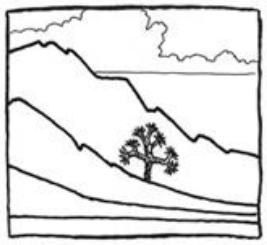

Basin and Range Watch

May 24th, 2014

To:

Katrina Symons,
BLM Barstow Field Manager,
2601 Barstow Road,
Barstow, CA 92311

Subject: Comments on the proposed Silurian Valley Solar Project and the Variance Process.

Basin and Range Watch is a group of volunteers who live in the deserts of Nevada and California, working to stop the destruction of our desert homeland. Industrial renewable energy companies are seeking to develop millions of acres of unspoiled habitat in our region. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems and open spaces. We have visited the Silurian Valley Solar Energy Project site. We have hiked on the site, camped on the site and own private land within the Mojave National Preserve. Our interests and love for the Mojave National Preserve would be threatened by the approval of this project. We are concerned about the direct and cumulative impacts that the project would have on the region.

Overview: Iberdrola through Aurora Solar, LLC has filed an application for a 7,000 ace photovoltaic facility to be located ten miles north of Baker, California. The project site lies within a variance area, as identified in the BLM Solar Programmatic Environmental Impact Statement (PEIS) Record of Decision. The BLM has determined through the PEIS that solar energy should be concentrated in the Solar Energy Zones. The Silurian Valley IS NOT located in one of those zones. By BLM's own management philosophy, this is not an appropriate location for solar energy and BLM employees have expressed dissatisfaction with this application.

Poor Public Meeting Process: The California Desert District Supervisor for the Bureau of Land Management has determined that public comments over large project proposals will not be officially recorded at public meetings concerning proposals in BLM's California Desert District. As you are all too aware, this has angered just about everybody who attends these meetings. In our case, we made a three hour drive only to find out that we have to send a letter to have our comments considered. In short, the BLM wastes the time and money of the public by having meetings that do not record public comments. As a group, we have been advising people to boycott public BLM meetings in the California Desert

District because of this. Until the BLM can correct this problem, we believe that you are doing a substandard job by refusing to record public comments.

The California Desert Conservation Area (CDCA): Under the Federal Land Policy and Management Act (FLPMA), much of the public land in the Silurian Valley has been designated Class L (Limited Use) under the CDCA. Class L lands are defined:

"Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished."

Any approved solar projects would be inconsistent with the BLM's management objectives for Class L lands.

The reasons the CDCA was established by Congress:

(1) the California desert contains historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population;

(2) the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed;

(3) the California desert environment and its resources, including certain rare and endangered species of wildlife, plants, and fishes, and numerous archeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use, which are certain to intensify because of the rapidly growing population of southern California;

A 7,000 acre solar project in the Silurian Valley would be inconsistent with the CDCA and the BLM's Multiple Use philosophy. To allow so much land to be sacrificed for one use would cut off access for everybody else. The CDCA states:

"the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles;"

The Desert Renewable Energy Conservation Plan (DRECP): Since the BLM has expressed concern about big solar development in the Silurian Valley, it is possible for the BLM to protect the region from solar energy by taking the region out of any Development Focus designation when the DRECP DEIS comes out

soon. The Silurian Valley should be designated inappropriate for solar energy and be preserved as a conservation area under the National Landscape conservation System.

Questionable numbers from Iberdrola: Iberdrola claims their project will produce 200 megawatts from developing 7,000 acres. Why do they need so many acres? Most other solar PV projects claim to produce more MW on smaller acreages. The Desert Sunlight Project was built on 4,600 acres and produces a capacity of 550 megawatts. The Stateline project is being built on 1,600 acres and is predicted to produce 300 megawatts. Could it be that Aurora Solar LLC plans to only develop 2,000 acres and will call their smaller footprint green? ALL big solar projects in Silurian Valley are inappropriate! That includes designs of 500 acres, 1,000 acres, 2,000 acres and so on. All of these are big enough to have direct and cumulative impacts to the region. DO NOT attempt to call a reduced footprint a green alternative.

Alternatives: Since the project has not made it to the standard NEPA review process, the BLM can reject this application based on the fact that more environmentally friendly alternatives for solar energy do exist. Iberdrola plans to destroy visual, cultural and biological resources for rooftop compatible photovoltaic panels. There is no reason to do this.

Distributed Generation Alternative: Distributed generation in the built environment should be given more full analysis as a completely viable alternative. This project will need just as much dispatchable baseload behind it, and also does not have storage. But environmental costs are negligible with distributed generation, compared with this project. Distributed generation cannot be "done overnight," but neither can large transmission lines across hundreds of miles from remote central station plants to load centers. Most importantly, distributed generation will not reduce the natural carbon-storing ability of healthy desert ecosystems, will not disturb biological soil crusts, and will not degrade and fragment habitats of protected, sensitive, and rare species.
Germany is a distributed generation success story and has installed 22 GW of renewable energy in 2012, about 80 percent of which is in the built environment. This alternative is viable and can be integrated into the grid.
In-Depth: Germany's 22 GW Solar Energy Record Read more at
http://cleantechnica.com/2012/05/31/in-depth-germanys-22-gw-solar-energy-record/#XJfxt6OcUUkdvr3S.99

Brownfields and Degraded Lands Alternative: The US Environmental Protection Agency has identified over 15 million acres of brownfields in the United States that would be suitable for utility scale solar development. See here: http://www.epa.gov/brownfields/sustain.htm

The Arizona BLM is reviewing the "The Restoration Design Energy Project" http://www.blm.gov/az/st/en/prog/energy/arra_solar.html (RDEP), funded by the American Recovery and Reinvestment Act of 2009, which supports the Secretary of Interior's goals to build America's new energy future and to protect and restore treasured landscapes. The following statement is made:

"Emphasis will be on lands that are previously disturbed, developed, or where the effects on sensitive resources would be minimized. The BLM intends to use the results of the EIS to amend its land use plans across Arizona to identity areas that are considered to be most suitable for renewable energy projects.

While these amendments will only apply to BLM-managed lands, the EIS will examine all lands in Arizona and serve as a resource to the public, policy makers, and energy planners."

Air Quality: If you build roads and scrape up 7,000 acres of Mojave Desert habitat, you will have fugitive dust. When deserts are scraped, a Pandora's Box of air quality issues is opened. Biological soil crust, desert pavement and old growth vegetation will all be lost.

Baker is located 10 miles from the project site. It may be a small town, but over 700 people live there and fugitive dust could threaten health. This is an **Environmental Justice** issue. The health impacts that will arise from airborne particulates from construction dust could have very negative on the local residents of the area.

Dust control in hot, arid climates is very problematic. The removal of well established vegetation, biological soil crusts and centuries old desert pavement creates opportunities for dust to be airborne every time the wind blows. Not only does fugitive dust create problems for visual and biological resources, it creates issues for public health as well.

Coccidioidomycosis (Valley Fever) is a common issue that impacts desert communities when dust is stirred up.

Removal of stabilized soils and biological soil crust creates a destructive cycle of airborne particulates and erosion. As more stabilized soils are removed, blowing particulates from recently eroded areas act as abrasive catalysts that erode the remaining crusts thus resulting in more airborne particulates.

We are concerned that industrial construction in the region will compromise the air quality to the point where not only visual resources, but public health will be impacted. We are concerned about the communities of Baker, Tecopa, Shoshone, the Zzyzx Desert Studies Center, travelers on I- 15 and private property owners.

We are seeing this problem with several of the recently approved, prioritized large energy projects. The Department of Interior has been so effective in streamlining the environmental review of these projects that they have created a perfect storm of compromised air quality.

Valley Fever has been blamed for 62 deaths among California prison inmates statewide, most at the Avenal and Pleasant Valley facilities, but also two at Blythe, California:
http://www.pe.com/local-news/riverside-county/corona/corona-headlines-index/20130806-valley-fever-inland-inmates-may-replace-transferred-prisoners.ece

According to the Center for Disease Control in 2010 there were over 16,000 reported cases of Valley Fever (i.e. coccidioidomycosis), the majority of which were located in Arizona and California (Accessed by Internet, July 3 2012 at:
http://www.cdc.gov/fungal/coccidioidomycosis/statistics.html.

In San Luis Obispo County, 28 workers were sent home with Valley fever: Epidemiologists are investigating an outbreak of valley fever that has sickened 28 workers at two large solar-power construction sites in San Luis Obispo County: http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501

We are also concerned that the applicant will have no choice but to use more water in an already over-drafted aquifer to control the large disturbance they intend to create.

^The Crescent Dunes Solar Project near Tonopah, Nevada, May 2014. A dust devil on the left side of the photo shows that dust is kicked up on disturbed land each time the wind blows. This creates a need for more water to wash off the mirrors (heliostats). This will also be the case for 7,000 acres of solar panels.

^Desert Sunlight Project near Desert Center, California. These dust storms were reported to be rare before the construction of the project began.

^Blythe Solar Power Project site, June 2011. The fugitive dust is coming from the water truck that is supposed to control the dust.

^Fugitive dust on the Ocotillo Wind Express Project was kicked up by high winds on February 28th, 2014.. Is this what we can expect for the Silurian Valley Solar Project?

Contaminated? Aurora Solar LLC said the site is “contaminated” at the last public meeting. This is not true. The use of the term, “contaminated” is inappropriate.

Cultural Resources:

Archaeological features are present around Silver Lake playa that are geoglyphs or possible fish traps, and indicate people have been intensively using the basin for thousands of years. Archaeological surveys should take this into account and cover the project site thoroughly including buffer areas. Other playa edges north of the project site should be surveyed for similar features.

Portions of the Old Spanish Trail and the Tonopah Tidewater Railroad route would be destroyed on the site. Cultural resources can be the most delicate resources and can be the most difficult to preserve. The Silurian Valley’s arid environment preserves these features at the museum level. Removal of these features would represent a loss in the documentation of American History.

In the past, other solar developers have proposed mitigation for destruction of historic features by moving trails and compensating the damage with educational interpretive signs. This kind of mitigation is usually perceived as insulting by most of the public. Approval of a Silurian Valley Solar Project will remove a significant chunk of prehistoric and historic preservation.

Biological Resources Impacts: Large solar projects are creating a polarized glare or lake effect and are causing birds and insects to be deceived and collide with solar panels or simply dehydrate. The avian impacts are not fully understood, but everyone seems to agree that this problem was underestimated during the initial boom to fast track big solar on both public and private lands in the Southwestern US. The polarized "lake effect" is now well known from the Genesis, Desert Sunlight and Ivanpah Projects. Bird species that have collided (or dehydrated) with solar panels and heliostats include the Endangered Yuma clapper rail, peregrine falcon , American kestrel and a host of water birds.

At this point, those are among the few projects that are reporting findings of dead birds at their sites.

The Silurian Valley Solar Project would replace 7,000 acres of desert habitat with millions of lake like solar panels. The area represents an important flyway for birds between the Soda Springs complex, Grimshaw Lake, Saratoga Springs, Amargosa Canyon, Ash Meadows National Wildlife Refuge and the Oasis Valley, Nevada.

In 2008, there was a very strong localized rain storm that filled up Silver Lake for about 2 months. We do have a photo of the temporary lake below. We also saw white pelicans on the lake but do not have a photo of the birds.

^Silver Lake just north of Baker, California and adjacent to the project site after strong rains in 2008.

^Lake effect from the Copper Mountain Solar facility south of Boulder City, Nevada.

If a real, ephemeral lake can attract white pelicans to the Silurian Valley, than there shoulld be concern that an artificial lake would do the same thing.

Recently, the US Fish and Wildlife Service released a report called *"Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis" Rebecca A. Kagan, Tabitha C. Viner, Pepper W. Trail, and Edgard O. Espinoza National Fish and Wildlife Forensics Laboratory*

The report has enough information to tell us that incidental reporting of bird mortality from solar projects does not really give the complete numbers. The report finds that *" Trauma was the leading cause of death documented for remains at the Desert Sunlight and Genesis sites."*

The report also states *"These solar facilities appear to represent "equal-opportunity" hazards for the bird species that encounter them. The remains of 71 species were identified, representing a broad range of ecological types. In body size, these ranged from hummingbirds to pelicans; in ecological type from strictly aerial feeders (swallows) to strictly aquatic feeders (grebes) to ground feeders (roadrunners) to raptors (hawks and owls). The species identified were equally divided among resident and non-resident species, and nocturnal as well as diurnal species were represented."*

The two main identified cause of mortality from photovoltaic projects are trauma and predation.

The report details the mortality at the 4,500 acre Desert Sunlight photovoltaic site;

"Sixty-one birds from 33 separate species were represented from Desert Sunlight. Due to desiccation and scavenging, a definitive cause of death could not be established for 22 of the 61 birds.

Blunt force impact trauma was determined to have been the cause of death for 19 Desert Sunlight birds including two Western Grebes (Aechmophorus occidentalis) and one each of 16 other species. Impact (blunt force) trauma is diagnosed by the presence of fractures and internal and/or external contusions. In

particular, bruising around the legs, wings and chest are consistent with crash-landings while fractures of the head and/or neck are consistent with high-velocity, frontal impact (such as may result from impacting a mirror).

Predation was the immediate cause of death for 15 birds. Lesions supporting the finding of predation included decapitation or missing parts of the body with associated hemorrhage (9/15), and lacerations of the skin and pectoral muscles. Eight of the predated birds from Desert Sunlight were grebes, which are unable to easily take off from land. This suggests a link between predation and stranding and/or impact resulting from confusion of the solar panels with water."

Challenges to data collection included rapid degradation of carcass quality hindering cause of death and species determination; large facilities which are difficult to efficiently search for carcasses; vegetation and panels obscuring ground visibility; carcass loss due to scavenging; and inconsistent documentation of carcass history. Searcher efficiency has been shown to have varying influences on carcass recovery with anywhere from 30% to 90% detection of small birds achieved in studies done at wind plants (Erickson et al., 2005). Scavengers may also remove substantial numbers of carcasses. In studies done on agricultural fields, up to 90% of small bird carcasses were lost within 24 hours (Balcomb, 1986; Wobeser and Wobeser, 1992). OLE staff observed apparently resident ravens at the Ivanpah power tower. Ravens are efficient scavengers, and could remove large numbers of small bird carcasses from the tower vicinity. (Erickson, W. P., G. D. Johnson, and D. P. Young, Jr., 2005, A summary and comparison of bird mortality from anthropogenic causes with an emphasis on collisions: U S Forest Service General Technical Report PSW, v. 191, p. 1029-1042; Balcomb, R., 1986, Songbird carcasses disappear rapidly from agricultural fields: Auk, v. 103, p. 817-820; Wobeser, G., and A. G. Wobeser, 1992, Carcass disappearance and estimation of mortality in a simulated die-off of small birds: Journal of Wildlife Diseases, v. 28, p. 548-554.) "

The report concludes:

"Given these variables it is difficult to know the true scope of avian mortality at these facilities. The numbers of dead birds are likely underrepresented, perhaps vastly so. Observational and statistical studies to account for carcass loss may help us to gain a better sense of how many birds are being killed."

The only real organized surveys for avian mortality are taking place at the Ivanpah Solar Project with only a 20 percent coverage. The rest of the finds are simply incidental which may indicate that mortality numbers are far greater than being reported.

The soon to be approved Blythe Solar Power Project would be a 4,000 acre PV facility near the Colorado River near Blythe, California.

At a hearing for the California Energy Commission, there were interveners. LABORERS' INTERNATIONAL UNION OF NORTH AMERICA had biologist Shawn Smallwood estimate a number of birds that would be killed for one of the Interveners to the project. He estimated that over 2,100 birds would be killed per year by the 4,000 acre Blythe Solar Power Project. The estimate can be viewed here: http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152_20131108T155000_Testimony_of_K_Shawn_Smallwood_PhD.pdf

The Silurian Valley Solar project would be 3,000 acres larger!

Desert Bighorn Sheep: The project will remove breeding and linkage habitat for bighorn sheep.

^photo of bighorn ewe crossing between mountain ranges near the Last Chance Range, Nye County, Nevada

The site is habitat for bighorn sheep, and need not have well-used trails or other sign to be use by sheep. We have seen lone bighorn sheep, especially rams, traveling along interstate highways looking for crossing points in valley and low hill habitats between mountain ranges. Such long-range movements would not leave trails but are very important for maintaining genetic flow between populations.

Desert Tortoise: While the project site is low in elevation, it still can support a small population of tortoises. The site provides a connectivity corridor for tortoises and can be abundant in wildflowers during an El Nino year. Tortoises have been found in the adjacent Hollow Hills which would make the site important connectivity habitat for the tortoise.

At the recent Desert Tortoise Symposium in Ontario, California, Dr. Barry Sinervo, an evolutionary biologist from UC Santa Cruz, presented research that suggested that the very development of solar projects in arid regions facing a warming future will cumulatively add to the "local" heat index.

Sinervo states: *"We find that solar farms accelerate predicted extinctions by 50 years. Therefore, populations of Gopherus adjacent to solar farms may go extinct even before benefits of solar farms are realized (e.g., by 2080). In addition, the siting of solar projects in the Ivanpah Valley or near California City threatens the only habitat predicted to sustain population demography in 2080, effectively eliminating climate refuges for G. agassizii."*

And:

"We emphasize that while prospects look bleak for Gopherus it can be rescued from climate-forced extinction with aggressive limits on CO_2 input into the atmosphere. However, current and proposed solar

projects will only hasten extinctions and likely eliminate the last remaining refuges for Gopherus from climate warming."

He is saying that these developments will cause climatic effects that may expedite the extinction of desert tortoises by up to 50 years.

The abstract for the lecture can be viewed here:
http://www.deserttortoise.org/symposium/2014Abstracts.pdf

Other Wildlife:

The Silurian Valley Solar Project would remove habitat for the desert kit fox, the burrowing owl and the American badger, all of which have suffered impacts from large scale energy projects. The project will remove foraging habitat for bats, golden eagles and other raptors.

Visual Resources, Recreation and Socio Economics:

We drive through Silurian Valley every two weeks on average. At all times of year, we see people stopped on the highway taking photos and accessing the backcountry. We have often seen film crews in the valley. The view is remote and on the same scenic caliber as any national park. A 7,000 acre solar project in this location would remove 10 square miles of this scenery and be visible from the Mojave National Preserve, the Kingston Wilderness Area, the Hollow Hills Wilderness Area, from most of the highway and even from some higher locations in Death Valley National Park. Construction will also create unsightly dust plumes which would be visible for all locations. Security lighting would impair the dark skies in the region.

The cumulative impacts of this project and Iberdrola's proposed wind energy farm would site roads, new transmission and other disturbances to this unbroken landscape.

Access would be more limited for the public and that would concentrate recreation in smaller areas which would create more impacts. The area would be less appealing for hikers and vehicle recreationists.

The Silurian Valley has been a tourism hot spot for generations. To destroy the scenery for an unnecessary solar farm would take tourism dollars away from communities like Tecopa, Shoshone and Baker, California. The tourism industry depends on the national parks and remote scenery to keep it going. It has sustained itself for years, even in tough economic recessions. The Silurian Valley Soar Project would only create 12 full time jobs at the most. Why on Earth would BLM approve a project that would sacrifice a sustainable tourism industry for only 12 full time jobs??

Conclusion: The destruction of our public lands for big solar energy is depressing to say the least simply because ecologically friendly alternatives exist. Very few people want to see the Silurian Valley sacrificed for this reason. The BLM has overwhelming opposition to this project and will likely see litigation from one or more parties if the project is allowed to go forward. That would be an unnecessary burden on the tax payers. These are OUR public lands. These lands do not belong to one industry. The people have spoken. We want **NO SOLAR ENERGY IN SILURIAN VALLEY**. Please listen to us this time.

Thanks,

Kevin Emmerich

Laura Cunningham]

Basin and Range Watch

P.O. Box 70

Beatty, NV 89003

www.basinandrangewatch.org