DOCKETED

Docket Number:	09-AFC-07C
Project Title:	Palen Solar Power Project - Compliance
TN #:	200078
Document Title:	Basin and Range Watch comments on Palen PSA
Description:	Comments on Preliminary Staff Assessment for the Palen Project
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Submitter Role:	Intervener
Submission Date:	7/29/2013 4:57:45 PM
Docketed Date:	7/29/2013

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July 28, 2013

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	) DOCKET NO. 09-AFC-7
	)
Application for Certification for the	) Basin and Range Watch's Comments
PALEN SOLAR POWER PROJECT	) on the Preliminary Staff Assessment
	)
_____	)_____

We would like to submit the following comments for the Preliminary Staff Assessment for the Palen Solar Energy Project. We would like to focus on some issues we have followed.

The Palen Solar Energy Project would create direct and cumulative impacts that cannot be mitigated. The size and scope of this project would impact visual, biological, cultural, and air quality resources.

Expedited Schedule:

The PSA is incomplete and has been released too early. Much of the document is a reprint from other projects such as Hidden Hills and Rio Mesa. Some of it is a reprint from the old Solar Millennium proposal. There is no alternatives section. You have only given the public 30 days to comment on this. While the California Energy Commission will take comments anytime, the way the PSA is announced makes it appear as though no comments will be accepted after 30 days. The Palm Springs Desert Sun has announced the July 29th deadline. The CEC has stated that if comments are received after the PSA deadline, they will not be responded to in the Final Staff Assessment. That makes it difficult for the public as the document is 1,367 pages long. You did get requests to extend the comment deadline Many people who read the announcement are not aware that the CEC will accept comments anytime, so posting a deadline like that is misleading and may eliminate some public comments.

The comment deadline of the PSA should be 90 days or at least 45 days.

Alternatives:

Under the California Environmental Quality Act, an EIR or PSA is required to examine a "reasonable range" of alternatives to the project or its location. These must include the "no project" alternative. Alternatives must be feasible, meet most of the project objectives, and reduce one or more of the project's significant effects.

California's Renewables Portfolio Standard of achieving 33 percent renewable energy by 2020 does not say that the proposed location of the Palen Solar Energy Project is required to achieve this goal. Because the project will have impacts to resources that can't be mitigated, the CEC will have no choice but to over-ride these impacts. Furthermore, the power tower technology BrightSource is using has some unanswered technology questions. The Ivanpah Solar Electric Generating System has already experienced two fires including a gas pipeline rupture.

While a No Action Alternative would be favorable to the project proposal, we feel that there are more environmentally friendly solar energy alternatives that should be considered.

We believe the CEC has a responsibility to consider the following alternatives:

Off -Site Brownfields Alternative: The renewable energy portfolio standards of California can be met using alternatives located on brownfields. The California Energy Commission should consider an alternative location for the Palen Project that would not result in so many resource conflicts. While this may not favor the applicant, it would provide renewable energy to California while preserving valuable resources located on the site of the proposed Palen Project. It would also help meet California's 33 percent renewable goal.

As we have mentioned before, there are plenty of alternative locations for the Palen Project.

One alternative to consider would be the Westland Solar Park. The Westlands Solar Park (WSP) is a Competitive Renewable Energy Zone (CREZ) identified by the Renewable Energy Transmission Initiative (RETI) located in northwestern Kings County in central California. The WSP includes the phased development of utility-scale solar PV generating facilities with a total capacity of approximately 2,400 MW on about 24,000 acres of drainage-impaired agricultural lands in the southeastern portion of the Westlands Water District. The EIR will also evaluate three planned transmission corridors in the region, which are intended to facilitate the conveyance of renewable energy. More information on the project and its goals are included in the NOP. More on the Westlands Solar Park can be seen here: www.westlandswater.org

Distributed Generation:

The CEC should also consider a Feed in Tarrif and Distributed Generation alternative. These alternatives would have the least environmental impacts and the most environmental benefits. There would be little need for new transmission and the cost of building distributed solar would be far less than a utility scale concentrated solar thermal project.

In Germany, over 22 GW of renewable energy are produced each year. About 80 percent of this is on rooftops. The idea of producing energy from rooftops involves the citizens of California. It would create an infrastructure that would produce far more jobs and have the least environmental impacts than the Palen Solar Energy Projects.

No Project Alternative: In the unlikely event that no off-site solar energy alternatives are feasible, a No Project Alternative would be the best option for protecting the resources at stake.

The above listed alternatives should be considered due to the fact that sensitive resources will be sacrificed. We do not believe that the mitigation listed in the PSA will be enough to offset these impacts. We are especially concerned about the following issues:

Cultural Resources: The project site is very important to the local tribes in the area. The only way to mitigate the impacts would be to reject the Application for Certification or to find an alternative, off-site location. We are resubmitting our comments from the status report as nothing has changed.

Traditional uses in the region should be studied and a cultural landscape study completed with tribal people who hold an interest in the Palen area. There are trails, artifacts, archaeological sites, and associated stories, songs, and histories that need to be documented with full Tribal Government consultation.

Complete archeological surveys will need to be conducted and at better quality than on the adjacent Genesis Solar Project. Lack of surveys resulted in the destruction of a large array of important cultural sites and artifacts.

Evidence of a human settlement spread was found on November 17 including grinding stones lying on a bed of charcoal — possible evidence of an ancient cremation site.

In a subsequent meeting with Colorado River Indian Tribes, a federally recognized reservation just east of the work site, Bureau of Land Management officials described the discovery as "unprecedented," tribal leaders said.

On January 16, 2012, over 10 Tribal Chairman, other traditional/indigenous people, and Alfredo Figueroa of La Cuna de Aztlan Sacred Sites Protection Circle met at the Agua Caliente Casino Conference Center with the BLM and solar company officials. "All the tribes expressed their adamant opposition against the Genesis project so that they could stop this destruction immediately," Mr. Figueroa told us. The area has a network of ancient trails heading from these village sites to springs in the surrounding mountains and to the Colorado River. Many traditional groups today hold this area sacred.

Paleontological Resources:

Potentially sensitive and valuable paleontological resources have been discovered at the Palen project site. Heliostat foundation construction consisting of pre-drilling and vibratory pedestal insertion could destroy all fossils encountered where installation takes place in the fossil bearing sediments. Pre-drilling

involves rotating and boring a solid steel drill auger into the ground. This construction method would crush or break any fossils that might be present.

A Supplemental Paleontological Resources Delineation Report should be prepared before approval. In it should be maps and drawings of all facilities and ground disturbance. A monitoring and sampling plan should be made. If significant fossils are found, a plan should be given for how construction will be halted.

Biological Resources:

Mojave Fringe-Toed Lizard: According to a study commissioned by the CEC and made available in July 2013, *Geomorphic Assessment of Sand Transport for the Modified Project*, by Nicholas Lancaster, Thomas Bullard and Jack Gillies the Desert Research Institute in Reno NV, "Modeling of the effects of the Modified Project on sand transport in the Palen Valley indicates that the Project has an increased level of predicted effects on sand transport, compared to the Applicant's Reconfigured Alternatives 2 and 3. This is because the project footprint extends further east into the sand transport corridor. The Modified Project heliostat array is predicted to have a very significant effect on sand transport such that sand transport will be reduced by 93% at 1738 feet into the array."

Numerous Mojave fringe-toed lizards were found in this sand transport corridor habitat, as these lizards prefer looser sand areas. Much habitat would therefore be destroyed by a project here, and indirect impacts would be large due to a modification of the moving sand habitat.

The applicant proposed moving sand inside the fence of the project to re-supply the sand transport corridor. Other mitigation measures proposed were adaptive management and monitoring of the sand habitat being impacted. The applicant proposed surveying for fringe-toed lizards annually in the degraded habitat downwind of the project in a monitoring program.

Also mentioned were ideas to build upwind "sand-catcher" fences ahead of the project to collect the sand before it blows into the project. This is a terrible idea, we believe, as yet more habitat would be impacted and modified.

Even purchasing private land will not create more fringe-toad lizard habitat. There is no information on if the owners who are willing to sell their land off to a mitigation bank are actually going to develop their land. While sand habitat could potentially be developed mining or recreational purposes, it is not the most favorable for building structures. There is no way to prove that purchasing a private parcel will create more habitat.

While the MFTL populations in the region are healthy, it represents the southern most habitat for the species. As the PSA indicates, the lizards are genetically unique. As a whole, sand habitats that support MFTL are about as rare as wetlands are in the desert. The cumulative scenario should be factored in when considering this species. Existing projects such as Genesis and the Devers-Palo Verde 2 Transmission project have already killed and removed habitat for MFTL. Almost 100 were killed on the Devers-Palo Verde Project. There are still many pending solar energy applications in the region and the Palen Project will cumulatively add to the impacts of these projects. Recently, the East Riverside Solar Energy Zone was approved by the Interior Department. It has declared 149,000 acres of public land in the region are suitable for large scale solar development..

The best way to preserve MFTL is to select a No Action or off-site alternative.

Solar Flux, Lake Effect, Avian Slaughter:

Where do you begin here? On May 8th, 2013, a Federally Endangered Yuma clapper rail was found dead on the Desert Sunlight Solar Project, about 22 miles from the Palen Project. While the BLM and FWS will not say what the exact cause of death was, it is likely that the bird was deceived by the water like appearance of the photovoltaic panels and either collided with them or was dehydrated. This is the first Federally Endangered Species that has been killed by a large scale solar project. There are less than one thousand of these birds left in the world so when one is killed, this is a big deal.

As it turns out, several water birds have been killed at both the Desert Sunlight Project as well as the Genesis Project.

Here is the official list compiled by Rewire : http://www.kcet.org/news/rewire/solar/water-birds-turning-up-dead-at-solar-projects-in-desert.html

Genesis, March 13, lesser goldfinch
Genesis, March 19, lesser goldfinch
Genesis, March 28, bufflehead
Desert Sunlight, April 3 eared grebe
Desert Sunlight, April 15 surf scoter
Genesis, April 17, black- throated grey warbler
Genesis, April 17, house wren
Genesis, April 17, orange- crowned warbler
Desert Sunlight, April 18 great-tailed grackle
Desert Sunlight, Week of April 21 red breasted merganser

Genesis, April 25, barn owl injured, taken to rehab
Genesis, May 1, pied-billed grebe
Genesis, May 1, eared grebe* injured, to rehab
Desert Sunlight, May 6 double crested cormorant
Desert Sunlight, May 8 Yuma clapper rail
Genesis, May 8, Wilson's warbler (poss. line strike)
Genesis, May 14, yellow- headed blackbird* injured, taken to rehab
Genesis, May 15, hermit thrush (bulldozer)
Genesis, May 16, Wilson's warbler
Genesis, May 16, Townsends warbler
Genesis, May 16, unidentified bird
Genesis, May 22, western grebe injured, taken to rehab
Genesis, May 22, yellow warbler
Genesis, May 23, warbler, species unknown
Genesis, May 24, unidentified sparrow
Genesis, May 30, American coot
Desert Sunlight, June 4, common loon

Desert Sunlight, June 5, eared grebe
Desert Sunlight, June 5, western grebe
Desert Sunlight, June 5, western grebe live, released after consultation.
Desert Sunlight, June 6, American coot
Desert Sunlight, June 6, double crested cormorant
Desert Sunlight, June 9, Common raven
Genesis, June 10, brown pelican- injured, sent to rehab
Desert Sunlight, June 19, hummingbird
Genesis, July 10, brown pelican
Desert Sunlight, July 10, brown pelican
Desert Sunlight, July 11, brown pelican
Desert Sunlight, July 13, brown pelican
Desert Sunlight, July 15, black-crowned night heron

This is quite significant.

So how will the Palen Project appear from the sky?

The below visual simulation is a Key Observation Point prepared for the PSA for the Palen Project. This looks like a lake.

^KOP Simulation for the Palen Preliminary Staff Assessment

The below photo was taken at the Ivanpah Solar Electric Generating System in June, 2013. The project was in partial operation. The reflective surface is bright, but appears similar to the sun reflecting the water. To the right of the tower, you can see the residual heat in the standby position.

^Ivanpah Solar Electric Generating System, June 2013

The power tower design presents the lake effect problem with the added impact of the solar flux. While the PV projects present a threat to birds colliding with panels and dehydrating in arid conditions, the power tower may actually bait the birds into the false lake, only to burn them to death in the solar flux.

So how are you planning on mitigating this problem? To simply buy or enhance habitat in a separate location will not solve or compensate for more water bird kills or injuries.

Potential mitigation for solar panels would be to disrupt the visual lake appearance by placing white rims around the panels. This has been proposed for aquatic insects (Horvath et al. 2010). Birds are often discouraged from building collisions with bars of tape placed across the window. It would seem technologically infeasible to visually disrupt the reflective appearance of the heliostats, but is this being considered?

Could the heliostats be placed in a non-reflective stand by position during periods of predicted movement of water birds?

We would like to request that a study be conducted of any potential movement corridor used by water-birds between the Colorado River and the Salton Sea that may utilize the Chuckwalla Valley.

Solar Flux:

CEC staff stated on March 15th, 2013 that the now suspended Hidden Hills Project "will kill golden eagles". We believe the problem could be identical for the Palen Project. The project will not only kill golden eagles, but also injure or kill a whole list of avian fauna that we cannot be fully predicted. The bird mortality would occur by the mechanism of solar flux and collision with the heliostats as a result of the polarized glare effect. Staff states that the zone of solar flux mortality of ten KW per square meter would have a 2,000 foot radius around the two

receiver towers. We have not heard of any adequate mitigation that could actually prevent these mortalities from happening.

We would like to see a list prepared of all of the birds that may be killed in the solar flux and potential collision with the heliostats

Two large solar power towers with a reflective water-like appearance below them may bait avian fauna into a death trap. Some birds may be attracted to thermals created by the heat flux. Others may be deceived by the lake effect and end up burning to death in the flux. This could potentially contribute to a cumulative loss of bird populations throughout the region.

There really is not enough information out there about how many birds would be killed by this problem. It would be dangerous to approve and build this project so rapidly when there is so little information available on the impacts. The Ivanpah Solar project would be a good place to start looking.

Visual Resources:

We would still like to see a dark skies KOP simulation of the project. Because the towers would have 16 flashing lights each, this will be a noticeable impact to the night sky.

The impacts that the Palen Project would have on Joshua Tree National Park and wilderness areas surrounding the project can now be compared with the Ivanpah Solar Electric Generating System. (see above Ivanpah photo) The project has now been tested at 10 to 20 percent of full capacity and the glare can be described as intense. It should be blinding at 100 percent.

When possible, a full visual analysis of the Ivanpah Project at 100 percent capacity would help us understand the full scope of the visual impacts the Palen towers would have.

Impacts to visual resources could be mitigated with alternate solar technology and preferably, an off – site alternative.

Reference:

Horvath, G., Blaho, M., Egri, A., Kriska, G., Seres, I., and Roberston, B. 2010. Reducing the Maladaptive Attractiveness of Solar Panels to Polarotactic Insects.
Conservation Biology, Volume 24, No. 6, 1644–1653.