million and the maximum chronic non-cancer health index was predicted to be 0.0003.

Peak impacts from the combination of these sources were found to be well below the significance criteria, thus, it is anticipated that the findings regarding the impacts on public health should remain the same after these new data are examined.

# SOCIOECONOMICS

**SOCIOECONOMICS Page 4.8-14**

**SOCIO-1**
The project owner shall submit the applicable State-mandated school impact fees to the Atascadero Unified School District at the time of building permit issuance.

**Verification:** At least 30 days prior to start of project construction, the project owner shall provide the Compliance Project Manager (CPM) proof of payment of the statutory development fee.

**Comment:**
The Applicant understands that the applicable State-mandated school impact fees shall be submitted to Atascadero Unified School District at the time of building permit issuance and will provide proof of that payment to the CPM at least 30 days prior to start of project construction.

# SOIL AND WATER RESOURCES

**SOIL AND WATER RESOURCES Page 4.9-1**

Two proposed crossings of Carriza Creek may increase flooding upstream of the crossings. The applicant should re-examine the need for these crossings to determine if the project can be successfully constructed without placing fill in an existing stream channel. The crossing designs need to be updated to ensure that upstream flood elevations are not increased as compared to existing conditions.

**Comment:**

The Applicant has determined that the two proposed creek crossings are a necessary component of the overall project description for the project to be successfully completed and operated. Construction of the access road and two permanent crossings will act as a turn-around onto SR-58 for large construction vehicles during construction of the CESF.

A hydraulic model, using the HEC-RAS program, was created to illustrate the potential increase in water surface elevation that the crossings may cause upon the existing creek. The model used a general analysis based upon available data from field photos and topography maps. The assumed dimensions for the Carriza Creek Channel are 20-ft bottom width, side slopes vary from 2:1-4:1 and Manning's N Value of 0.035. Preliminary design suggests that (3)-3 ft x 5 ft RCBs to be used at the two crossings will be sufficient to pass the average annual runoff (2-Year Design Storm) from the Carriza Creek with little increase to the water surface elevations (WSEL). Preliminary design also will allow for the higher flow rates to overtop the RCB culvert systems. The upstream crossing will be designed to ensure that no negative impacts will occur in the upgradient property adjacent to the Construction Laydown Area.

This general analysis illustrates that the greater flow rates will have little increase in WSEL due to the effects of the two crossings. For final design a detailed survey will be conducted to obtain final design level data on the Carriza Creek within the Construction Laydown Area. It must be noted that the FEMA FIRM Panel 0603040575B, effective date July 5, 1982, has designated the Carriza Creek as Zone A. Zone A is..."the flood insurance rate zone that corresponds to the 1-percent annual chance floodplains that are determined in the Flood Insurance Study by approximate methods of analysis. Because detailed hydraulic analyses are not performed for such areas, no Base Flood Elevations or depths are shown within this zone..." A second HEC-RAS analysis will be done prior to final design in order to further refine the impacts analysis of the proposed crossings on the existing creek and neighboring properties. Crossing design will be updated accordingly based upon further detailed survey of Carriza Creek to avoid impacts on surrounding properties.

**SOIL AND WATER RESOURCES Page 4.9-1**

Staff believes that it would be preferable to locate the construction fueling area outside of the existing 100-year FEMA floodplain. Relocating the fueling area to the north and

east of Carriza Creek could eliminate the need for the two creek crossings and the placement of fill in the creek.

**Comment:**
The latest site plan, included in the Supplement to the AFC, illustrates the fueling area is located at the northeast corner of the Construction Laydown area. This location is away from the 100-year approximated floodplain, therefore, the fueling area will not be negatively impacted by the 100-year flood.

**SOIL AND WATER RESOURCES Page 4.9-1**

Water supply for construction appears to be significantly under-estimated. The applicant should provide clear documentation demonstrating that all construction requirements (including dust suppression) can be successfully accomplished with the estimated (20.8 acre-feet per year) water supply.

**Comment:**

The applicant is currently preparing water use estimates documentation to confirm the water supply for construction.

**SOIL AND WATER RESOURCES Page 4.9-1**

The applicant indicates that the proposed perimeter swales will capture and detain the first 117 acre-feet of runoff from two up-gradient watersheds. On the Carrizo Plain, with extremely limited water resources, capturing and detaining up-gradient surface water resources including Carriza Creek and Soda Lake and groundwater users. The applicant should include provisions for this runoff to pass through the CESF project site.

**Comment:**

In the existing condition the runoff, generated upgradient from the site, sheet flowed across the project site area and allowed to be infiltrated into the natural ground. The proposed swales will concentrate flows which will aid the off-site runoff volume to continue pass the project site towards Soda Lake.

**SOIL AND WATER RESOURCES Page 4.9-1**

Potable water supply estimates are 5.3 gpm for average annual (averaged over 8,760 hours) and maximum daily usage. The applicant should confirm the average annual and maximum daily potable water supply estimates.

**Comment:**

The applicant is currently preparing water use estimates documentation to confirm the average annual and maximum daily potable water supply estimates.

**SOIL AND WATER RESOURCES Page 4.9-1**

The proposed sanitary waste water system includes a 1,000-gallon septic tank and leach field. However, the septic tank appears to be undersized given the number of employees and the applicant's estimate of potable water supply. The applicant should provide clear documentation demonstrating that the septic system has been designed in accordance with San Luis Obispo County and California Plumbing Code standards.

**Comment:**

The applicant is currently preparing documentation demonstrating that the septic system has been designed in accordance with San Luis Obispo County and California Plumbing Code standards.

**SOIL AND WATER RESOURCES Page 4.9-1**

Infiltration BMPs should be added to the detention/infiltration areas to limit the potential for extended shallow ponding to increase mosquito production.

**Comment:**

An infiltration BMP will be used such that ponding of on-site runoff volume will not occur. The BMP will ensure that the runoff volume will infiltrate within 72-hours so that there will be no vector problems.

**SOIL AND WATER RESOURCES Page 4.9-2**

Post construction BMPs should be identified to stabilize soils in the laydown area and at the Solar Field.

**Comment:**

Post-Construction BMPs, such as hydroseeding and hydraulic mulch, or an equivalent, will be used to stabilize soils to control erosion for both the Solar Field and Construction Laydown Area.

# TRAFFIC AND TRANSPORTATION

## TRAFFIC AND TRANSPORTATION Page 4.10-1

"Summary of Conclusions". Staff concludes, "...the Carrizo Energy Solar Farm project would have significant adverse traffic and transportation-related impacts." In addition, staff conclude that, "Traffic generated during construction,…would result in substantial delays to vehicle traffic along State Route 50 (SR-58), resulting in a significant, adverse direct and cumulative impact".

**Comment:**

The Applicant and it's consultant do not agree with staff's conclusions that the project results in "significant adverse traffic and transportation-related impacts". In fact, the Applicant and it's consultant conclude that, according to California Environmental Quality Act (CEQA) guidelines and Title 20 CEC regulations, there are **no** significant impacts for traffic or transportation for the project. Staff even summarizes "The Carrizo Energy Solar Farm as proposed would be consistent with all applicable laws, ordinances, regulations, and standards, including the County of San Luis Obispo traffic thresholds and the Circulation Element of the Kern County General Plan" (PSA, p. 4.10-1).

It is important to note that traffic impacts occur when a Level-of-Service (LOS) rating changes. While the applicant and consultant agree that there will be traffic delays due to construction, delays are only a portion of roadway's LOS rating. As previously determined in the AFC and supplemental filing, there will be no change to the LOS for SR-58 or any other roadway affected by the project. Therefore, the Applicant and its consultant have determined that there are no significant impacts. Although the Applicant disagrees with staff about impact significance, the Applicant does agree that traffic mitigation measures would be helpful to reduce construction-related traffic impacts. Therefore, the Applicant agrees to prepare a Traffic Mitigation Plan to develop and identify mitigation measures that could help lessen construction-related traffic delays to nearby residents and local roadway users.

## TRAFFIC AND TRANSPORTATION Page 4.10-9

"While implementation of **TRANS-1** would reduce impacts during the AM and PM peak hours, impacts during off-peak hours would remain and would be significant. Staff continues to investigate measures to reduce this impact. In order for staff to complete its analysis for the Final Staff Assessment, the applicant needs to prepare and provide staff with a draft Traffic Mitigation Plan that demonstrates that the identified significant adverse impacts associated with project construction can be mitigated to a level of less-than-significant such as requiring escorted/piloted trucks to travel to the site via SR-46 and Bitterwater Road (which would require analysis of potential traffic impacts to SR-46) or requiring a piloted/escorted trucks to travel to and from the site at the same time each day, so delays would only occur once each day."

**Comment:**

The Applicant and its consultant do not agree with the statement that, "impacts during off-peak hours would remain and would be significant" based on the LOS argument stated above. The Applicant and its consultant do however agree that the preparation of a Traffic Mitigation Plan would be helpful in identifying potential mitigation measures to help lessen traffic delays and impacts during off-peak hours.

**TRAFFIC AND TRANSPORTATION Page 4.10-20**

"1. In order for staff to complete its analysis for the Final Staff Assessment, the applicant needs to prepare and provide staff with a draft Traffic Mitigation Plan that demonstrates that the identified significant adverse impacts associated with project construction can be mitigated to a level of less-than-significant such as requiring escorted/piloted trucks to travel to the site via SR-46 and Bitterwater Road (which would require analysis of potential traffic impacts to SR-46) or requiring all piloted/escorted trucks to travel to and from the site at the same time each day, so delays would only occur once each day. Any measures identified will be presented in the Final Staff Assessment."

**Comment:**

The Applicant and its consultant do not agree that there are "significant adverse impacts associated with project construction" based on the LOS argument stated above. The Applicant and its consultant do however agree that the preparation of a Traffic Mitigation Plan would be helpful in identifying potential mitigation measures to help lessen traffic delays and impacts during off-peak hours. These mitigation measures, as listed above, could include analyzing the potential for different travel routes to be identified (e.g, SR-46 and Bitterwater Road).

**TRAFFIC AND TRANSPORTATION Page 4.10-21**

"10. CESF impacts related to substantial delays to existing traffic along SR-58 would combine with similar impacts from the proposed SunPower Solar Farm to result in a significant cumulative impact."

**Comment:**

Currently, the Applicant and its consultant have concluded that there are no cumulative impacts associated with the CESF project. The Applicant has no specific traffic or transportation information for the SunPower Solar Farm project in which to do a cumulative impact analysis. Therefore, the Applicant and its consultant disagree that a conclusion can be drawn that there would be a "significant cumulative impact". In addition, if at a later time cumulative impacts are identified in association with future projects in the area, the Applicant feels it is appropriate to mitigate the CESF project's fair share of these impacts, if deemed necessary.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"● redirection of construction traffic in the vicinity of the CESF site and construction laydown area with a flag person."

**Comment:**

Would like staff to clarify the term "redirection" by replacing it with "rerouting" or "detour", if appropriate.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"● signage placed along the south and north shoulders of SR-58 at one-mile intervals from SR-33 to SR-229 notifying drivers of increased construction traffic on SR-58 and the duration of the construction period."

**Comment:**

The requirement for signs at one-mile spacing on SR 58 from SR-33 to SR-229 warning of construction traffic seems to be excessive and may be counterproductive. SR-229 is approximately 35 miles from the site and SR-33 is approximately 30 miles. At those distances, warning signs would loose their effectiveness. With 188 vehicle trips per day (Table 3), motorists may not encounter any construction related vehicles until they get close to the site. Applicant proposes warning signs be placed at the two state routes with signs closer to the site, (no more than 5 miles in either direction).

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"● signage placed along the south and north shoulders of SR-58 at distances of 1.0 mile, one half mile, one quarter mile, and 500 feet of the Carissa Plains Elementary School notifying drivers of the school entrance and school traffic."

**Comment:**

Traffic signs for the school must comply with Part 7 *Traffic Control for School Areas* of the *California Manual on Uniform Traffic Control Devices (CA MUTCD).* The CA MUTCD Section 7B.11 states:

> **"Standard:**
> **The School Speed Limit Assembly C(CA) shall be used on streets with speed limits greater than 40 km/h (25 mph) that are contiguous to a school building or school grounds.**
> Support:
> The School Speed Limit Assembly C(CA) is shown in Figure 7B-1(CA).
> Option:
> If used, the School Speed Limit Assembly C(CA) may be posted up to 150 m (500 ft) in advance of the school boundary."

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"● a Heavy Haul Plan addressing the transport and delivery of heavy and oversized loads requiring permits from Caltrans or other state and federal agencies."

**Comment:**
The traffic control plan (TCP) will address the transport and delivery of heavy and oversized loads. A Heavy Haul Plan will be an element of the TCP.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"● A Truck and Bus Safety Plan that ensures:"

**Comment:**
The traffic control plan (TCP) will address the transport and delivery of heavy and oversized loads. A Truck and Bus Safety Plan will be an element of the TCP.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"o that construction equipment deliveries requiring pilot cars and/or CHP escorts are limited to traveling along SR-58 during off peak hours (between 9:00 am and 4:00 PM)"

**Comment:**
Applicant will review this option in the Traffic Mitigation Plan.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"o all project-related construction traffic adheres to the California Legal Advisory of KPRA less than 30 feet;"

**Comment:**
There may be some exceptions to this condition, therefore Applicant will review this regulation and options that may result in the Traffic Mitigation Plan.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"o all project-related construction traffic adheres to the prohibition of buses over 40 feet in length on SR-58;"

**Comment:**
There may be some exceptions to this condition, therefore Applicant will review this regulation and options that may result in the Traffic Mitigation Plan.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"o funding for at least two (2) additional CHP units or CHP Commercial Officers to patrol SR-58 through the entire construction duration is provided to CHP;"

**Comment:**

The justification to fund two (2) additional CHP units or CHP Commercial Officers should to be evaluated in context for the need and potential cost sharing with other parties, therefore the Applicant feels this condition should not be in the COC.

**TRAFFIC AND TRANSPORTATION Page 4.10-22**

"o any truck travel along Bitterwater Road shall be restricted to daylight hours."

**Comment:**

There may be some exceptions to this condition, therefore Applicant will review this regulation and options that may result in the Traffic Mitigation Plan.

**TRAFFIC AND TRANSPORTATION Page 4.10-22 to 23**

"The project owner shall consult with the County of San Luis Obispo and Caltrans in the preparation and implementation of the traffic control and implementation plan and shall submit the proposed traffic control plan to the County of San Luis Obispo and Caltrans in sufficient time for review and
comment and to the CPM for review and approval prior to the proposed start of construction and implementation of the plan. The project owner shall provide a copy of any written comments from the County of San Luis Obispo or Caltrans and any changes to the traffic control plan to the CPM prior to the proposed start of construction.

**Verification:** At least 90 calendar days prior to the start of construction, including any grading or site remediation on the project site or its associated easements, the project owner shall submit the proposed traffic control and implementation plan to the County of San Luis Obispo and Caltrans for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to the County of San Luis Obispo and Caltrans requesting review and comment.

At least 30 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters received from either the County of San Luis Obispo or Caltrans, along with any changes to the proposed development plan to the CPM for review and approval.

**Comment:**

There may be some exceptions to this condition i.e., agency review and turnaround dates beyond the Applicant's control, therefore this condition should not be in the COC. The Applicant however will strive to fully abide the intent of the aforementioned proposed COC.

**TRAFFIC AND TRANSPORTATION Page 4.10-23**

**"REPAIR OF PUBLIC RIGHT-OF-WAY**
**TRANS-2** The project owner shall restore all public roads, easements, and rights-of-way

that have been damaged due to project-related construction activities to original or near-original condition in a timely manner.

Prior to the start of site mobilization, the project owner shall consult with the County of San Luis Obispo and Caltrans and notify them of the proposed schedule for project construction. The purpose of this notification is to request that the local jurisdiction and Caltrans consider postponement of public right-of-way repair or improvement activities in areas affected by project construction until construction is completed and to coordinate with the project owner regarding any concurrent construction-related activities that are planned or in progress and cannot be postponed.

**Verification:** At least 30 days prior to the start of mobilization, the project owner shall photograph or videotape all affected public roads, easements, and right-of-way segment(s) and/or intersections and shall provide the Energy Commission Compliance Project Manager (CPM), the affected local jurisdiction(s) and Caltrans (if applicable) with a copy of these images.

Within 60 calendar days after completion of construction, the project owner shall meet with the CPM, the affected local jurisdiction(s) and Caltrans (if applicable) to identify sections of public right-of-way to be repaired. At that time, the project owner shall establish a schedule to complete the repairs and to receive approval for the action(s). Following completion of any public right-of-way repairs, the project owner shall provide a letter signed by the affected local jurisdiction(s) and Caltrans stating their satisfaction with the repairs to the CPM."

**Comment:**

Given the acknowledged presence of other similar proposed developments within the Carrizo Plains area, the elements of the aforementioned proposed condition becomes moot to attach this condition to the Applicant alone, therefore this condition should not be in the COC. The Applicant however will cooperate with San Luis Obisbo County, Caltrans and adjacent developers to develop a fair share mitigation plan.

## TRANSMISSION LINE SAFETY AND NUISANCE

The Applicant has no comments regarding Transmission Line Safety and Nuisance.

# VISUAL RESOURCES

**EXECUTIVE SUMMARY Page 1-12**

Additional information needed to complete the analysis for the Final Staff Assessment is provided below:

- A description by the applicant of the colors and materials of the buildings and structures, a lighting plan, and site screening for the laydown area.

**Comment:**

Description of colors and materials of the buildings and structures: On Page 4.12-6 in Table 2 Summary of Major Publicly Visible Structures, structure colors and materials are identified as corrugated steel, natural shades of beige and brown. Please identify what, if any, additional information is required.

Lighting Plan: A lighting plan was submitted as part of the Environmental Analysis for Supplemental Information on July 3rd, 2008, and is included as part of the CEC PSA package for the Project. Please identify what, if any, additional information is required.

Site screening for the laydown area: No site screening has been proposed for the construction laydown area.

**EXECUTIVE SUMMARY Page 1-12**

Additional information needed to complete the analysis for the Final Staff Assessment is provided below:

- Clarification by the applicant as to whether the 50-foot wide ingress, egress and public utility easement and road dedication between the Topaz property on section 29 and the Carrizo project on section 28 would prohibit or limit the planting of landscaping along the Carrizo project's west boundary.

**Comment:**

The Project does not proposed on-site landscaping. All landscaping for screening purposes is proposed off-site on adjacent properties. The landscaping plan was designed as such to reduce the number of plantings required for screening, and reduce the amount of water needed to maintain landscaping.

**EXECUTIVE SUMMARY Page 1-12**

Additional information needed to complete the analysis for the Final Staff Assessment is provided below:

- A perimeter landscaping plan has not been prepared for the project site and reviewed by staff at this time.

**Comment:**

No perimeter landscaping has been proposed as part of the CESF Project. A Suggested Conceptual Landscaping Plan for off-site landscaping was submitted as part of the Data

Adequacy response package submitted to the CEC on December 14, 2007 (VISRES-26). The Suggested Conceptual Landscaping Plan included a narrative on what types of trees will be planted, the amount of spacing between the trees, and the growth rates of the trees in 5 year increments (including an approximate height 5 years after installation. A Final Landscaping Plan has not been prepared to date.

**EXECUTIVE SUMMARY Page 1-12**

Additional information needed to complete the analysis for the Final Staff Assessment is provided below:

- Staff's securing of a consultant to review and provide comments on the applicant's glint and glare study.

**Comment:**

Statement noted. Applicant requests that comments on glint and glare study be provided prior to FSA to allow Applicant time for review and comment.

**EXECUTIVE SUMMARY Page 1-12**

Additional information needed to complete the analysis for the Final Staff Assessment is provided below:

- Information to evaluate potential cumulative visual impacts to the area regarding lighting, glare and glint, surface treatments, and landscaping or screening proposed by the Topaz Solar Farm and California Valley Solar Ranch.

**Comment:**

Please identify what specific information is being requested from the Applicant. Only limited information is available to the Applicant for those proposed projects.

**VISUAL RESOURCES Page 4.12-7**

"Motorists along SR-58 would have views of the CESF site. A motorist would have a direct unobstructed view of the site (i.e., the intersection of SR-58 and Tracy Lane) (**Visual Resources Figure 11** – Existing View from Intersection of SR-58 and Tracy Lane)."

**Comment:**

The first picture on Figure 11 does not show the Project site. The photo was taken from the southeast corner of the Project site looking south away from the site down SR-58. However, it does slightly show the northeast corner of the laydown area. Text and Figure should be revised as follows:

"Motorists along SR-58 would have views of the CESF site. A motorist would have a direct unobstructed view of the site (i.e., the intersection of SR-58 and Tracy Lane) (**Visual Resources Figure 11** – Existing Views of Laydown area and project site from Intersection of SR-58 and Tracy Lane)."

**VISUAL RESOURCES Page 4.12-8**

"**Visual Resources Figure 6** shows the locations of the four KOPs used for this analysis:

- KOP 1 – Front Yard of Closest Residence North of Project Site Looking South;
- KOP 2 – Front Yard of Closest Residence West of Project Site Looking East;
- KOP 3 – Intersection of State Route 58 and Tracy Lane Looking West, and;
- KOP 4 – State Route 58, West of Bitterwater Road Looking East"

**Comment:**

The applicant has identified 5 KOPs. KOP #5 was submitted as part of the Environmental Analysis for Supplemental Information on July 3rd, 2008 in response to public comments. Text should be revised as follows:

"**Visual Resources Figure 6** shows the locations of the ~~four~~ five KOPs used for this analysis:

- KOP 1 – Front Yard of Closest Residence North of Project Site Looking South;
- KOP 2 – Front Yard of Closest Residence West of Project Site Looking East;
- KOP 3 – Intersection of State Route 58 and Tracy Lane Looking West, and;
- KOP 4 – State Route 58, West of Bitterwater Road Looking East
- KOP 5 – State Route 58, Near Southwest Corner of Project site Looking East."

**VISUAL RESOURCES Page 4.12-12**

"Staff does not agree with the applicant's criterion and the evergreen screening would also block a portion of the panoramic view of the Temblor Range and skyline currently experienced at the residences"

**Comment:**

Staff does not agree with applicant's proposed evergreen planting for screening purposes because it would "block a portion of the panoramic view of the Temblor Range and skyline currently experienced at the residences." However, on page 4.12-17 Staff wrote "The applicant has proposed offsite evergreen tree landscaping on nearby properties which at maturity will effectively screen the view of the project site from the residences. The evergreen tree landscaping at maturity would also help block potential light trespass and glint and glare introduced by the project to a residence." In addition, VIS-4 is requiring perimeter landscaping. These are two conflicting arguments.

**VISUAL RESOURCES Page 4.12-14**

[CEC Visual Resources Staff did not analyze KOP5]

**Comment:**

At the conclusion of the analysis for KOP#4, analysis for KOP #5 should be included.

**VISUAL RESOURCES Page 4.12-17**

"The applicant has proposed offsite evergreen tree landscaping on nearby properties which at maturity will effectively screen the view of the project site from the residences."

**Comment:**

This statement is inconsistent with the argument provided on page 4.12-12 related to the effectiveness of proposed landscaping in screening resident views of the Project site. If it is Staff's position that proposed offsite evergreen tree landscaping on nearby properties will effectively screen the view of the project site from the residences, then project perimeter tree screening should not be required. Applicant believes off site screening is sufficient.

**VISUAL RESOURCES Page Visual Resources Table 3 and Page 4.12-24**

"The project's two 115-foot tall air cooled condenser units and the 60-foot tall steam turbine generator enclosures would exceed the county's 35-foot tall height limit. These uninhabited structures do not fall under the county's height limit exceptions for public utilities or solar collectors. Although the project's 58-foot tall steam drum and support structures, and the 56-foot tall receivers are considered solar collector items, staff has determined that these uninhabited structures exceed the county's 40-foot height limit for solar collectors."

**Comment:**

Applicant provided a full response for this issue as part of the CESF Data Request Response #21 in February 2008. Please refer to this Data Request Response below. In addition, please see San Luis Obispo County, Department of Building and Planning, Supplemental Response letter dated March 11, 2008 below. Further, see Page 157 lines 10 though 25; and Page 158 lines 1 though 8 of the March 12, 2008 Data Response Workshop transcript included below.

In addition, according to URS staff conversations with John McKenzie at the County of San Luis Obispo on January 31st, 2008, the intent of Section 22.10.090.C.2.c(8) is to govern the use of photovoltaic apparatus added to the rooftops of agriculture district structures and not utility scale electricity generation facilities. He confirmed that the Project's solar collectors, proposed at a height of 56-feet would fall under the height limit for Public Utilities Section 22.10.090.C.2.c (7) of the LUO, and is not considered under Section 22.10.090.C.2.c(8).

TECHNICAL AREA: LAND USE

**Data Request 21:** Please provide documentation of the County's interpretation of this exception (#C.2.c.7) and how it applies to the CESF.

**Response:** The air cooled condenser and receiver structures will exceed 35 feet in height, but would not be habitable structures. The tallest habitable structure proposed as part of the CESF is the 40 foot tall control and administration building. The height of this proposed structure exceeds the height limit for habitable structures within the Agriculture, Rural Lands land use category (which limits habitable structures to 35 feet in height). However, according to the San Luis Obispo County Planning and Building Department an exception to this height restriction is allowable under Section 22.10.090 of the LUO pursuant to the issuance of a Conditional Use Permit (CUP) based on the findings described below.

The following is an excerpt from an email from John D. McKenzie of the San Luis Obispo County Planning and Building Department, describing the findings necessary under a CUP for the County to approve an exception to the height limits for habitable structures under the LUO Section 22.10.090:

"For habitable structures within the Agriculture and Rural Lands land use categories the height limit is 35 feet. Under the exception provision of the ordinance (LUO 22.10.090.C.2) a modification can be requested if the following findings can be made:

1) the project will not result in substantial detrimental effects on the enjoyment and use of adjoining properties, and
2) that the modified height will not exceed the lifesaving equipment capabilities of the fire protection agency having jurisdiction.

The further from any property line the habitable building can be cited, the easier the argument can be made to meet item #1. If the county were processing this permit, on item #2, we would be asking for a response from Cal Fire on the significance of the proposed height, and if supportable, what specific measures they would need to see to maximize fire protection."

As a follow-up, URS contacted Rick Swan of Cal Fire, and during that discussion the following additional concerns/requirements were determined to be likely if the permit were going through the county:

1) one, possibly two interior, fire-rated stairwell access to the roof;
2) building would be sprinklered;
3) adequate widths and vertical clearances would be needed for fire and life safety vehicles to access to most interior areas;
4) perimeter access around entire site would be necessary;
5) while not a requirement, due to the long distance to any medical facility, a paved area (away from any potential fire sources) should be designated for helicopter landings.

CESF will coordinate with Cal Fire fire safety engineers as part of the project design process.

SAN LUIS OBISPO COUNTY

# DEPARTMENT OF PLANNING AND BUILDING

VICTOR HOLANDA, AICP
DIRECTOR

| DOCKET |
|---|
| 07-AFC-8 |
| DATE MAR 11 2008 |
| RECD. MAR 11 2008 |

March 11, 2008

Dale Edwards, Manager
California Energy Commission
1516 Ninth St.
Sacramento, CA 95814-5512

**RE: Supplemental Agency Response of the Carrizo Energy Solar Farm Project (07-AFC-8)**

Mr. Edwards,

This letter, along with our February 18 letter, responds to the CEC letter of February 6, 2008.

1. Under Land Use, regarding permitting levels, a Conditional Use Permit is required.
2. Under Land Use, regarding Agricultural Policy 24, this policy is intended to discourage the conversion of ag lands to non-ag uses by following one or more of four actions listed. The first three do not apply as they relate to urban sprawl and residential development around urban fringes.

   The last item speaks to avoiding the location of new public facilities outside urban or village reserve lines unless they either serve a rural function or there is no feasible alternative location within the urban and village reserve lines. Given the following needs of a solar power plant, it is not feasible to locate such a facility within a VRL or URL because the plant:

   - ✓ requires very large, contiguous tracts of land to make it economically feasible (not found within existing URL/ VRL's);
   - ✓ must have a large percentage of clear days of clean air with favorable access to the sun (e.g., level or south-facing slopes away from steep terrain shadows); and
   - ✓ must be relatively close to regional transmission lines.

   In addition, while the entire 640 acres (and the 320 acre staging area) is made up of Class II (irrigated) soils (Class IV non-irrigated), there is very limited water for potential irrigation of crops, and due to the low annual rainfall, dry land grain production may have low yields and the carrying capacity for grazing animals may be diminished. This should be analysed in the environmental document
3. For habitable structures within the Agriculture and Rural Lands land use categories, the height limit is 35 feet. If the project cannot be redesigned to achieve this height limit, under the exception provision of the ordinance (LUO 22.10.090.C.2) a modification can be requested if the following findings can be made:

PROOF OF SERVICE ( REVISED 2/5/08 ) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 3/11/08
CF

COUNTY GOVERNMENT CENTER • SAN LUIS OBISPO • CALIFORNIA 93408 • (805)781-5600
EMAIL: planning @co.slo.ca.us • FAX: (805) 781-1242• WEBSITE: http://www.sloplanning.org

a) the project will not result in substantial detrimental effects on the enjoyment and use of adjoining properties, and

b) that the modified height will not exceed the lifesaving equipment capabilities of the fire protection agency having jurisdiction.

The further from any property line the habitable building can be located, the easier the argument can be made to meet item #a. If the county were processing this permit, on item #b, we would be asking for a response from Cal Fire on the significance of the proposed height, and if supportable, what specific measures they would need to see to maximize fire protection.

After speaking with Rick Swan (Cal Fire), please be aware of the following additional concerns/ requirements that would be likely if the permit were going through the county:

1) one, possibly two interior, fire-rated stairwell access(es) to the roof;

2) building would be sprinklered;

3) to provide access to most interior areas for fire and life safety vehicles, adequate widths and vertical clearances of equipment/structures on the site would be needed, along with well-placed, all-weather roads;

4) perimeter access around entire site would be necessary;

5) while not a requirement, due to the long distance to any medical facility, a paved area (away from any potential fire sources) should be designated for helicopter landings.

For non-habitable structures, such as for the turbine, the condensers, and the transmission pole, they would fall under the "Exceptions to height limitations" for "public utilities".

4. With regards to conditions and findings, many of the conditions are based on the environmental impacts, and are not typically generated until the environmental analysis is completed. We will work with CEC staff to develop conditions as the environmental analysis is completed. At such time, we would have a better understanding of the impacts, and could provide more detailed or applicable conditions and/or findings.

5. With regards to lot clarification APN 072-091-001 is the correct parcel of the power plant. The staging area is on APN 072-091-010. With regards to parcel legality/restrictions for APN 072-091-001, this parcel is considered a legal parcel. Staff has no information on any specific restriction on this property.

6. Due to the project's size and uniqueness, first a referral would have been sent to Caltrans and a traffic study would likely have been required to assess impacts from and improvements for: traffic safety from introduction of slow-moving construction vehicles (including left-turn movements); develop a detailed construction traffic management plan, evaluate long-term and cumulative impacts. Due to the narrowness and curves of Highway 58, we would probably have asked that the modeling look at the potential for county roads being used instead of Highway 58, where favorable. While some of these issues have been evaluated in the URS information, the analysis does not cover all of these issues. The traffic study should include measures to mitigate any significant impact. We will work with CEC staff to develop conditions as the environmental analysis is completed.

7. With regards to visual resources, please see our February 18th letter. It is correct that the Land Use Ordinance does not address plains development specifically on visual issues and is left to be addressed through the CEQA process. Therefore, due to the industrial appearance of this facility combined with its height and size, all efforts should be made to reduce heights of all structures to the maximum extent feasible, minimize night lighting to the maximum extent (e.g., keeping light standards as low as possible, illumination levels should be at the lowest levels possible, and all lights fully shielded from all surrounding properties). Perimeter landscape screening should be used to soften these impacts and designed in a manner to

have as much of a natural appearance as possible. We will work with CEC staff to develop conditions as the environmental analysis is completed.

We appreciate your consideration of our supplemental comments as the CEC conducts their internal analysis and completion of the Preliminary Staff Assessment. We look forward to working with you in the future. Should you have any questions, please give me a call at (805)781-5452.

Sincerely,

**John McKenzie**
Environmental Specialist

c - URS, Seth Hopkins
- Ellen Carroll, Environmental Coordinator, County of San Luis Obispo

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part of our --

MR. STROBRIDGE: I'm not asking what's the height. You know, you have to get some kind of modification to put it up 115 feet, correct?

MS. LIEBA: No. What the CEC is asking for is clarification with the County for the administration building, which is considered a habitable structure. The administration building is currently proposed at 40 feet.

MR. STROBRIDGE: Where's the County guy? Are you the County guy? What is the height requirement on a nonhabitable ag structure?

MR. RUSKAVITCH: Thirty-five feet.

MR. STROBRIDGE: Thirty-five feet. I'm just curious, you know.

MR. McKENZIE: John McKenzie. There's within the height measurements or height ordinance requirements, there's an exception provision that speaks to public facilities -- I'm sorry, not public facilities, but to utility, public utilities. Which would be an exception to that 35-foot height limit. So, --

MR. STROBRIDGE: Now there's a --

MR. McKENZIE: -- you can allow --

MR. STROBRIDGE: -- you have, there's

two things that go along with that modification, things are allowed to go that high?

MR. McKENZIE: There's no modification requirement. It's an exception which allows for structures to be taller than 35 feet if they fit under certain exceptions, which this, all the structures that are nonhabitable would fit under this exception. It's in the ordinance.

MR. STROBRIDGE: So if they decide to put up a 250-foot tall building, that's okay with the County?

MR. McKENZIE: There are certain findings that need to be made to do that. One is --

MR. STROBRIDGE: Well, I'm just curious because it's okay at 115 feet, why would 250 matter? I mean, what if they're going to like add onto it in a year, you know. Those condensers aren't big enough, hell, we're going to expand the plant to seven more sections. We're going to jump the size of those condensers up 250-foot-tall buildings. Maybe add a couple more online. What's to stop them from doing that?

MS. HOLMES: The Energy Commission.

(Laughter.)

**VISUAL RESOURCES Page 4.12-27**

*"**Surface Restoration***

**VIS-2** The project owner shall remove all evidence of construction activities, and shall restore the ground surface to the original condition or better condition, including the replacement of any vegetation during construction where project development does not preclude it. The project owner shall submit to the CPM for review and approval a surface restoration plan, the proper implementation of which will satisfy these requirements. The project owner shall complete surface restoration within 60 days after the start of commercial operation.

**Verification:** At least 60 days prior to the start of commercial operation, the project owner shall submit the surface restoration plan to the CPM for review and approval If the CPM notifies the project owner that any revisions of the surface restoration plan are needed, within 30 days of receiving that notification the project owner shall submit to the CPM a plan with the specified revisions. The project owner shall complete surface restoration within 60 days after the start of commercial operation. The project owner shall notify the CPM within seven days after completion of surface restoration that the restoration is ready for inspection."

**Comment:**

As the Project site is disturbed agricultural land, and will be utilized as a solar power facility, Applicant does not see how this is necessary for the Project site. Applicant assumes this is specific to the Construction laydown area. Therefore, text should be revised to state the following:

**VIS-2** The project owner shall remove all evidence of construction activities on the construction laydown area, and shall restore the ground surface to the original condition or better condition, including the replacement of any vegetation. ~~during construction where project development does not preclude it~~. The project owner shall submit to the CPM for review and approval a surface restoration plan, the proper implementation of which will satisfy these requirements. The project owner shall complete surface restoration within 60 days after the start of commercial operation.

**Verification:** At least 60 days prior to the start of commercial operation, the project owner shall submit the construction laydown area surface restoration plan to the CPM for review and approval. If the CPM notifies the project owner that any revisions of the surface restoration plan are needed, within 30 days of receiving that notification the project owner shall submit to the CPM a plan with the specified revisions. The project owner shall complete surface restoration within 60 days after the start of commercial operation. The project owner shall notify the CPM within seven days after completion of surface restoration that the restoration is ready for inspection.

**VISUAL RESOURCES Page 4.12-29**

***"Perimeter Landscaping***

**VIS-4** The project owner shall provide landscaping in sufficient quantity and size to create an attractive and noticeable bond of vegetation and color on boundaries with public views."

**Comment:**

As "Perimeter Landscaping" has not currently been deemed required. Perimeter landscaping would require an increase in water demand for the area. Applicant requests text be revised to the following:

***~~Perimeter~~ Project Landscaping***

**VIS-4** The project owner shall provide landscaping in sufficient quantity and size to create an attractive and noticeable bond of vegetation and color ~~on boundaries with~~ for public views determined to be adversely impacted by the project.

**VISUAL RESOURCES Page 4.12-30**

***"Offsite Landscaping***

**VIS-5** The project owner shall contact individual property owners who have an existing residence on their property within a one-mile radius of the project site boundary to discuss having landscaping planted on their property to screen the view of the project from the residence. Landscaping planted for the purpose of screening the project site shall be provided at the project owner's expense."

**Comment:**
Same comment as stated above. Applicant requests the following text be removed:

***~~Offsite Landscaping~~***

## WASTE MANAGEMENT

The Applicant has no comments regarding Waste Management.

## WORKER SAFETY AND FIRE PROTECTION

The Applicant has no comments regarding Worker Safety and Fire Protection.

## FACILITY DESIGN

The Applicant has no comments regarding Facility Design.

## GEOLOGY AND PALEONTOLOGY

The Applicant has no comments regarding Geology and Paleontology.

## POWER PLANT EFFICIENCY

The Applicant has no comments regarding Power Plant Efficiency.

## POWER PLANT RELIABILITY

The Applicant has no comments regarding Power Plant Reliability.

# TRANSMISSION SYSTEM ENGINEERING

**TRANSMISSION SYSTEM ENGINEERING Page 5.2-12**

**TSE-5** 1. The CESF project will be interconnected to the PG&E grid via a 230-kV, 500MCM-ACSR per phase, approximately 850 feet long two single circuits (generator- tie lines). The proposed CESF switchyard would use a ring bus configuration with four 230kV breakers. The new Looping station would construct with double bus, breaker- and- a- half configuration with 2- bays and 4 positions. The power plant outlet line shall meet or exceed the electrical, mechanical, civil, and structural requirements of CPUC General Order 95 and General Order 98 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36, and 37 of the "High Voltage Electric Safety Orders", California ISO standards, National Electric Code (NEC), and related industry standards.

**Comment:**

The actual PG&E interconnect may not be exactly as described in paragraph 1. Generally and electrically speaking, it may be functionally similar or be located on an adjacent site to the west, which would also accommodate Optisolar. This final configuration will probably not be resolved by PG&E and the participating projects for several months.

## ALTERNATIVES

The Applicant has no comments regarding Alternatives.

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

APPLICATION FOR CERTIFICATION
FOR THE *CARRIZO ENERGY*
*SOLAR FARM PROJECT*

**Docket No. 07-AFC-8**

**PROOF OF SERVICE**
**(Revised 11/25/2008)**

**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:**

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-8
1516 Ninth Street, MS-15
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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*indicates change

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**DECLARATION OF SERVICE**

I, Kristen E. Walker, declare that on December 12, 2008, I deposited copies of the attached Applicant's Comments on Preliminary Staff Assessment (07-AFC-8) in the United States mail with first-class postage thereon fully prepaid (FedEx) 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.