

Thank you for your comment, chris Engler.

The comment tracking number that has been assigned to your comment is SolarD11500.

Comment Date: April 14, 2011 08:07:29AM

Solar Energy Development PEIS

Comment ID: SolarD11500

First Name: chris

Middle Initial: J

Last Name: Engler

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Yay solar!

Thank you for your comment, Thomas Rogers.

The comment tracking number that has been assigned to your comment is SolarD11501.

Comment Date: April 14, 2011 08:31:42AM  
Solar Energy Development PEIS  
Comment ID: SolarD11501

First Name: Thomas  
Middle Initial:  
Last Name: Rogers  
Organization: Sierra Club, National Parks Association  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

To whom it may concern:

It is important in moving to use natural and renewable energy sources that due consideration be given to siting facilities so that they do not compromise other natural beauty or assets, e.g., National Parks, National Monuments, National Recreation Areas, etc., should not be 'intruded' upon visually or by proximity to such facilities to degrade experiences in these national treasures. Wise decisions made early in planning and siting can and should eliminate or minimize deleterious impacts to preserve the national assets and irreplaceable treasures for future generations.

Thank you for your comment, April Atwoodr.

The comment tracking number that has been assigned to your comment is SolarD11502.

Comment Date: April 14, 2011 08:53:08AM  
Solar Energy Development PEIS  
Comment ID: SolarD11502

First Name: April  
Middle Initial: D  
Last Name: Atwoodr  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I strongly support an amended Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

I think that four of the proposed Solar Energy Zones (SEZ) should be changed because they threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. And finally, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Solar development is important, but our national parks are even more important and they need to be protected as natural areas for the public to enjoy, not developed as industrial areas to exploit. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Cuprzinski.

The comment tracking number that has been assigned to your comment is SolarD11503.

Comment Date: April 14, 2011 09:00:54AM  
Solar Energy Development PEIS  
Comment ID: SolarD11503

First Name: Michael  
Middle Initial: A  
Last Name: Cuprzinski  
Organization:  
Address: 80-000 Avenue 48,  
Address 2: Space #47  
Address 3:  
City: Indio  
State: CA  
Zip: 92201  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I'm currently being trained to be a solar energy technician and should be receiving my NAB-CEP certification within the next few weeks. How would I go about becoming employed on a solar energy related project?

Thank you for your comment, Michael Cuprzinski.

The comment tracking number that has been assigned to your comment is SolarD11504.

Comment Date: April 14, 2011 09:01:17AM  
Solar Energy Development PEIS  
Comment ID: SolarD11504

First Name: Michael  
Middle Initial: A  
Last Name: Cuprzinski  
Organization:  
Address: 80-000 Avenue 48,  
Address 2: Space #47  
Address 3:  
City: Indio  
State: CA  
Zip: 92201  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I'm currently being trained to be a solar energy technician and should be receiving my NAB-CEP certification within the next few weeks. How would I go about becoming employed on a solar energy related project?

Thank you for your comment, Ann Kennedy.

The comment tracking number that has been assigned to your comment is SolarD11505.

Comment Date: April 14, 2011 09:03:23AM  
Solar Energy Development PEIS  
Comment ID: SolarD11505

First Name: Ann  
Middle Initial:  
Last Name: Kennedy  
Organization: Blue Sky Travel  
Address: P O Box 1963  
Address 2:  
Address 3:  
City: Telluride  
State: CO  
Zip: 81435  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I have visited the National Parks under consideration & know their beauty, serenity & uniqueness. Please conserve what we have for future generations, while doing the best possible thing for our environment, producing energy from the sun.

Thank you for your comment, Steve Mendoza.

The comment tracking number that has been assigned to your comment is SolarD11506.

Comment Date: April 14, 2011 09:09:38AM  
Solar Energy Development PEIS  
Comment ID: SolarD11506

First Name: Steve  
Middle Initial:  
Last Name: Mendoza  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: CT  
Zip: 06067  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Renewable energy production in the most important issue concerning the survival of ours and many other's species. It seems logical to get going on this while we still have breathable air.

Thank you for your comment, doug franklin.

The comment tracking number that has been assigned to your comment is SolarD11507.

Comment Date: April 14, 2011 09:21:43AM  
Solar Energy Development PEIS  
Comment ID: SolarD11507

First Name: doug  
Middle Initial:  
Last Name: franklin  
Organization:  
Address: 195 D. Creek lane  
Address 2:  
Address 3:  
City: Hayesville  
State: NC  
Zip: 28904  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I feel more effort should be placed on putting solar panels in peoples back yard or on their roof instead of concentrating them in large areas. This would eliminate redoing the national grid system with all the expense and destruction of the landscape. Doug F.



Thank you for your comment, Brian Ainsley.

The comment tracking number that has been assigned to your comment is SolarD11508.

Comment Date: April 14, 2011 09:29:59AM  
Solar Energy Development PEIS  
Comment ID: SolarD11508

First Name: Brian  
Middle Initial:  
Last Name: Ainsley  
Organization:  
Address: 5640 E. Bell Road  
Address 2: #1052  
Address 3:  
City: Scottsdale  
State:  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, National Wildlife Federation Action Fund.

The comment tracking number that has been assigned to your comment is SolarD11509.

Comment Date: April 14, 2011 09:39:04AM  
Solar Energy Development PEIS  
Comment ID: SolarD11509

First Name: National Wildlife Federation  
Middle Initial:  
Last Name: Action Fund  
Organization: National Wildlife Federation Action Fund  
Address: 11100 Wildlife Center Dr  
Address 2:  
Address 3:  
City: Reston  
State: VA  
Zip: 20190  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: National Wildlife Federation Action Fund - 10401 Signers on Solar Energy Development PEIS - 4-13-2011.pdf

Comment Submitted:

The following comments are from 10,401 people who signed onto them through the National Wildlife Federation Action Fund. The names of all 10,401 signers is attached.

=====

Subject: Make Solar "Smart from the Start" to Protect Wildlife Habitat

The recently released Solar Energy Draft Programmatic Environmental Impact Statement is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal.

The Solar Energy Draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones.

While a process should be established to formally identify and review additional solar zones, until then additional public land outside the 24 zones should not be developed because:

- 1) the need for additional space for development has not been demonstrated and
- 2) the additional land has not been thoroughly examined for possible wildlife conflicts.

I also encourage the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development.

I believe that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.

**Solar Energy Development PEIS Comments****National Wildlife Federation Action Fund****Names of 10,401 people who submitted identical comments**

<b>Number</b>	<b>Last Name</b>	<b>First Name</b>	<b>Street</b>	<b>City</b>	<b>State</b>	<b>ZIP</b>
1	Crouse	Gerrit	38 4th Ave	Nyack	NY	10960-2119
2	Landon	Thomas	200 E 33rd St	New York	NY	10016-4874
3	Pound	Don	1224 Hunt Club Ln	Media	PA	19063-2003
4	McKee	Sarah	9 Chadwick Ct	Amherst	MA	01002-2825
5	Girard	Ginger	58 Sadler St	Windsor Locks	CT	06096-1728
6	Ringgold	Chris	10 Marks Manor Ct	Randallstown	MD	21133-1304
7	Brown	Jeb P.	509 University Ave Apt 804	Honolulu	HI	96826-5008
8	Black	Celeste	4900 N Grand Ave Apt 207	Covina	CA	91724-1092
9	Steinhart	Carol	104 Lathrop St	Madison	WI	53726-4019
10	Stoy	Lucy N	2041 Sunburst Way	Reno	NV	89509-5811
11	Beale, Jr.	Howard K.	38 Bartlett St	Northborough	MA	01532-1635
12	Wiley	John	13025 Morehead	Chapel Hill	NC	27517-8449
13	Jones	Jane	610 Highland Dr	Rockwall	TX	75087-2835
14	Bernard	John	56 Mildred St	South Portland	ME	04106-2727
15	Gorrin	Eugene	2607 Frederick Ter	Union	NJ	07083-5603
16	Pilholski	Frank	1 Nixon Rd	Framingham	MA	01701-3016
17	Ramirez	Trudy	320 Quincy St NE	Albuquerque	NM	87108-1345
18	Hale	Elizabeth	5348 E Decatur St	Mesa	AZ	85205-6504
19	Lowry	Lyn	6706 Poplar Ave	Takoma Park	MD	20912-4810
20	:Lewis	Alan	340 Avenida De Las Rosas	Encinitas	CA	92024-4716
21	A	Sandy	Gopher	St.Paul	MN	55128
22	A'Becket	Suzanne	21163 Patriot Way	Cupertino	CA	95014-5707
23	ADAMS	SPENCER	3707 Clarington Ave	Los Angeles	CA	90034-5843
24	ANSELL	MARTIN	8715 W West Knoll Dr	West Hollywood	CA	90069-4117
25	ARNETT	RENEE	310 W Nicholai St	Hicksville	NY	11801-3864
26	Aaron	Frank	5801 Pisa Ln	Frisco	TX	75034-2275
27	Aarsvold	Matthew	668 N Coast Hwy Ste 516	Laguna Beach	CA	92651-1513
28	Abadia	Betty	171 Goldfinch Ln	New Bern	NC	28560-9375
29	Abadia	Teos	708 NW Skyline Crest Rd	Portland	OR	97229-6833
30	Abair	Jacob	16519 Pomona Dr	Redford	MI	48240-2447
31	Abate	Alessandro	1291 Nightingale Ave	Miami Springs	FL	33166-3832
32	Abate	Andrew	253 Kramer Dr	Lindenhurst	NY	11757-5409
33	Abbott	Barbara M	147 Pilgrim Rd	Haverhill	MA	01832-2900
34	Abbott	Lawrence	433 Harlan St Apt 307	San Leandro	CA	94577-3541
35	Abboud	Donna	984 E 900 S	Saint George	UT	84790-5665
36	Abdelmonem	Christine	1000 Windsor Shores Dr	Columbia	SC	29223-1717
37	Abel	Judith	Zimmerhof	Basel	MI	48028
38	Abell	Martha	390 Pleasant Street	rome	PA	18837-9431
39	Abella	Olga	12129 N 675th St	Robinson	IL	62454-4227
40	Abendroth	James	11 River Rd	Bloomington	NY	12913-1700
41	Abrams	Al	828 Beech Ave	Findlay	OH	45840-5002
42	Abrams	Alan	823 Marbella Ln W	Lantana	FL	33462-4746

Thank you for your comment, National Wildlife Federation Action Fund.

The comment tracking number that has been assigned to your comment is SolarD11510.

Comment Date: April 14, 2011 09:46:34AM  
Solar Energy Development PEIS  
Comment ID: SolarD11510

First Name: National Wildlife Federation  
Middle Initial:  
Last Name: Action Fund  
Organization: National Wildlife Federation Action Fund  
Address: 11100 Wildlife Center Dr  
Address 2:  
Address 3:  
City: Reston  
State: VA  
Zip: 20190  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: National Wildlife Federation Action Fund - 171 Customized Comments on Solar Energy Development PEIS - 4-13-2011.pdf

Comment Submitted:

Attached are comments from 171 people who submitted customized comments on the solar energy development PEIS through the National Wildlife Federation Action Fund.

Their comments urge the Department of Interior to make solar energy "smart from the start" to protect wildlife habitat.

Thank you.

## Solar Energy Development PEIS Comments

### National Wildlife Federation Action Fund

#### Names of 171 people who submitted customized comments

No.	First Name	Last Name	Street	City	State	ZIP	Comment Text
1	Susan	Westervelt	PO Box 223	Deary	ID	83823-0223	The Solar Energy Draft Programmatic Environmental Impact Statement can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. A process should be established to formally identify and review additional solar zones, but public land outside the 24 zones should not be developed until the need for additional space is demonstrated, and additional land has been thoroughly examined for possible wildlife conflicts. I encourage the Department of the Interior to make sure that crucial wildlife habitats for big game and sage grouse are placed off-limits to development. I believe that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take steps to make sure that America's solar industry is wildlife-friendly.
2	Vince	L	129	oviedo	FL	32765	The Solar Energy Draft Programmatic Environmental Impact Statement is a very important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal. The Solar Energy Draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. While a process should be established to formally identify and review additions solar zones, until then additional public land outside the 24 zones should not be developed because: 1) the need for additional space for development has not been demonstrated and 2) the additional land has not been thoroughly examined for possible wildlife conflicts. I also encourage the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development. I believe that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.
3	Matthe w	Lipschik	1780 E 13th St	Brooklyn	NY	11229-1956	The Solar Energy Draft Programmatic Environmental Impact Statement is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal. The Solar Energy Draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. While a process should be established to formally identify and review additions solar zones, until then additional public land outside the 24 zones should not be developed because: 1) the need for additional space for development has not been demonstrated and 2) the additional land has not been thoroughly examined for possible wildlife conflicts. I also encourage the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development. There is no doubt that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.
4	Frances	O'Brien	335 NE Fircrest Pl	McMinnville	OR	97128-9016	The Solar Energy Draft Programmatic Environmental Impact Statement is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal. This draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. A process should be established to formally identify and review additional solar zones, but until then additional public land outside the 24 zones should not be developed because: >>> need for additional space for development has not been demonstrated >>> additional land has not been thoroughly examined for possible wildlife conflicts. Also, I urge the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development. Solar energy must be developed quickly in the United States. The best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy EIS, we can ensure that we set the best precedent for solar energy development in our country.

Thank you for your comment, Hillary Buckingham.

The comment tracking number that has been assigned to your comment is SolarD11511.

Comment Date: April 14, 2011 09:50:05AM  
Solar Energy Development PEIS  
Comment ID: SolarD11511

First Name: Hillary  
Middle Initial: G  
Last Name: Buckingham  
Organization: Self  
Address: 173 Warburton Avenue  
Address 2:  
Address 3:  
City: Hastings on Hudson  
State: NY  
Zip: 10706  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I support solar development, but I agree with environmental groups that this must be done carefully. They should be developed in "Solar Energy Zones" that don't compromise the sanctity of our parks. That means listening to leading environmental groups to ensure that neither wildlife nor resources are harmed in the pursuit of solar energy. Overall however, I am pleased that solar energy is being expanded. We just need to do it in the right way.

Thank you for your comment, Naomi Zurcher.

The comment tracking number that has been assigned to your comment is SolarD11512.

Comment Date: April 14, 2011 10:09:49AM  
Solar Energy Development PEIS  
Comment ID: SolarD11512

First Name: Naomi  
Middle Initial:  
Last Name: Zurcher  
Organization:  
Address: 161 Columbia Hts  
Address 2:  
Address 3:  
City: Brooklyn  
State: NY  
Zip: 112012154  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am pleased to learn that the Federal Government is embarking on Solar PEIS to identify locations that could support solar energy development.

As a forestry professional and a concerned citizen, I would suggest that siting an SEZ on wild or roadless lands or in areas with critical habitat for endangered or threatened flora and / or fauna or in areas where the SEZ would compromise water resources or wildlife corridors would be highly unacceptable and would greatly diminish those already depleted National Treasures, such as Death Valley and Joshua Tree National Parks and natural resources such as California's Iron Mountain.

I would therefore appreciate a thorough evaluation of each site with full consideration for existing sensitivity or usage before these lands are leased as an SEZ.

Thanking you, in advance, for your consideration of these comments and suggestions.

Thank you for your comment, Bruce & Michelle Hanson.

The comment tracking number that has been assigned to your comment is SolarD11513.

Comment Date: April 14, 2011 10:19:45AM  
Solar Energy Development PEIS  
Comment ID: SolarD11513

First Name: Bruce & Michelle  
Middle Initial:  
Last Name: Hanson  
Organization:  
Address: 12720 27th Ave N  
Address 2:  
Address 3:  
City: Plymouth  
State: MN  
Zip: 55441  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

My wife and I use the protected areas of our country, The National Parks, as our main source of travel and recreation. Recreation means to recreate oneself. In these sacred places we do just that. Everyone can benefit personally and spiritually from these places (our country's monumental buildings and holy cathedrals) only if they remain protected by all forms of pollution and development. Please find locations for our necessary solar and wind energy pursuits that do not compromise the best idea in American history.



Thank you for your comment, Bill Stokes.

The comment tracking number that has been assigned to your comment is SolarD11514.

Comment Date: April 14, 2011 10:34:02AM  
Solar Energy Development PEIS  
Comment ID: SolarD11514

First Name: Bill  
Middle Initial:  
Last Name: Stokes  
Organization:  
Address: 301 2nd St. N.  
Address 2:  
Address 3:  
City: St. Petersburg  
State: FL  
Zip: 33701  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy must be fully utilized in our public lands since the present mentality in Washington is to drastically cut any significant incentives for the private sector. The public sector must set the example for the private to follow in terms of alternative energy utilization so the economy and effectiveness can be in plain view for all to see and demand this option to be universally available at an affordable cost. This shift can also create many jobs and lessen our reliance on fossil fuels, thus reducing pollution.

Thank you for your comment, Gerald Orcholski.

The comment tracking number that has been assigned to your comment is SolarD11515.

Comment Date: April 14, 2011 10:45:02AM  
Solar Energy Development PEIS  
Comment ID: SolarD11515

First Name: Gerald  
Middle Initial:  
Last Name: Orcholski  
Organization:  
Address: no postal mail  
Address 2:  
Address 3:  
City: Pasadena  
State: CA  
Zip: 91104  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

It would seem deserts are a perfect place for solar panels, but care must be taken to assure the life of desert tortoises and other wildlife living in the desert. We need to proceed with green energy, but we must give careful thought to it so we don't make our environment worse off.

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife.

Thank you for your comment, Ashlee McMillan.

The comment tracking number that has been assigned to your comment is SolarD11516.

Comment Date: April 14, 2011 10:49:53AM  
Solar Energy Development PEIS  
Comment ID: SolarD11516

First Name: Ashlee  
Middle Initial: N  
Last Name: McMillan  
Organization: Green Energy News  
Address: 2313 Bobby Ln  
Address 2:  
Address 3:  
City: Santa Ana  
State: CA  
Zip: 92706  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I believe that, while renewable energy is a great alternative to dirty coal and oil, implementation should only occur when it doesn't compromise wildlife, scenery, water resources, archaeological sites, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Please consider the environment and the American public when you make a decision on where these solar projects should be located. Thank you very much for your time.

Thank you for your comment, E Harris.

The comment tracking number that has been assigned to your comment is SolarD11517.

Comment Date: April 14, 2011 10:55:48AM  
Solar Energy Development PEIS  
Comment ID: SolarD11517

First Name: E  
Middle Initial: T  
Last Name: Harris  
Organization:  
Address: 47 High Street  
Address 2:  
Address 3:  
City: Philadelphia  
State: PA  
Zip: 191442116  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Andrea Guajardo.

The comment tracking number that has been assigned to your comment is SolarD11518.

Comment Date: April 14, 2011 10:55:55AM  
Solar Energy Development PEIS  
Comment ID: SolarD11518

First Name: Andrea  
Middle Initial:  
Last Name: Guajardo  
Organization: Conejos County Clean Water, Inc.  
Address: P.O. Box 153  
Address 2:  
Address 3:  
City: Antonito  
State: CO  
Zip: 81120  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: Public Comment Solar Energy Zones.doc

Comment Submitted:



Solar Energy PEIS

Argonne National Laboratory

9700 S. Cass Avenue

EVS/240

Argonne, IL 60439

April 15, 2011

To Whom It May Concern:

Conejos County Clean Water, Inc. ("CCCW") wants to thank the Bureau of Land Management (BLM) and Department of Energy (DOE) for the opportunity to comment on the Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in six southwestern states. CCCW would like to thank the agencies for commitment to real solar development as a way to improve overall energy management in the United States of America.

Please accept this as a formal public comment and statement of inquiry from CCCW related to the Draft Solar PEIS specifically pertaining to the two sites located in Conejos County, Colorado: Los Mogotes East, and Antonito Southeast. CCCW is a 501(c)(3) non-profit citizens' group, based in Antonito, Colorado, that is incorporated under the laws in the State of Colorado.

### ***Background of CCCW and relationship to the Affected Environment***

In June of 2010, concerned citizens incorporated into a Colorado non-profit organization, called CCCW. CCCW incorporated to promote awareness around health and environmental issues that affect residents in Conejos County. CCCW is comprised of ranchers, teachers, small business owners, and concerned citizens. CCCW has a thirteen board member steering committee, and 402 general members.

The San Luis Valley (SLV) in south central Colorado is one of the largest sub-alpine Valleys in the world, encompassing over 8,100 square miles. Hemmed in on the west by the San Juan Mountains, and on the east by the Sangre de Cristo Mountains, the SLV ranges in elevation from 7,000 to over 14,000 feet, and contains the headwaters of the Rio Grande River. The Rio Grande River rises in the San Juan Mountains to the west of the SLV, flows south into New Mexico and Texas and empties into the Gulf of Mexico.

The SLV has many unique biological features, including areas identified as Natural Heritage areas, and is home to six endemic insect species.

The SLV is 122 miles long and 74 miles wide. This largely agrarian and ranching community is a relatively stable population. Many of the residents are eighth-generation. The oldest parish in Colorado, Nuestra Señora de Guadalupe, Our Lady of Guadalupe, lies at the southern end of Conejos County. Conejos County is part of the Sangre de Cristo National Heritage Area. About sixty percent (60%) of Conejos County's population is minority, and pride in the Hispanic heritage is evident in everything from the names of the rivers, mountains, and towns, to the local Spanish/English radio

station. The median household income is less than half the national average at \$24,744, and 38 percent of the children live in poverty (US Census 2000).

The SLV is known for its potatoes and alfalfa, and also grows barley, lettuce, wheat, peas, and spring grains. It has been a farm and ranching community for over 150 years, and many of the residents work in agriculture, following in the footsteps of their parents and grandparents. Many of the farmers and ranchers still practice traditional methods. It is the highest irrigated mountain plateau in the world, with about 7000 high-capacity wells – over half of which are irrigation wells.

The SLV contains over 5 million acres, of which 3.1 million acres – about 59 percent -- are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). Conejos County contains over 825,000 acres, of which 528,000 acres - about 64 percent – are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). This creates an important relationship between the public and private sectors in dealing with air and water quality issues in the SLV and Conejos County.

There are 18 incorporated towns in the SLV, many of which are located along the Rio Grande or its many tributaries. Six counties lie within this large geographical boundary. They are Alamosa, Rio Grande, Saguache, Mineral, Costilla, and Conejos. There are 21 villages and five incorporated towns in Conejos County. Conejos County is among the poorest counties in the country, and unemployment levels run above the state and national averages (Conejos County 10.5%; as of 2008-not including the chronically unemployed).



Conejos County is a populated area within the SLV where the Draft Solar PEIS was conducted; specifically, the Los Mogotes East and Southeast Antonito sites are in Conejos County near the incorporated towns of Romeo and Antonito respectively.

### ***Draft Solar PEIS Document***

CCCW recognizes this is a programmatic effort and much will have to be worked out in future site-specific National Environmental Policy Act (NEPA) analysis; however, CCCW sees many questions that are now “ripe” for evaluation and decisions. CCCW understands the Draft Solar PEIS is very broad-scale and aims primarily to decide:

1. Which BLM lands are not suitable for solar development
2. Which BLM lands are suitable for:
  - Solar Energy Zones (SEZ) = smaller area 21,000 acres all in the SLV
  - Zones Plus= larger area 150,000 acres in SLV and elsewhere in Colorado
  - Under “No Action” almost all BLM lands would remain open to solar development unless direct conflicts (wetlands, wildlife refuges, military, etc.)
3. Under what conditions (mitigations) should BLM and DOE decide to proceed into the next round of NEPA? For instance, BLM and DOE are already proposing:
  - No high-profile “power tower” systems
  - Be careful with bird impacts
  - No high water use systems
  - All projects need to go through local planning and zoning processes

Many of Conejos County members speak Spanish only or Spanish as their first language, and it would be helpful to provide project information to them in the regional colloquial Spanish. We respectfully request public meetings in Conejos County with a local Conejos County Spanish translator. Thank you for the detailed and thorough preparation of the Draft Solar PEIS document. The document was very large and expensive to print out. CCCW would like to respectfully request that a summary document for each state be created, comparative tables summarizing proposal and impacts for SLV only be created and both documents be available for the public to review and understand at public meetings. Of our 402 members only 70 have access to email and Internet, so CCCW would like to respectfully request that project documents be placed in libraries and post offices in Conejos County.

***Purpose and Need***

CCCW would like to inquire if the Draft Solar PEIS assumes a traditional “Large Utility” development model that devalues local efforts, and promotes a boom-bust energy cycle creating: maximum environmental impacts, least local benefits, and a push for additional transmission over La Veta Pass? Additionally, CCCW inquires if the Final Solar PEIS will include the “Distributed Generation” (DG) model for solar development as a viable approach in the SLV, recognize that locally based generation and use is a way to promote reliability and redundancy, and evaluate unfair regional business models that make DG difficult to integrate into local and regional grids?

### ***Array of Alternatives***

CCCW would like to inquire about the two action alternatives proposed in the Draft Solar PEIS, is it presumed that massive new transmission over La Veta Pass is approved? Will the Final Solar PEIS include a No- La Veta Pass Alternative that recognizes that project may not be approved?

CCCW has reviewed the project documentation for Los Mogotes East and Antonito Southeast, CCCW notices in both Affected Environment and Impact Assessment for Proposed Solar Energy Zones in Colorado that both transmission and storage need to be upgraded. With the above two questions unanswered CCCW would like the BLM and DOE to consider another alternative (No – La Veta Pass Alternative) in their analysis:

- Cap the total power generation goal in the SLV, from sources, to equal the amount needed locally (at reduced rate?) plus the amount that can reasonably be transmitted out of the SLV over Poncha Pass. This does not force the development of the La Veta Transmission, since that project is undecided at this point in time.
  - So if SLV needs 150 MW locally, and we can transmit 400 MW out of the SLV over Poncha Pass, then the SLV cap should be 650 MW generation.
  - Emphasize efficiency, conservation, and “smart grid” technologies.
  - Consider mini-hydro and other technologies to round out energy portfolio.
  - Add energy storage at all substations

- Phase in energy development to promote long-term jobs and revenue.
- Work with governor’s office and DOE to better understand options.
- Use zoning, annexation, and other incentives to guide energy-related companies to locate offices on “Main Street” rather than in construction trailers on county or federal lands.
- Use incentives to guide energy-related companies to hire local staff and construction workers. When importing labor, companies should give priorities to families who would live in town rather than “man-camps.”
- Schedule energy construction work to avoid harvest season to expand opportunities for local workers.
- Any new or existing infrastructure upgrades be performed in a way that eliminates the exposure of Conejos County residents to electromagnetic frequencies.

### ***Infrastructure***

CCCW would like to inquire if the Final Solar PEIS will identify and evaluate different infrastructure layouts in the SLV comparing; 1) large utility scale solar development and 2) locally based DG combined with BLM based DG capped at Poncha Pass transmission potential? Will the Final Solar PEIS consider other transmission options including toward the south? Will the Final Solar PEIS consider improving transmission over Poncha Pass including: 1) allowing power to flow out of the SLV as well as in, 2) “Reconductoring” the existing lines, and 3) Power storage at all substations?

### ***Socio-Economics***

CCCW welcomes solar development and is interested to learn more about the socio-economic impacts of solar development.

For example, job creation and the inquiry that there is a boom-bust cycle in job-development models now shared in the media. Please answer in the Final Solar PEIS if:

- Solar development on BLM lands will require cautious phasing that would promote long-term, locally based jobs in Conejos County? If BLM lands could be developed over 10-20 years for instance?
- The BLM and DOE will discuss job-multipliers in more detail and what could be expected in Conejos County?
- The BLM and DOE will discuss the effects of solar materials created or assembled in the SLV versus imported from elsewhere?
- The BLM and DOE will consider that local firefighters, first responders, and the La Jara hospital would need to be equipped with the proper gear and training to handle any hazardous materials incidents?

Another example, revenue and the inquiry that BLM and DOE solar development would occur under Right of Way (ROW) contracts that offer less revenue-sharing opportunities than other approaches such as lease contracts. Please answer in the Final Solar PEIS if:

- The BLM and DOE will change the contracting approach to allow for more equitable revenue sharing?

- The BLM and DOE will offer guidance on successful revenue sharing approaches?
- Phasing will be addressed?
- The BLM and DOE will discuss the socio-economic impacts of ROW versus leasing contracts?
- The BLM and DOE will discuss what happens to the Payment in Lieu of Taxes to Conejos County?

A final example, Services – the BLM and DOE SEZs are in different parts of Conejos County and would thus strain various parts of the local service infrastructure differently. This includes schools, health/clinics including emergency services, road and bridge, and other municipal management. Please answer in the Final Solar PEIS if:

- The BLM and DOE will discuss phasing and better revenue sharing as discussed above, offer guidance on upgrading services particular to the solar industry?

Tourism and hunting are critical to the economic development and stability of our region, and people come to Conejos County for the peace and quiet it offers. CCCW requests that the following be considered to protect our already struggling economy:

- Emphasize DG projects that would create abundant power in smaller increments (<20MW) on lots of smaller pieces of ground that fit better into existing land use such as irrigation corners, sites that are already disturbed, as well as BLM lands. Also, please include smaller sites owned by towns, Conejos County, and school districts that can help reduce electrical costs.

- Phased approach of 10-30 MW per year for 10-20 years to avoid boom-bust and promote permanent jobs and revenues for Conejos County residents.
- Aim first to improve local efficiencies and generate enough power to satisfy local needs, and then build generation up to the total amount that can be transmitted out of the SLV over Poncha Pass.
- Encourage local power authority that can manage power so SLV is not beholden to regional power companies.
- Develop proactive revenue sharing methods so that reasonable funding can go to:
  - Conejos County school districts K-12; also technical training at local colleges
  - Conservation of water, soil, and wildlife habitat
  - Health and human services
  - Road and bridge
  - Conejos County

### ***Natural Resources***

CCCW appreciates the BLM and DOE citing effort that places the SEZs on land with relatively low ecological value but every acre is still part of the greater Conejos County and SLV ecosystem.

### ***Geology and Soils***

CCCW would like to let the BLM and DOE know that soils are shallow. Will there be a loss of remaining soil structure including carbon-capture mechanisms? CCCW

would like to request that BLM and DOE: prohibit typical over-lot grading (100% soil disturbance) and promote conservation of intact patches, stabilize disturbances immediately, and conserve and re-use all topsoil materials immediately.

Some residents who have already experienced large scale solar development in the SLV report that there is less sand blowing around near the solar development. CCCW would like to respectively request that BLM and DOE understand and access the patterns of wind and sand deposits in the Conejos County and the negative impacts that could be imposed on the agrarian community.

#### *Water*

CCCW agrees with BLM's and DOE's proposed call for low-water use facilities only and thank the BLM and DOE for avoiding wetlands and open water. CCCW would like to request that the BLM and DOE develop water-wise guidelines for solar development.

#### *Vegetation/Landscape/Reclamation*

It is very difficult to xeriscape in Conejos County and the SLV. CCCW would like to request that the BLM and DOE develop conservation guidelines including buffer strips and shrub windrows, and please maintain native vegetation along solar-panel drip lines.

#### *Air Quality*

Dust is a huge issue in Conejos County and the SLV. CCCW would like to request that the BLM and DOE: prohibit over-lot grading, promote conservation of existing soils and vegetation, use dust-inhibitors on open ground, and evaluate impacts on burning solar panels on air quality (wildfire situation).



## *Wildlife*

Conejos County has enormous wildlife values that should not be reduced. Both SEZs in Conejos County would impact open range for large mammal movement including antelope. Solar development should be coordinated with wildlife conservation.

Our region is known for its game animal hunting grounds, and CCCW appreciates that the BLM and DOE assess any impacts to game animals, such as disruptions to rut and calving for the elk; and these sensitive cycles for the elk population are so significant and well known that particular roads are closed throughout Colorado during certain times of the year, particularly in the Spring, specifically to protect the calving areas, as tranquility during this time is critical for their survival.

Conejos County is in the avian flyway for migrating birds, so CCCW thanks the BLM and DOE for considering solar systems that consider bird impacts. The Migratory Bird Conservation Act (16 USC 712d) was legislated to protect birds in essential flyways; and there is an essential central flyway corridor in our area where, during Spring and Fall, our National Wildlife Refuges in southern Colorado attract more than 15,000 ducks, 8,000 Canada Geese, 5,000 Snow and Ross's Geese, and 2,500 Sandhill Cranes; and where some of the species are protected under the Endangered Species Act (e.g., Bald Eagle, Whooping Crane, Willow Flycatcher, Least Tern, and Mountain Plover); and where there are Candidate Species which are part of this historic range, as well as other Species of Concern (e.g., Pale Townsend Big-Eared Bat, Occult Little Brown Bat, Baird's Sparrow, Black Tern, Ferruginous Hawk, Loggerhead Shrike, Northern Goshawk, Broad-

billed Hummingbird, Gray Vireo, Peregrine Falcon, and Swift Fox) – all of whom could have their migrating patterns, mating patterns, and reproductive patterns negatively affected by tower systems, so again CCCW thanks the BLM and DOE for not considering “power tower” systems.

CCCW would like to request that BLM and DOE develop conservation design to promote continuous wildlife movement across SEZs, maintain pods of conservation habitat within solar facilities, and evaluate impacts of high-flying waterfowl mistaking solar facilities as water bodies.

#### *Natural History and Cultural Resources Management*

Conejos County has enormous natural history values including being part of the Sangre de Cristo National Heritage Area, and long human use. CCCW supports BLM’s and DOE’s efforts to assure all development is done with respect to natural history and cultural values. CCCW also supports BLM’s and DOE’s efforts to conserve areas of moderate to high probability of natural and cultural resources.

#### *Visual Impacts*

CCCW supports the BLM’s and DOE’s decision to avoid high-profile “power tower” type technologies.

#### ***Public Health***

CCCW would like to request that any development adequately address the health impacts from exposure to electromagnetic frequencies, hazardous materials incidents, accidents by including protective buffers around facilities and transmission lines, develop proper guidelines for distances from homes, schools, etc., define

potential transmission corridors that avoid homes, schools, etc., and develop guidelines for communities to zone properly to maintain protections.

CCCW would like to request that a representative from the Town of Antonito, Town of Romeo and the Conejos County Board of Commissioners be added as cooperating agency officials for further NEPA analysis for SEZs. Thank you for your careful consideration of CCCW's comments and statement of inquiry. Please keep us informed of any upcoming public meetings in the SLV and Conejos County. We can be reached via email at [info@conejoscountycleanwater.org](mailto:info@conejoscountycleanwater.org) or via phone at 720-939-9948.

Respectfully submitted,

Mary Alice Trujillo, Chair

Andrea Guajardo, Board Member

Cc:

Gail Schwartz – State Senator

Ed Vigil – State Representative

Erin Minks – Representative for U.S. Senator Mark Udall

Brenda Felmlee – Representative for U.S. Congressman Scott Tipton

Charlotte Bobicki – Representative for U.S. Senator Michael Bennet

John Sandoval – Conejos County Commissioner

Mike Trujillo – Antonito Town Mayor

Don Martinez – Romeo Town Mayor

*Conejos County Clean Water Inc.*  
*P.O. Box 153*  
*Antonito, CO 81120*  
[www.conejoscountycleanwater.org](http://www.conejoscountycleanwater.org)

Thank you for your comment, Carol Walker.

The comment tracking number that has been assigned to your comment is SolarD11519.

Comment Date: April 14, 2011 10:56:45AM  
Solar Energy Development PEIS  
Comment ID: SolarD11519

First Name: Carol  
Middle Initial: A  
Last Name: Walker  
Organization:  
Address: 29 Jefferson Street  
Address 2:  
Address 3:  
City: Winthrop  
State: MA  
Zip: 021522169  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Four proposed solar energy zones are threatening our National Parks, so please take these steps the National Wildlife Federation has found to be necessary: reconfigure the Joshua Tree Nat'l park to lessen impact on wildlife corridors; remove the Iron Mtn. SEZ which severely impacts the same park; reduce or reconfigure the Amargosa Valley SEZ to reduce impacts to Death Valley's wilderness & precious water resources, including desert wetland where endangered species such as the Desert Hole's Pupfish; and at the Red Sands SEZ, fix the situation of the water resources being threatened along with critical impacts to wildlife and desert dunes at the White Sands Nat'l Monument.

Thank you for your comment, John White.

The comment tracking number that has been assigned to your comment is SolarD11520.

Comment Date: April 14, 2011 10:58:18AM  
Solar Energy Development PEIS  
Comment ID: SolarD11520

First Name: John  
Middle Initial:  
Last Name: White  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I support the Solar Energy Zones under the following conditions.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Thank you for your comment, Richard Cole.

The comment tracking number that has been assigned to your comment is SolarD11521.

Comment Date: April 14, 2011 11:02:30AM  
Solar Energy Development PEIS  
Comment ID: SolarD11521

First Name: Richard  
Middle Initial: B  
Last Name: Cole  
Organization:  
Address: 170 Short Hills Ave.  
Address 2:  
Address 3:  
City: Springfield  
State: NJ  
Zip: 07081  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As an inveterate visitor to national parks, I would strongly support the Solar Energy Zone alternative for concentrating solar development on land areas that do not conflict with national park resources and sensitive desert ecology if it is suitably amended.

It seems that the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

In addition the Iron Mountain SEZ should be removed in order to avoid impacts to Joshua Tree National Park.

Reduction and reconfiguration of the Amargosa Valley SEZ is also necessary in order to reduce negative impact on wilderness and precious water resources in Death Valley'.

Finally, the Red Sands SEZ seems to threaten water resources desert dunes at White Sands National Monument.

It would seem that any proposed solar projects sited within 15 miles of a national park boundary should trigger consultations with the National Park Service concerning impacts or threats to national park resources or visitor enjoyment.

It is also vital that the Bureau of Land Management include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Melissa Allen.

The comment tracking number that has been assigned to your comment is SolarD11522.

Comment Date: April 14, 2011 11:13:04AM  
Solar Energy Development PEIS  
Comment ID: SolarD11522

First Name: Melissa  
Middle Initial:  
Last Name: Allen  
Organization:  
Address: 8405 SW 156 Street  
Address 2:  
Address 3:  
City: Palmetto Bay  
State: FL  
Zip: 33157  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joe Orr.

The comment tracking number that has been assigned to your comment is SolarD11523.

Comment Date: April 14, 2011 11:13:21AM  
Solar Energy Development PEIS  
Comment ID: SolarD11523

First Name: Joe  
Middle Initial:  
Last Name: Orr  
Organization:  
Address:  
Address 2:  
Address 3:  
City: Floresville  
State: TX  
Zip: 78114  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects located within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment, Melissa Pappas.

The comment tracking number that has been assigned to your comment is SolarD11524.

Comment Date: April 14, 2011 11:21:33AM  
Solar Energy Development PEIS  
Comment ID: SolarD11524

First Name: Melissa  
Middle Initial: H  
Last Name: Pappas  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ada Southerland.

The comment tracking number that has been assigned to your comment is SolarD11525.

Comment Date: April 14, 2011 11:24:53AM  
Solar Energy Development PEIS  
Comment ID: SolarD11525

First Name: Ada  
Middle Initial: L  
Last Name: Southerland  
Organization:  
Address: 1101 Phil's Ridge Rd  
Address 2:  
Address 3:  
City: Chapel Hill  
State: NC  
Zip: 27516  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sean Sullivan.

The comment tracking number that has been assigned to your comment is SolarD11526.

Comment Date: April 14, 2011 11:56:07AM  
Solar Energy Development PEIS  
Comment ID: SolarD11526

First Name: Sean  
Middle Initial: R  
Last Name: Sullivan  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, chrisiina little.

The comment tracking number that has been assigned to your comment is SolarD11527.

Comment Date: April 14, 2011 12:06:29PM  
Solar Energy Development PEIS  
Comment ID: SolarD11527

First Name: chrisiina  
Middle Initial:  
Last Name: little  
Organization:  
Address: onekirkwoodct  
Address 2:  
Address 3:  
City: mtlareel  
State: NJ  
Zip: 08054  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

We have to protect this earth

Thank you for your comment, James Sorrells.

The comment tracking number that has been assigned to your comment is SolarD11528.

Comment Date: April 14, 2011 12:17:31PM  
Solar Energy Development PEIS  
Comment ID: SolarD11528

First Name: James  
Middle Initial:  
Last Name: Sorrells  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

We have an obligation to future generations to protect and preserve our environmental resources. Any other course of action leaves them with a broken future. "National parks and reserves are an integral aspect of intelligent use of natural resources. It is the course of wisdom to set aside an ample portion of our natural resources as national parks and reserves, thus ensuring that future generations may know the majesty of the earth as we know it today."

--John F. Kennedy

Thank you for your comment, robin blier.

The comment tracking number that has been assigned to your comment is SolarD11529.

Comment Date: April 14, 2011 12:19:53PM  
Solar Energy Development PEIS  
Comment ID: SolarD11529

First Name: robin  
Middle Initial:  
Last Name: blier  
Organization:  
Address:  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

We need to invest in more solar & wind energy.  
Nuclear energy plants should be shut down.  
They are too dangerous & expensive to operate as we have seen in Japan recently.

Thank you for your comment, susi fogli.

The comment tracking number that has been assigned to your comment is SolarD11530.

Comment Date: April 14, 2011 12:20:51PM  
Solar Energy Development PEIS  
Comment ID: SolarD11530

First Name: susi  
Middle Initial: s  
Last Name: fogli  
Organization:  
Address: apto. 1301  
Address 2:  
Address 3:  
City: Ibiza  
State:  
Zip:  
Country: ESP  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

solar energie is the only way to future.

Thank you for your comment, Stephen Dutschke.

The comment tracking number that has been assigned to your comment is SolarD11531.

Comment Date: April 14, 2011 12:32:30PM  
Solar Energy Development PEIS  
Comment ID: SolarD11531

First Name: Stephen  
Middle Initial: W  
Last Name: Dutschke  
Organization:  
Address: 4306 Darbrook Rd  
Address 2:  
Address 3:  
City: Louisville  
State: KY  
Zip: 402072846  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment, Jean Crossley.

The comment tracking number that has been assigned to your comment is SolarD11532.

Comment Date: April 14, 2011 12:39:52PM  
Solar Energy Development PEIS  
Comment ID: SolarD11532

First Name: Jean  
Middle Initial:  
Last Name: Crossley  
Organization:  
Address: Box 1185  
Address 2:  
Address 3:  
City: Winters  
State: CA  
Zip: 95694  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I have had the privilege of seeing sea turtles lay their eggs. We must protect them.

Thank you for your comment, Charlene Rush.

The comment tracking number that has been assigned to your comment is SolarD11533.

Comment Date: April 14, 2011 12:46:54PM  
Solar Energy Development PEIS  
Comment ID: SolarD11533

First Name: Charlene  
Middle Initial:  
Last Name: Rush  
Organization:  
Address: 2670 Thoroughbred Ct. #835  
Address 2:  
Address 3:  
City: Allison Park  
State: PA  
Zip: 15101  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Our nation cannot afford to build nuclear power plants. If insurance companies will not insure them, what does that tell you about their safety? There is no safe radiation!!!

Thank you for your comment, Paula Menyuk.

The comment tracking number that has been assigned to your comment is SolarD11534.

Comment Date: April 14, 2011 12:58:13PM  
Solar Energy Development PEIS  
Comment ID: SolarD11534

First Name: Paula  
Middle Initial:  
Last Name: Menyuk  
Organization:  
Address: 162 Mason Terrace  
Address 2:  
Address 3:  
City: Brookline  
State: MA  
Zip: 024462772  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed where it will not bring harm to the environment and wild life.

Thank you for your comment, Barbara Scholtz.

The comment tracking number that has been assigned to your comment is SolarD11535.

Comment Date: April 14, 2011 13:04:54PM  
Solar Energy Development PEIS  
Comment ID: SolarD11535

First Name: Barbara  
Middle Initial: L  
Last Name: Scholtz  
Organization: National Parks Conservation Asso.  
Address: 8439 Mizner Circle East  
Address 2:  
Address 3:  
City: Jacksonville  
State: FL  
Zip: 322174326  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am all for installing solar energy in our National Parks. However, I urge the commission to involve the National Parks Coconservation Asso. in the decision as to where these solar panels will be installed so as not to negatively impact the animals and park flora and fauna.

Thank you for your comment, Jackie Branagan.

The comment tracking number that has been assigned to your comment is SolarD11536.

Comment Date: April 14, 2011 13:06:54PM  
Solar Energy Development PEIS  
Comment ID: SolarD11536

First Name: Jackie  
Middle Initial: D  
Last Name: Branagan  
Organization:  
Address: [Withheld by requestor]  
Address 2: [Withheld by requestor]  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I think solar energy in the parks is the very best thing we could do - for the clean economy, for the parks and all the visitors there, and for the environment.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11537.

Comment Date: April 14, 2011 13:18:04PM  
Solar Energy Development PEIS  
Comment ID: SolarD11537

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Herbert Vater.

The comment tracking number that has been assigned to your comment is SolarD11538.

Comment Date: April 14, 2011 13:18:29PM  
Solar Energy Development PEIS  
Comment ID: SolarD11538

First Name: Herbert  
Middle Initial:  
Last Name: Vater  
Organization: Plattform für Demokratie  
Address: Badallee 2  
Address 2:  
Address 3:  
City: Tönning  
State:  
Zip:  
Country: DEU  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar Energy has to be developed quickly, that we can get out of nuclear energy as soon as possible.

Herbert Vater  
Naturopath

Thank you for your comment, mindy bradburn.

The comment tracking number that has been assigned to your comment is SolarD11539.

Comment Date: April 14, 2011 13:21:43PM  
Solar Energy Development PEIS  
Comment ID: SolarD11539

First Name: mindy  
Middle Initial:  
Last Name: bradburn  
Organization:  
Address: 1770 nursery road  
Address 2:  
Address 3:  
City: the woodlands  
State: TX  
Zip: 77380  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11540.

Comment Date: April 14, 2011 13:31:00PM

Solar Energy Development PEIS

Comment ID: SolarD11540

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment: Environment letter.docx

Comment Submitted:

Dear PEIS,

The desert is a wondrous place; one never knows what you will find here. This desert is made of sand but each grain of sand makes this place I call home. I have been raised here for the past fifteen years of my life. This is a place; one can raise a family away from the city life.

This desert is full of mountains and palm trees that leave its people in awe. Animals that come back for warmth this desert provides. For its everyday life that need this desert warmth. This is a place I feel safe and know that it's a place where I can feel the breeze go through my hair and think in silence.

There really isn't a need to build solar panels here. It will not only ruin this desert, but take away homes from our wildlife that resides here. Their homes would be destroyed for what more industrial building; we have little nature left why are we going to eliminate it. The Riverside County desert is home to approximately 170,000 people.

Building this can only lead to disaster if people aren't informed our desert is due to a major earthquake. What happens if the building causes more pollution than there already exist? If this causes more radiation, the increase of global warming are we just going to say sorry to the many people who live here?

If people really want to build these solar panels why don't build them where industrial exist already. Why does it have to be in the desert?

Thank you for your comment, Teresa Motley.

The comment tracking number that has been assigned to your comment is SolarD11541.

Comment Date: April 14, 2011 13:39:03PM  
Solar Energy Development PEIS  
Comment ID: SolarD11541

First Name: Teresa  
Middle Initial: R  
Last Name: Motley  
Organization: Clark County Nevada Dept. of Aviation  
Address: P.O. Box 11005  
Address 2: 5757 Wayne Newton Blvd.  
Address 3:  
City: Las Vegas  
State: NV  
Zip: 891111005  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: Solar Energy PEIS Scoping.pdf

Comment Submitted:

**LAS VEGAS**



McCARRAN INTERNATIONAL AIRPORT

## Department of Aviation

**RANDALL H. WALKER**  
DIRECTOR

**ROSEMARY A. VASSILIADIS**  
DEPUTY DIRECTOR

POSTAL BOX 11005  
LAS VEGAS, NEVADA 89111-1005  
(702) 261- 5211  
FAX (702) 597- 9553  
E-MAIL: webmaster2@mccarran.com

April 15, 2011

### ***VIA ELECTRONIC FILING***

Solar Energy PEIS Scoping  
Argonne National Laboratory  
9700 S. Cass Avenue – EVS/900  
Argonne, IL 60439

**RE: Clark County, Nevada Department of Aviation Comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.**

Dear Staff:

Clark County Department of Aviation (CCDOA) previously filed scoping comments in response to the May 29, 2008 Notice of Intent (NOI) for the Programmatic Environmental Impact Statement (PEIS) related to solar energy development on Bureau of Land Management (BLM) administered land in six western states. On September 14, 2009, CCDOA filed comments on Additional Public Scoping for the Programmatic Environmental Impact Statement to Develop and Implement Agency-Specific Programs for Solar Energy Development. CCDOA has reviewed the Draft PEIS and submits the following comments for consideration by the BLM and Department of Energy (DOE) as they finalize the PEIS.

### **AVIATION SAFETY ISSUES**

- CCDOA appreciates BLM and DOE's attention to the potential aviation safety hazards associated with solar energy development in the vicinity of aviation facilities, particularly airports. *See* Draft PEIS at pp. 4-15, 5-18, 5-19. We are encouraged by the inclusion of a Glint and Glare Assessment, Mitigation, and Monitoring Plan as one of the design features to be considered with proposed solar energy projects. Appendix A at A-35, A-37, and A-39. In addition, we support the mitigation measures at Section 5.6.3 ("Potentially Applicable Mitigation Measures") requiring consultation with the FAA and local airports regarding *any* potential impacts on aviation, rather than just height issues. We urge BLM and DOE to continue to be aware of the importance of protecting aviation safety as they proceed with finalizing the PEIS.



**Clark County Board of Commissioners**

Susan Brager, Chair • Steve Sisolak, Vice-Chair

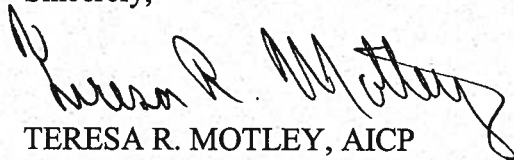
Larry Brown • Tom Collins • Chris Giunchigliani • Mary Beth Scow • Lawrence Weekly

**GENERAL COMMENTS**

- Please clarify the relationship between the guidance issued to BLM offices on February 7, 2011 regarding processing solar and wind energy applications (Solar Guidance), and the proposed Solar Energy Development program in the PEIS. For example, Special Recreation Management Areas (SRMAs) are excluded entirely from solar energy development in the Draft PEIS, but in the Solar Guidance, all special management areas are categorized as having “medium” potential for conflict, rather than requiring rejection of the application altogether. To the extent that the Solar Guidance and the PEIS conflict, please clarify (a) whether the PEIS rules will supersede the Solar Guidance, and (b) whether the PEIS rules will take effect prior to amendment of the relevant Resource Management Plans (RMP).
- Please clarify how BLM field offices should treat applications requesting solar energy development in areas of exclusion if the applications are filed before issuance of a Record of Decision (ROD) for the PEIS and before the relevant RMP is amended to exclude the particular area from solar energy development. We note that the Draft PEIS states that applicants have been notified that any Right of Way (ROW) authorization application filed before issuance of the ROD for the Solar PEIS “could be subject” to the requirements adopted in the ROD. Please provide more guidance regarding this issue.

Thank you for your attention to CCDOA’s concerns. Please contact Mark Silverstein on my staff at (702) 261-5709 or [marksi@mccarran.com](mailto:marksi@mccarran.com) with questions or inquiries.

Sincerely,



TERESA R. MOTLEY, AICP  
Airport Planning Manager

cc: Randall Walker  
Rosemary Vassiliadis  
Mark Silverstein  
Philip Rhinehart  
David Kessler

Thank you for your comment, joe evans.

The comment tracking number that has been assigned to your comment is SolarD11542.

Comment Date: April 14, 2011 13:39:43PM  
Solar Energy Development PEIS  
Comment ID: SolarD11542

First Name: joe  
Middle Initial:  
Last Name: evans  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Bruce Montney.

The comment tracking number that has been assigned to your comment is SolarD11543.

Comment Date: April 14, 2011 13:40:25PM  
Solar Energy Development PEIS  
Comment ID: SolarD11543

First Name: Bruce  
Middle Initial:  
Last Name: Montney  
Organization: Montneyhome  
Address: 232 N Avery  
Address 2:  
Address 3:  
City: Waterford  
State: MI  
Zip: 483282906  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Make it happen

Thank you for your comment, Mary Hubbard.

The comment tracking number that has been assigned to your comment is SolarD11544.

Comment Date: April 14, 2011 13:49:17PM  
Solar Energy Development PEIS  
Comment ID: SolarD11544

First Name: Mary  
Middle Initial:  
Last Name: Hubbard  
Organization:  
Address: 171 Bay Rd., PO Box 713  
Address 2: PO Box 713  
Address 3: 171 Bay Rd., PO Box 713  
City: North Falmouth  
State: MA  
Zip: 02556  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As a nation we can be totally self sufficient in terms of energy by 2020 if we start investing heavily in wind, water (wave, hydroelectric), and solar energy now. Lets do it right and lets do it now.

Mary



Thank you for your comment, Susan Peterson.

The comment tracking number that has been assigned to your comment is SolarD11545.

Comment Date: April 14, 2011 14:01:03PM  
Solar Energy Development PEIS  
Comment ID: SolarD11545

First Name: Susan  
Middle Initial:  
Last Name: Peterson  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, kathleen Cooper.

The comment tracking number that has been assigned to your comment is SolarD11546.

Comment Date: April 14, 2011 14:16:33PM  
Solar Energy Development PEIS  
Comment ID: SolarD11546

First Name: kathleen  
Middle Initial:  
Last Name: Cooper  
Organization:  
Address: po box 150710  
Address 2:  
Address 3:  
City: san Rafael  
State: CA  
Zip: 94915  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar panels on all homes in Calif. and In as many varied places as possible, without jeopardizing our national parks. It's way overdue.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11547.

Comment Date: April 14, 2011 14:23:33PM  
Solar Energy Development PEIS  
Comment ID: SolarD11547

First Name: [Withheld by requestor]  
Middle Initial: [Withheld by requestor]  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

My husband, Howard Snyder, and I are strong supporters of renewable energy and we do support solar development on public lands. However, when such development is proposed for national parks, consideration must be given to the mission and unique ecology of those parks. Please ensure that solar development takes place only in areas where it will do no harm to our beloved parks. Also, please always include the National Park Service in any plans for solar energy development in or near the parks.

Thank you for your comment, Pamela Waterworth.

The comment tracking number that has been assigned to your comment is SolarD11548.

Comment Date: April 14, 2011 14:23:39PM  
Solar Energy Development PEIS  
Comment ID: SolarD11548

First Name: Pamela  
Middle Initial:  
Last Name: Waterworth  
Organization:  
Address: 10001 Old Franklin Ave.  
Address 2:  
Address 3:  
City: Seabrook  
State: MD  
Zip: 20706  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four of the proposed Solar Energy Zones (SEZ) will threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Close proximity of a proposed solar project (within a 15 Mi. radius) to a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time to consider my comments.

Thank you for your comment, Anne Johnson.

The comment tracking number that has been assigned to your comment is SolarD11549.

Comment Date: April 14, 2011 15:00:19PM  
Solar Energy Development PEIS  
Comment ID: SolarD11549

First Name: Anne  
Middle Initial: W  
Last Name: Johnson  
Organization:  
Address: 989 Deerwander Rd.  
Address 2:  
Address 3:  
City: Hollis  
State: ME  
Zip: 040423611  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am a concerned citizen who is in favor of utilizing solar and wind power to break our dependence on fossil fuels. However, there should be careful research on our National Parks lands to determine what impact these advances would have on wildlife. Please consider this before endangering our wildlife.

Thank you for your comment, james koenig.

The comment tracking number that has been assigned to your comment is SolarD11550.

Comment Date: April 14, 2011 15:11:18PM  
Solar Energy Development PEIS  
Comment ID: SolarD11550

First Name: james  
Middle Initial: e  
Last Name: koenig  
Organization:  
Address: 1584 whitaker street  
Address 2:  
Address 3:  
City: white bear lake  
State: MN  
Zip: 551103768  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar Energy research has found ways over the years to make solar energy more efficient for producing electricity. The energy future is in solar energy. It is clean energy, energy that will not pollute the environment as coal does. Nuclear energy will help too with better safeguards put in place.

Thank you for your comment, Carlene Meeker.

The comment tracking number that has been assigned to your comment is SolarD11551.

Comment Date: April 14, 2011 15:12:49PM  
Solar Energy Development PEIS  
Comment ID: SolarD11551

First Name: Carlene  
Middle Initial: J  
Last Name: Meeker  
Organization: NPCA  
Address: 2128 23rd Avenue  
Address 2:  
Address 3:  
City: Astoria  
State: NY  
Zip: 111053420  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Develop Renewable Energy

NPCA ISSUES:

\*Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

\*There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- (1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- (2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- (3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- (4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

\*Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources.

It is vital that the Bureau of Land Management include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I'm a member of the National Parks Conservation Association and stand with them in support of responsible solar development, the protection of our national parks system, and all wildlife. Once an area has been impacted by our need for energy, all species suffer, including ourselves.

Stewart Udall said, "Plans to protect land and water, wilderness and wildlife, are in fact plans to protect man."

Our National Parks are our national treasures and must be protected at all costs in perpetuity.

Respectfully,

Ms. Carlene Meeker  
April 14, 2011  
New York NY  
cmeeker@hotmail.com

Thank you for your comment, Patrick Donnelly-Shores.

The comment tracking number that has been assigned to your comment is SolarD11552.

Comment Date: April 14, 2011 15:13:46PM  
Solar Energy Development PEIS  
Comment ID: SolarD11552

First Name: Patrick  
Middle Initial:  
Last Name: Donnelly-Shores  
Organization:  
Address: PO Box 457  
Address 2:  
Address 3:  
City: Berkeley  
State: CA  
Zip: 94701  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: Patrick Donnelly-Shores ESPM 60 Solar Energy Development on Public Lands.doc

Comment Submitted:

April 14, 2011

Solar Energy PEIS  
Argonne National Laboratory  
9700 S. Cass Ave.  
EVS/240  
Argonne, IL 60439

Re: Comments on the Draft Solar Programmatic Environmental Impact Statement

My name is Patrick Donnelly-Shores. I am a former resident of the desert, former BLM and SCA employee who has worked across the California Desert District, and above all, a concerned citizen. I am also a student at UC Berkeley, and have written a paper on current policy-making regarding solar energy development on Public Lands in the California desert. I have attached the paper as my comment, and will summarize my recommendations here:

- We need a more thorough, comprehensive assessment of our national energy needs, focused on conservation and efficiency, and evaluating the need for additional production. Additional production should be centered around distributed generation. Only after this process has concluded that solar energy development on Public Lands is a necessity should any further actions toward that end commence.
- The PEIS needs to be re-configured, with a broader “purpose and need” and a wider range of alternatives. There should be a clear “no action” alternative, in which no development of solar on Public Lands occurs.
- BLM does not currently have a mandate to develop renewable energy on Public Land: references to the Energy Policy Act of 2005 are erroneous when referred to as such.
- There are unmitigatable impacts to the desert concomitant with solar energy projects. The impacts are so significant that it constitutes an exclusive use of Public Land.
- The SEZPA is the alternative that BLM should adopt: it concentrates impact to discrete zones, while sparing most of the desert from this type of industrialization.
- The Restoration Design Energy Project being developed by Arizona BLM is a model for how this type of development should happen on Public Land: on previously degraded lands.
- Any evaluations of the efficiency of developing solar energy on Public Land should take into account federal subsidies, pricing for environmental degradation, and other externalities.
- The Iron Mountain and Pisgah SEZs are clearly inappropriate for solar energy development, and should be tossed out. The Riverside East SEZ should be reconfigured so that development occurs only in the I-10 corridor.

Thank you for your consideration,

-Patrick Donnelly Shores  
Berkeley, CA



Solar Energy Development on Public Lands:  
Policy-Making Processes in California's New Gold Rush

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## Introduction

There has been an increasing clamor for the development of large-scale solar energy projects in recent years, as a part of a larger growing national awareness of climate change and the environmental effects of our energy production and consumption. A widespread consensus has emerged, across much of the scientific community and amongst much of the public, that climate change is a pressing issue to humanity, and that our current energy policies are to blame for the problems we face (Weart, 2010). Easing our reliance on fossil fuels, while increasing the use of energy from renewable sources, has been made a top national priority (Exec. Order 13514).

Beginning in the middle part of the 2000's, the Bureau of Land Management (BLM), which manages 15.2 million acres of federal land in California, began receiving applications to develop solar energy facilities on Public Land<sup>1</sup> in the California desert. Within five years, this had turned into hundreds of applications, covering more than one million acres of land. BLM initially responded by treating the projects individually, and attempted to speed projects through a "fast-track" permitting process. More recently, BLM has developed a Programmatic Environmental Impacts Statement (PEIS) for solar energy, which seeks to address environmental impacts more systematically. Several lawsuits have been filed against the fast-track projects, and the PEIS is still in draft form. As a result, the future of solar energy projects on Public Land is unclear; not a single facility has yet made it through construction.

The purpose of this paper is to survey the origins and implementation of current policy; to analyze the policy-making process; and to critique and provide recommendations for future policy-making. The California BLM, saddled with a vague mandate and under strong political pressure, has formulated its policies for solar energy in a haphazard way that has inadequately addressed potential environmental degradation. Policies should be reformulated into a more comprehensive, national set of plans to deal with the issue of global warming; and if those plans require development of solar energy on Public Land, projects should be evaluated and

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<sup>1</sup> Public Land is the proper name, given in the Federal Land Policy & Management Act of 1976 (FLPMA), for lands formerly known as the Public Domain. Public Land is all federal lands not withdrawn as National Forests, National Wildlife Refuges, or National Parks, or otherwise managed by other federal agencies. Public Lands are managed by BLM. This nomenclature is in contrast to the term public land, which refers to all federally managed land, regardless of agency or department.

permitted in such a way that minimizing environmental degradation of Public Lands is the chief priority.

## **Part 1: Background**

### **A. Administrative Framework**

There is a long paper trail of statutes and executive orders that have given rise to BLM's current policy regarding the leasing of Public Land for solar energy development. On the federal level, it began with Executive Order 13212, signed by President George W. Bush in 2001. While mostly directed at expanding and fast-tracking<sup>2</sup> oil and gas production on public lands (Maffly, 2003), it has had the indirect effect of providing one of the foundations for BLM's mandate to develop solar energy. The order instructed federal agencies to take whatever actions possible to expedite the permitting and construction of projects that would increase energy production, "...while maintaining safety, public health, and environmental protections," (E.O. 13212, 2001). This has been used as the policy-setting justification for fast-tracking of solar energy applications, (Bureau of Land Management [BLM], 2010a), which will be examined below.

A few years later, in the Energy Policy Act of 2005, Congress was more explicit about its intentions for solar development on Public Lands. Again, the law was mostly directed toward domestic oil and gas production, but had a smaller component regarding renewable energy. The Act expressed the "sense of Congress" that the Secretary of the Interior should set the goal of having approved 10,000 MW worth of projects on Public Land within a 10 year period (Energy Policy Act, 2005). This vague wording should be noted, as it has interesting policy implications. To date, BLM has approved about half of the targeted amount, with about two-thirds of that being solar and the other third being geothermal (BLM, 2010b, §1.1.3).

Up until 2009, much of the Public Lands solar energy policy was almost incidental, tacked on to broader policies promoting oil & gas extraction, which was a top priority for the Bush Administration. The arrival of the Obama Administration marked a shift in energy policy on Public Land. Spearheading the move was the new Secretary of the Interior, Ken Salazar, a

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<sup>2</sup> Fast-tracking, which will be referred to throughout this paper, is not a formal process, but rather implies a reallocation of resources to expedite the processing of environmental documents such as EIS's. So, for instance, reducing agencies' work load for non-energy items, so that more time can be devoted in the short-term to permitting energy projects.

Westerner who put the development of renewable energy on Public Land at the top of his priority list (Lewis-Mernit, 2011). He ushered this new era of federal lands management in with Secretarial Order 3285, which officially made renewable energy development “one of the Department [of Interior]’s highest priorities,” (US Dept. of Interior (DOI), 2009, §4) instructing agencies to fast-track new applications and remove impediments to permitting, siting, and development of renewable energy projects.

Another important background element to the rush for development is the creation of a market for renewable energy, chiefly by the emergence of California’s Renewable Portfolio Standard (RPS). The Renewable Portfolio Standard mandates that by 2020, California get 33% of its energy from non-hydropower renewable energy sources. A number of bills in support of this passed by the California legislature have developed market mechanisms to implement this large change in energy sourcing (BLM, 2010b). That the lucrative California energy market has been mandated to purchase renewable energy is one of the chief factors driving the flurry of applications in recent years.

### **B. Framing the Debate**

There are two key points of view that people tend to have about this issue, with which they frame the debate. On one side is a view that widespread development of utility-scale solar energy on Public Land is a necessity, and that it is urgent to commence this development with haste. On the other side is a view that if and when the country decides to develop utility-scale solar on Public Land, that it must be done in a controlled and carefully evaluated fashion, to ensure the fewest impacts possible to the land and resources.

Those who are in favor of rapid development of solar energy on Public Land put forth an argument that can be thought of in two components: first, that there is a necessity to develop alternative energy, and second, that the quickest and most efficient way to do this is by developing it on Public Land in the desert Southwest.

That there is a global crisis regarding climate change, and that it is related to our production and consumption of energy is a widely held view, which was mentioned above. Another factor that is of import in establishing the need for alternative energy is that of the dwindling availability of fossil fuels, which are our primary source of energy, comprising 74% of total consumption (U.S. Dept. of Energy, 2010). As these supplies dwindle, new energy sources

will need to be found. There are also energy security concerns, due to global geopolitical factors, that play into this. The US imports one-third of all the energy it consumes, and having such a reliance on imported energy is seen as a less secure situation than producing most of it domestically (Öhlz, Sims, & Kirchner, 2007). All of these factors contribute to the framing of development of solar energy as “necessary”.

Once that is established, proponents of utility-scale solar energy also have arguments for why it needs to be done on Public Land. First amongst these is that the desert Southwest is amongst the best places in the world for the development of solar energy, due to its extreme solar insolation (the amount of energy received per square meter of ground), and due to its proximity to major population centers (Eddy, 2011). They also cite widespread public support for development of utility-scale solar on Public Land, stating that it is the public’s will to develop these resources (Resch, 2010).

The Bureau of Land Management, which manages 253 million acres worth of the American West, has long played a role in energy production. Particularly since the oil shocks of the 1970s sent the nation on a search for more domestic production, Public Lands have provided the vast majority of new oil and gas wells in America (Davis, 1997). This fact is implicit in the story told by this frame: we have looked to our Public Lands to provide fossil fuels for our energy security, and it is only logical to continue looking there for renewable energy development. It has been noted that the federal government typically has provided other extractive users, such as cattle grazers (Collins & Constantino, 1990) and timber companies (Athey & Levin, 2001), with below-market lease rates. This typically is not the explicit intention of the government, but it nonetheless provides an incentive to pursue further extractive uses of Public Lands in order to enhance profits.

The framing of those who are in favor of a slow, more measured approach to developing solar energy on Public Land (which we can refer to as the “preservationist” frame) is more difficult to decisively state, in part because it has been so amorphous over time. Currently, there are very few prominent voices advocating for a complete ban on development of solar energy on Public Land. Rather, they argue that if and when Americans do decide to commence such development, that it needs to be done within a larger framework of comprehensive

energy reform (Cunningham, 2010). This reform would involve addressing issues such as mandatory energy conservation measures and emphasizing distributed energy generation.<sup>3</sup>

In evaluating this framing, it is worth noting its history. Early in the solar energy development process, there emerged a schism between local activists and national environmental groups. Upon learning of the rush of applications to develop solar energy projects in the desert, local environmental groups, primarily concerned with preserving desert landscapes, voiced objections to the industrialization of the desert (Taylor, 2008). Some national environmental groups, such as the Center for Biological Diversity, expressed grave concern over threats to biodiversity and biological linkages within the region (Anderson, 2008). However, most prominent national environmental groups, such as the Sierra Club, had long been pushing an agenda of reducing reliance of fossil fuels and increasing development of alternative energy (Taylor, 2008). While local groups saw the proposal of a million acres of solar panels as an ecological disaster in the making, most national groups saw it as a win. At a 2007 meeting of the California/Nevada Desert Committee of the Sierra Club, a representative of the national organization said that local concerns about siting were less important than getting projects implemented and developed quickly (Zichella, 2007).

While some of the local opposition can be chalked up to pure NIMBY-ism (“Not In My Back-Yard”-ism), environmental groups in the desert have had a long history of fighting BLM actions which prioritize uses of Public Land other than conservation. And with upwards of 15% of the non-Wilderness portions of the CDCA being proposed to be covered with mirrors, locals saw a dire and urgent threat (Taylor, 2008). As time went on, locals and nationals seemed to consolidate their position. Now, environmental groups use phrases like “we strongly support the deployment of appropriately sited renewable energy... development,” (Zichella, 2011). Most of their opposition to current practices comes from a feeling that current proposals are inappropriately sited, or are being rushed through permitting without proper planning.

## **Part 2: Current Policy-Making**

There are a number of ways that policy-makers are current shaping the future of solar energy development on Public Land. BLM has implemented fast-track permitting on projects; legislation has been introduced; lawsuits have been filed in response to permitted projects; the

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<sup>3</sup> Distributed generation is the opposite of utility-scale power generation. Distributed generation is best exemplified by rooftop solar, where individual households generate their own power.

state of California has initiated a planning study; and finally, and perhaps most importantly, BLM has prepared a Programmatic Environmental Impact Statement.

#### **A. The Early Years: Fast-Track**

Beginning in the mid 2000's, shortly after the passage of the Energy Policy Act of 2005, BLM began receiving applications for solar energy farms. Two years later, there were over 30 of these applications, totaling 350,000 acres across the California Desert District (California/Nevada Desert Committee of the Sierra Club [CNDC], 2007). By 2010, there were over 350 applications (Carswell, 2010), totaling well over a million acres. This rush of applications has been likened to the "wild-wild West of solar" (Carswell & Lewis, 2010) and "the new California gold rush" (Clarke, 2010). BLM's initial response was to deal with the solar applications on a project-specific basis, preparing environmental review documents and amending land-use plans as necessary. This is similar to the way that oil and gas extraction projects have been permitted in the past.

As a response to the Energy Policy Act of 2005 and to Secretarial Order 3285, BLM implemented "fast-tracking" of applications whose applicants met certain criteria. Chief amongst these criteria was that the application and EIS process was far enough along that the projects could be approved by December 2010, which would make them eligible for American Recovery and Reinvestment Act (ARRA) money (BLM, 2010c). Six of these projects in California have subsequently been approved under the fast-track permitting process, and all before the ARRA deadline.

Given the speed with which BLM was moving forward, and the heated politics that has always surrounded Public Land policy in the California desert, it's unsurprising that a number of different actors have intervened to stop or change the way that BLM was permitting projects.

Senator Diane Feinstein, who was instrumental in the passage of the original California Desert Protection Act of 1994,<sup>4</sup> introduced the California Desert Protection Act of 2010 in January of that year, which would have declared large swaths of the southeast Mojave Desert (much of which had been proposed for solar development) off-limits to extractive uses, by designating them as a new National Monument (S. 2921, 2010). While Senator Feinstein

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<sup>4</sup> The California Desert Protection Act of 1994 (CDPA) fundamentally altered the management of Public Land in the California desert, designating 3.6 million acres of BLM wilderness, as well as transferring millions of acres of Public Land to the National Park Service. See Wheat, 1999.

professed a desire to see solar development on Public Land in the desert, she was opposed to the current way that BLM was permitting these projects. In particular, there was an issue of donated land. In 1999, nearly half a million acres of land across the eastern Mojave were purchased from private ownership, and donated to BLM and the National Park Service, in order to improve and consolidate management in the area (Sokoloff, 1999). Feinstein joined many environmentalists who opposed using the lands, which were donated for conservation purposes, for solar and wind energy development. Feinstein's bill did not ever make it to a vote on the floor of the Senate, and was reintroduced as the California Desert Protection Act of 2011, set for hearings this summer. While it is unclear what the policy ramifications of her bill would be, her bill showed BLM that they were under the national spotlight to get it right when it came to permitting solar energy projects.

Three major lawsuits have also been filed, which will have far-reaching implications for the future of these fast-track solar developments. Two lawsuits have been filed by Native American groups, the Quechan Tribe & the La Cuna de Aztlan Sacred Protection Circle Advisory Committee ("La Cuna"), and the other by a small environmental law group called the Western Watersheds Project. Taken together, these lawsuits target all six of the approved fast-track developments. While each lawsuit has a specific frame in which it presents its claims, in general there are some common themes, specifically that BLM violated NEPA in numerous ways. They claim that BLM failed to adequately assess impacts associated with the projects; interestingly, they also claim it is a violation of NEPA that a Programmatic Environmental Impact Statement was not prepared (Western Watersheds Project, 2011). One has been prepared subsequently, which we will examine below, however none of the six fast-track projects are contained within the areas evaluated in the PEIS, so it's unclear that this would meet the perceived requirement under NEPA that is being put forth in these lawsuits.

The Native American lawsuits also maintain that BLM violated the National Historic Preservation Act and the Native American Graves Protection & Repatriation Act, by inadequately consulting with Native American tribes regarding the siting of the projects, and potential resource conflicts. There are significant grave sites within the project areas of some of the developments; there are also features known as geoglyphs or intaglios, which are huge (60-100') figures, made many thousands of years ago by Native Americans, carved into the



ground by turning over dark stones so that their lighter bottom sides are visible. While the figures are best seen from the air, they are extremely dramatic, and form part of the spiritual basis for the religion of the Colorado River tribes (Clarke, 2011). Their suits claim that BLM did not take this and other Native American concerns into account when evaluating the fast-track EIS's, and that they are unlawful as a result.

### **B. The Programmatic Environmental Impact Statement**

To address the rising furor about the seemingly haphazard, or at the very least decentralized, way it was going about permitting solar energy projects, BLM announced in late 2008 that it would develop a Programmatic Environmental Impact Statement for solar energy development in the Southwest. For the first year, it languished with lack of staff and budgetary resources. But after the Obama administration devoted budget dollars to the effort, as a part of its new focus on renewable energy development, the work on the PEIS took off (Carswell & Lewis, 2010). The result of their efforts was released in draft form in December 2010. At over 11,000 pages, the document is epic in scope, covering BLM lands over a six state area (California, Nevada, Utah, Colorado, Arizona and New Mexico), and anticipating impacts over a 20 year window called a "Reasonably Foreseeable Development Scenario" (RFDS).<sup>5</sup>

The bulk of the document is taken up with analysis of Solar Energy Zones (SEZs), which are areas that BLM has identified as having few impediments to utility-scale solar development, and where impacts of solar energy could be concentrated (BLM, 2010b, §2.2.2.2). BLM put forth 24 of these SEZs, spread over the 6 state area, and totaling just under 700,000 acres. Some of the requirements of the SEZs include a size of at least 2500 acres, a slope of less than 2%, proximity to existing transmission corridors, and a lack of impacts to special status lands such as Fish & Wildlife Service (FWS) Critical Habitat for sensitive species, or Areas of Critical Environmental Concern (ACECs).

As it is required to by NEPA, BLM addressed a variety of potential impacts that development of solar energy on Public Lands could have. The impacts were addressed first in a systematic, general way (pertaining to all BLM lands available for development), and then

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<sup>5</sup> A detailed analysis of the RFDS is outside of the scope of this paper. However, BLM thought it important enough to include a 60 page appendix to the PEIS, detailing the assumptions about the future of the energy market that went into their development of the RFDS. The key thing to remember is that the RFDS, which BLM employs to determine how much solar energy development to plan for in the PEIS, is entirely speculative.

specifically examining potential impact in the SEZs. Both direct impacts, such as habitat fragmentation, and indirect impacts, such as changes in sediment loads in surface water from soil erosion during construction, were considered. For each impact, potential mitigation measures were offered, as well as evaluations of those measures would fully mitigate the impacts. The list of impacts is quite comprehensive, so only a few key impacts will be highlighted here.

Impacts to specially designated lands, such as Wilderness and ACECs, were considered. In general, since these are off-limits to solar energy development, they were found to have negligible direct impacts. Indirect impacts, however, were significant to areas adjacent to SEZs. Iron Mountain and Riverside East SEZs are both directly adjacent to numerous Wilderness Areas, which would experience significant degradation in their VR (Visual Resource). Additionally, BLM noted that noise and night-sky impacts would affect these Wilderness Areas. The Wilderness Act of 1964 describes Wilderness as a place where, “the area generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable,” (Wilderness Act of 1964). This is known as the “naturalness” clause of the Wilderness Act. BLM states that it is likely that solar development adjacent to designated Wilderness would adversely affect the naturalness of those Wildernesses in a substantial way.<sup>6</sup>

Impacts to water resources were considered. While the layperson may not assume that much water is consumed in a solar power plant, the PEIS reveals that this is not the case. The amount of water used can vary wildly based on the type of solar technology used. An acre-foot of water (literally defined as enough water to cover an acre of land, one foot deep) is about 326,000 gallons. While full build-out of the Iron Mountain SEZ, using photovoltaic technology, would only require 484 acre-feet of water per year, full build-out of the SEZ using wet-cooled parabolic trough technology would utilize between 85,000 and 256,000 acre-feet of water per year (BLM, 2010b, §9.2.9.2). This is an astounding amount of water- the larger amount, if utilized, would increase the total groundwater withdrawal in all of San Bernardino County by

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<sup>6</sup> While generally, the Wilderness Act prohibits the federal government from this type of adverse impact to wilderness character after a place has been designated Wilderness, §103(d) of the California Desert Protection Act (CDPA), which designated these Wildernesses, provides an exception. It states, “the fact that nonwilderness activities or uses can be seen or heard from areas within a Wilderness Area shall not, of itself, preclude such activities or uses up to the boundary of the Wilderness Area,” (CDPA, 1994).

33%. This is of particular importance because the only source of water for these developments is fossil aquifers, left over from when the desert was a wetter place many thousands of years ago. The PEIS notes that drawdown of aquifers by solar developments would be “likely”, and that there would also be the potential for land subsidence (*Ibid.*, §9.2.9.2.4).

Impacts to ecology of the desert were considered. This includes impacts to vegetative communities, wildlife, aquatic biota and habitats, and to special status species (referring to threatened, endangered or sensitive species). While the analysis is exhaustive, taking up several hundred pages in total, its results can be summarized rather simply. The construction of utility scale solar energy projects in the desert will result in, “Direct mortality of individuals, habitat loss, behavioral disturbance, reduced productivity and diversity, reduced carrying capacity, habitat fragmentation...” which would affect, “all plants and animals,” and would be, “relatively difficult [to mitigate],” resulting in significant residual impacts after the project has been decommissioned (BLM, 2010b, §§5.10.1.1, 5.10.4.1). Ultimately, due to the intensive use of land required for these developments, the PEIS leaves little doubt that within the project areas, most biological processes would cease to function.

NEPA implementation guidelines require the development of action alternatives to be considered in an EIS (Council on Environmental Quality (CEQ), 1978, §1502.14(a)). These alternatives should present a spectrum of possible actions, including a “no action” alternative, to provide the public a clear rationale for their choice. BLM proffered a No Action Alternative, and two action alternatives in the PEIS: one called the Solar Energy Development Program Alternative (SEDPA), and the other called the SEZ Program Alternative (SEZPA) (BLM, 2010b, §2.1). The SEDPA would allow development of solar energy on 22 million acres worth of BLM land, which is approximately 18% of the lands managed by BLM across the six states. It would systematize the permitting, design, and mitigation process for solar energy developments, while prioritizing development within the SEZs. The second alternative, the SEZPA, would restrict all solar development to the SEZs analyzed in the PEIS, excluding all other BLM lands from consideration, while utilizing the same basic systematization of permitting and development.

It is worth noting that, because permitting of solar projects was already ongoing, and because the PEIS was intended to evaluate the SEZs and a streamlined permitting and

mitigation process, the No Action Alternative is not an alternative intended to prohibit development of solar energy projects on Public Land. Rather, it would simply keep in place existing policies regarding the permitting and development of those projects (BLM, 2010b, §2.2.1). This is important because the PEIS contained no specific action alternatives in which all development of solar energy on Public Land ceased. Typically, this is an option which is evaluated in NEPA documents: that of not doing an action at all.<sup>7</sup>

NEPA regulations also mandate that agencies select, from the alternatives presented, a preferred alternative (CEQ, 1978, §1502.14(e)). BLM and DOE selected the SEDPA as their preferred alternative, which would open up 22 million acres of Public Land to leasing for solar energy projects. Their stated reasons for selecting this alternative were that it would provide the fastest pace of energy development at the lowest cost to public and private entities, while maximizing flexibility to the developers (BLM, 2010b, §6.4). Interestingly, attempting to minimize environmental impacts from development was not mentioned as a justification for selecting the SEDPA as the preferred alternative. It is noted that the SEZPA, due to the smaller available amount of land for development, would concentrate and intensify impacts. BLM remains vague on whether it is preferable to concentrate impacts in a smaller area (700,000 acres), or spread them out over 22 million acres.

NEPA has been described as “democratizing” the policy-making process (Caldwell, 1998: *xvii*), and as such, a significant part of the NEPA process is public comment. While public comment on a NEPA document may not have any bearing on the final decision made by an agency, it can influence an agency to heavily revise or rewrite portions of a document or it can provide a basis for future lawsuits (Kubasek, 2000). BLM and DOE, in keeping with their theme of as comprehensive of a review of solar policy as possible, sought large-scale public involvement in the PEIS. While the typical comment period for an EIS is 90 days, they allowed for an extended written comment period (owing to the large size of the PEIS), as well as holding public meetings. The public meetings are a chance for citizens to comment on the proposal, and have their comments entered into the public record. BLM and DOE held fourteen public meetings, across all six affected states and in Washington, DC.

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<sup>7</sup> The CEQ’s NEPA Regulations are vague as to the exact definition of “no action”.

One public meeting was held in Sacramento on February 22, 2011. Approximately fifty people attended, including representatives from the Washington, DC office of BLM and DOE, and fourteen people offered comments. Of those commenters, only two spoke out in favor of BLM's preferred alternative, the SEDPA. The rest represented a variety of views, from outright opposition to all solar development in the desert, to strong support of the SEZPA.<sup>8</sup>

Both of those who spoke in support of the SEDPA were representatives of the solar industry, one from BrightSource Solar, which is probably the most prominent company developing solar projects in the desert, and the other from a trade group, the Large-scale Solar Association (LSA). They spoke of the rising need to develop renewable energy sources, and argued that adopting a zone-only alternative, like the SEZPA, would greatly restrict solar development possibilities (Eddy, 2011). Some middle ground was offered on this point, however, stating that if BLM could come up with processes by which new SEZs could be designated, perhaps a zone-only alternative would be viable to LSA's interests. Interestingly, they framed their position as the "environmental" one, referring to themselves as environmentalists. This contrasts greatly from how their position was framed by other speakers.

While the parties who commented against the preferred alternative espoused a variety of views, some common themes emerged. Most argued for the SEZPA, saying that the preferred alternative does too little to protect desert ecosystems (Zichella, 2011). Most felt that the Pisgah and Iron Mountain SEZs were inappropriate, and should be scrapped altogether. Beyond that opposition, many speakers, in particular those who represented environmental groups such as the Natural Resources Defense Council, Defenders of Wildlife, and the California Native Plant Society, expressed general support for developing solar energy within the SEZs, as long as those SEZs were sited and evaluated properly (Delfino, 2011). In a point of common ground with the pro-development advocates, many commenters expressed a desire for BLM to develop mechanisms to designate new SEZs. Nearly every commenter also questioned why no SEZs were proposed in the West Mojave, an area that is flat and somewhat less biologically rich than some of the areas where SEZs were proposed.

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<sup>8</sup> A transcript of this paper's author's comments at the meeting can be found in Appendix A. Additionally, this paper itself is being submitted as a written comment on the PEIS. The cover letter to BLM, summarizing recommendations, can be found in Appendix B.

One person's comments stand out in particular, as he represented a novel viewpoint at the meeting. Michael Boyd, president of Californians for Renewable Energy (CARE), spoke extensively, representing the interests of the La Cuna group, which filed one of the lawsuits mentioned earlier. Mr. Boyd spoke extensively about racism against Native Americans inherent in the process of developing the PEIS (2011). He stated that the areas under consideration for development are the most sacred place in the world to the Colorado River tribes, and that racism was the motivating force behind siting projects there. He also took exception with the No Action Alternative, stating that it was a violation of NEPA, because it was not a "no action" alternative, but rather a "no regulation" alternative. He was one of the few voices at the meeting advocating for the restriction of all development of solar energy on Public Land.

### **C. Desert Renewable Energy Conservation Plan**

While the federal government has jurisdiction and authority over federal lands within the State of California, the state itself has jurisdiction over some of the actions on those lands, as well. The California Energy Commission (CEC) has the exclusive authority to license energy facilities that produce more than 50 megawatts of power in the state of California, regardless of who owns the land those plants are built on (Renewable Energy Action Team [REAT], 2010a). In order to coordinate CEC policy, "[providing] for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects," (ibid.: 2) the state has begun preparing the Desert Renewable Energy Conservation Plan (DRECP). The DRECP was initiated under the authority of Executive Order S-14-08, signed by Governor Schwarzenegger, which was instrumental in establishing the RPS standards previously discussed. The order also set up a Renewable Energy Action Team, comprised of the CEC, California Department of Fish & Game, BLM, and US Fish & Wildlife Service, which would prepare the DRECP.

The DRECP differs from the PEIS because it looks across the entire spectrum of lands in the California desert, not just Public Land. There are vast swaths of the desert which are privately owned but uninhabited, mostly holdovers from Depression-era homesteading schemes. These lands are potentially just as valuable for their solar energy assets as Public Land would be, and may have fewer conflicts with other resources. Another way that the DRECP differs from the PEIS is that its primary goal is to identify those lands where ecological

conflicts will be minimized, and to identify processes for permitting the incidental “take” of special status species associated with renewable energy development.<sup>9</sup> The DRECP is still in development, and a Draft EIR isn’t expected until 2012.

### **Part 3: Analysis, Critique, & Recommendations**

#### **A. Policy-making Models**

The garbage can model of policy-making, also known as the multiple streams model, is the best interpretation of the early days of our story. This model, developed by J.W. Kingdon (1984), states that there are three streams which go into a policy decision. The first stream, the problem stream, is the process by which issues come to the attention of policy-makers and come to be defined as problems in need of a solution. The political stream is related to the problem stream, but rather than focusing on defining a problem, it deals with the relative willingness of policy-makers and the public to implement solutions to problems. Finally, the policy stream is the set of mechanisms by which a variety of possible solutions to problems are put forth, evaluated, and gradually refined into those which are being seriously considered.

In the middle part of the 00’s, global warming emerged into the consciousness of the American public at large. In 2005, the Kyoto Treaty went into effect, over the objections or abstentions of the United States, Somalia, Afghanistan, and Western Sahara, ushering in a new era of international climate change policy, where reducing carbon emissions was the *de facto* global policy (Weart, 2010). Hurricane Katrina’s devastating effects were, at least in the public mind, largely attributable to global warming (Hertsgaard, 2007). Al Gore’s 2006 film, “An Inconvenient Truth”, won an Oscar and brought the realities of climate change into American movie theaters and living rooms. These are what Kingdon refers to as focusing events, which serve to bring problems to the attention of policy-makers and the public (1984). This is only a representative sampling of the focusing events which were occurring around this time, thrusting global warming into the collective consciousness. They serve to illustrate that by the middle part of the decade, when the applications to develop solar energy projects began pouring in to BLM, global warming was clearly on the minds of Americans: it had come to the fore of the problem stream.

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<sup>9</sup> “Take” is defined under the Endangered Species Act of 1973 as the harm or killing of a species, and has been broadly interpreted to include significant habitat modification which leads to harm or killing (US Fish & Wildlife Service, 2005).

It at first appears paradoxical that initiatives and legislation promoting renewable energy rose to prominence under the Bush administration, which was very clearly in favor of fossil fuel development. However this hides some of the nuance captured within the political stream, which involves the public mood, interest groups, and politicians themselves, who can often be counted on the act in their own self-interest (Kingdon, 1984). Coupled with the rise, in the mid 00's, of focusing events surrounding global warming was a change in public mood on the issue. Polling numbers of people who cited global warming as an urgent concern surged in 2005-2006 (Weart, 2010). Change was afoot in Washington, too, as there was a significant backlash to President Bush's stern opposition to any action on global warming (including not participating in the Kyoto Protocol). The Intergovernmental Panel on Climate Change (IPCC) released reports detailing the urgent need to address the issue. All of these political realities gave policy-makers, no matter what ideological stance they took, the cover to begin looking for solutions to climate change.

The processes by which Public Lands came to be seen as a viable component of "solving" the global warming problem have already been outlined above, and these processes can be thought of as the policy stream. An important component of Kingdon's theory is that within the policy stream, policies are "floating about" (1984) in search of a problem to fix, rather than the other way around. This concept is clearly illustrated in this instance: BLM is an agency that had been through tremendous change and upheaval, particularly in the latter part of the 20<sup>th</sup> century. It struggled to implement environmental goals, even when mandated to do so by legislation such as FLPMA (Skillen, 2009). Desperately wanting to appear "green" and concerned with the environment, rather than merely living up to the old adage of the "Bureau of Livestock & Mining", BLM latched onto solar energy as a way to green its image while continuing to provide energy services to the nation.

The final component of Kingdon's model is when all three policy streams converge, and a policy window opens up (1984). This is when an opportunity presents itself for the advocates of a proposal to push their agenda, and use it to influence policy-making. This is clearly illustrated in the events surrounding the fast-track permitting of the initial rush of solar energy applications. Policy entrepreneurs, as Kingdon calls them, are those actors who are pursuing a policy and who utilize policy windows to get that policy enacted. We can see that a number of



actors existed, all of whom were pushing solar energy development on Public Land: solar energy companies, mainstream environmental groups, and politicians all saw the development of solar energy on Public Land as a winning situation for them. The industry stood to make lots of money; the mainstream environmental groups could boast of concrete accomplishments, influencing policy for the better on global warming; and the politicians could highlight their green credentials at election time. Fast-tracking the process would accelerate all of these outcomes, and the existence of ARRA money for the projects was the catalyzing event that threw open the policy window. None of these actors anticipated that local opposition, coupled with the threat of numerous lawsuits, would end up derailing this policy option and moving us toward the PEIS.

Emerging from this chaotic beginning has been an increasing trend toward an institutionalist model of policy-making. In this model of policy-making, institutions are governed by rules such as statutes and administrative procedures, and policy-making is simply a natural response to problems, utilizing the framework of these rules (Cioclea, 2010). BLM, in developing the PEIS, has decided that it (along with DOE) will be the dominant player in determining policy regarding siting of renewable energy on Public Land. While interests such as environmental groups and industry groups have given input, in the form of scoping comments and comments on the Draft PEIS, they are no longer playing central roles in the determination of policy. Rather the BLM and DOE, both parts of the executive branch, have exerted full control over the situation. They, along with colleagues at the Argonne National Laboratory in Chicago, have written the PEIS. They will decide which program alternative to adopt, and they will author and implement the final decision. They are doing this through the legislative framework of NEPA, FLPMA, and the Energy Policy Act, and through their bureaucratic tradition, which is a key element of institutionalism (*ibid.*).

It is interesting to note, in viewing the current policy-making trends through the lens of institutionalism, that the Executive Branch has been the dominant actor in this drama from the start. While there has been a legislative origin to policy, in the form of the Energy Policy Act, and while there has been an attempt to influence current policy-making, in the form of Feinstein's new bill, the legislature has yet to directly intervene, as Feinstein's bill appears to be a relatively low priority for Congress, and is tied up in committee. Meanwhile, the judiciary has

yet to play a significant role, though that could change dramatically as the first lawsuits begin to work their way through the system. BLM has been the main policy maker, utilizing its delegated authority, from various statutes, and bureaucratic autonomy to make policy. These are the “wellsprings of bureaucratic power” (Rosenbaum, 2007: 82), through which BLM has become the dominant player in this arena of public policy.

### **B. BLM’s “Mandate” & the PEIS**

There is a significant question, however, as to the legal basis from which BLM has derived this authority. In the Draft PEIS and the various EIS’s prepared for the fast-track solar sites, BLM relies on the Energy Policy of 2005 and Secretarial Order 3285 as justifications for its “purpose and need” to conduct the environmental reviews (BLM, 2010b, §1.1). The purpose and need section of a NEPA document is amongst its most important sections, as it explains the agency’s justification for considering a proposed action, and is then used to develop reasonable program alternatives which will be evaluated on how they meet the purpose and need (Czarnecki, 2003). The specific invocations of the Energy Policy Act of 2005 and Secretarial Order 3285 have been examined above, in the same cursory fashion as BLM references them.

However, when one reads the actual text of the documents, it becomes clear that there has been some disingenuousness on the part of BLM. Section 211 of the Energy Policy Act of 2005 states that, “It is the sense of Congress that the Secretary of the Interior should... seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.” The use of vague phrases such as “sense of Congress”, “should”, and “seek to have approved” are the hallmarks of what are commonly called “Sense of Congress” resolutions, and stand in marked contrast to typical legislative language such as “instructs”, “must”, and “will approve” (Blaeloch, 2011). These resolutions are a type of Concurrent Resolution, which is not considered binding, and is not treated as a law (110<sup>th</sup> Congress House Rules Manual, 2011, §396). Generally, these types of resolutions are used to convey the opinion of Congress, or to deal with non-legislative matters, such as commending citizens or appealing to the President. They do not have the force of law, and certainly cannot be invoked as a legislative basis for action (Cotter & Smith, 1956).

And yet, this is precisely what BLM has done, describing its “mandate” to develop renewable energy on Public Land as being derived from Section 211 of the Energy Policy Act of

2005. This is dubious at best and duplicitous at worst (Blaeloch, 2011). As if to compound errors, the other major foundation for their actions is Secretarial Order 3285. Here we find a similar error in interpretation, as Secretary Salazar invokes Section 211 of the Energy Policy Act of 2005 as his legislative authority for ordering the Department of Interior to prioritize renewable energy development on federal lands. The entire set of authorities that has been utilized to justify current policy-making tools by BLM is without clear basis, and as such their “mandate” is flawed (Ibid.). This has important ramifications in the program alternatives portion of the PEIS, because as has been noted above, the program alternatives considered in a NEPA document are derived from the purpose and need.

Based on its perceived “mandate”, BLM identified the purpose and need of the PEIS as facilitating the near-term development of utility-scale solar on Public Land, while minimizing environmental damage, and providing flexibility to industry to develop projects (BLM, 2010b, §1.3.1). Because the heart of the purpose and need was to facilitate development, the program alternatives which followed were quite limited in scope: namely how much land to devote to facilitating development. BLM neglected to ask or address the hard questions, like whether development is necessary or appropriate. This is a common tactic amongst agencies: narrowing the stated purpose of a project in an EIS so that the scope of alternatives which must be considered under NEPA is also narrowed (Czarnecki, 2003). This is outside of the intent of NEPA, as Congress sought to limit agencies’ discretion with regards to acting in their own self-interest. A narrow construction of a project’s purpose evades NEPA’s goals of increased public scrutiny, and its mandate (a true mandate) that all alternatives to the proposed action must be considered “to the fullest extent possible” (National Environmental Policy Act [NEPA], 1969).

BLM presented two alternatives in the PEIS: the SEDPA, which would permit solar development on 22 million acres of Public Land, and the SEZPA, which would focus all development on the 24 SEZs, totaling just under 700,000 acres. However a number of other alternatives were presented by citizens and NGOs during scoping, which were all ignored by BLM. NEPA requires them to be mentioned in the EIS, along with a justification of why they are not being considered. A small sampling of these proposed alternatives which were not analyzed or incorporated to the PEIS include: distributed generation, conservation and demand-side management, restricting development to previously disturbed lands, and restricting

development to fast-track projects which have already gone through the NEPA process. Nearly all non-considered alternatives were dismissed with the stated reason being that they “do not respond to the purpose and need for agency action”, and are beyond the scope of BLM’s responsibilities (BLM, 2010b, §2.5). As a result, BLM has created a sort of circular logic about its scope of analysis, whereby it defines quite narrowly what is to be evaluated, and then can reject a variety of alternatives because they do not meet the criteria of the narrow evaluation. This consequence of narrow formulations can limit the ability of an EIS to analyze alternatives that limit environmental degradation and conserve resources (Czarnezki, 2003). Of the two alternatives presented in the PEIS, the SEZPA is the least environmentally damaging, and should be selected by BLM. Given how flawed the range of alternatives is, however, this portion of the PEIS needs to be rewritten to better comply with NEPA’s intent.

There is one court case in particular which speaks to the premise of narrow alternatives, but also provides an illuminating picture of how the courts have viewed NEPA in the context of broad, national issues. In the early 1970s, as a response to dwindling oil imports driven by instability in the market, the Department of Interior (DOI) proposed expanding off-shore drilling in Louisiana. They prepared an EIS, and were then sued by the Natural Resources Defense Council (NRDC), who regarded the EIS as inadequate, in part because of the narrow range of alternatives analyzed. In *NRDC v. Morton* (1972), the D.C. Circuit court held that the consideration of alternatives required by NEPA is not limited to those which the specific agency may adopt; rather, agencies must consider other reasonable alternatives which may be outside of the agency’s scope or legislative authority (Czarnezki, 2003).

Dealing with the general premise of an EIS for an isolated action that is a part of a bigger whole, the court stated that, “when the proposed action is an integral part of a coordinated plan to deal with a broad problem, the range of alternatives that must be evaluated is broadened,” (*NRDC v. Morton*, 1972). Elaborating, the court held that since the Department of Interior is but a portion of the Executive Branch, and because Congress and the President are the chief policy-makers for the nation, that the review of the environmental impacts of proposed actions must take place within the context of larger solutions to larger problems. In specific, the DOI was attempting to rule out “increased importation of oil” as an alternative to off-shore drilling, because it was outside of the scope of their jurisdiction. However because it

was not outside of the jurisdiction of the Executive Branch as a whole, the court felt that DOI was obligated through NEPA to analyze that alternative. In this way it was hoping to overcome the fragmentation of the Executive Branch into different legal authorities (Czarnecki, 2003). It is easy to draw an analogy to the PEIS: leaving out alternatives of conservation and demand-side management or development on private land because they are outside of the purview of the BLM is simply inadequate. BLM should consider these alternatives, because the proposed action is merely a piece of a larger, government-wide attempt to address the problem of global warming.

As to the nature of the SEZs themselves, some of the four California SEZs are poorly sited. There are significant resources conflicts present at the Iron Mountain & Pisgah SEZs, and they were almost universally requested to be removed from the PEIS during both the scoping period and in public comments on the Draft PEIS (Delfino, 2011). These conflicts are both biological and aesthetic: lands within them have been identified as high-priority wildlife corridors, and are sited adjacent to, or in the case of Iron Mountain, between Wilderness Areas. These areas of biological connectivity are critical to the survival of species like the desert bighorn sheep. Riverside East SEZ, a sprawling 200,000 acre site, also contains substantial resource conflicts in portions of the zone. Its boundaries should be redrawn to minimize resource conflicts, while focusing development around the already-disturbed Interstate 10 corridor. Imperial East SEZ, on the other hand, is an example of a well-sited SEZ. It is previously disturbed land, located between two highways, and is not particularly important habitat given the relatively built-up nature of the land around it. The varying nature of the SEZs chosen by BLM led many commenters on the PEIS to recommend that BLM implement a method for de-designating inappropriate SEZs, and for designating new SEZs later in the process (Haubenstock, 2011).

The PEIS is also very unclear about its relationship to other, ongoing planning projects pertaining to solar energy development in the California desert. None of the six permitted fast-track projects are located within any of the SEZs, so should the SEZPA be adopted, the six extant projects would be out of conformance with the BLM's plans. BLM does not address this in the PEIS. Nor does the document say anything about how the DRECP would relate to the PEIS. The DRECP is making recommendations across a broad spectrum of lands, and prioritizing the

environment in planning. It's unclear if DRECP findings would change the outcome of the PEIS. The need for more detail regarding the PEIS's interaction with other planning efforts was the one comment that was universal at the public meeting in Sacramento- every speaker agreed that BLM was too vague in describing this relationship and that clarification was needed (Eddy, 2011 & Zichella, 2011).

### **C. An Alternative Model: Utilizing Degraded Public Lands**

One alternative to the PEIS, and a model for a more environmentally responsible way to go about permitting renewable energy projects, is the project being undertaken by the Arizona BLM, called the Restoration Design Energy Project (RDEP). This project emphasizes siting renewable energy projects on previously disturbed lands, both federal and non-federal. Lands such as hazardous material sites or brownfields, former landfills, inactive or abandoned mining and oil & gas extraction sites, and other sites "damaged or disturbed to the extent that restoration potential is limited," (BLM, 2009: 1). The project underwent scoping for NEPA document preparation in spring of 2010, and the BLM is currently preparing a draft EIS. In March of 2011, they released a Summary of Conceptual Alternatives.

The RDEP is superior to the PEIS for two reasons: first, because it focuses development on lands that have already been disturbed, as opposed to pristine desert; and second, because it more truly embodies the spirit of NEPA, by presenting a wide range of alternatives. Restricting development to previously disturbed lands would limit the overall footprint of solar energy development on Public Land, as those lands are generally less biologically productive than undisturbed or pristine lands (Roth, 2011). This was suggested to BLM by many commenters during the scoping period for the PEIS (BLM, 2008), but was essentially not considered in the PEIS. While some lip service to the idea is given to it, with BLM stating that some previously disturbed lands were incorporated into the SEZs, the idea is amongst the rejected program alternatives, largely because BLM claims there is no clear definition of "previously disturbed" (BLM, 2010b, §2.5.5). This is disingenuous, because a definition could easily be developed, just as definitions of "suitable for solar development" were developed. For whatever reason, the BLM did not consider it practical to include this as a significant component of the PEIS, and it is a detriment to the credibility of the project as a whole, especially when considered in light of Arizona BLM's efforts.

With respect to NEPA compliance, the contrast between the PEIS and the proposed alternatives for the RDEP could not be greater. While the PEIS has only two alternatives (700,000 acres open to development or 22 million acres open to development), the RDEP is proposing five different program alternatives. The five proposed alternatives encompass a variety of levels of development, from maximum development on all identified disturbed lands, to focusing development near transmission lines to limit impact, to focusing development away from areas with sensitive water resources (BLM, 2011). Earlier, we discussed the importance of the “purpose and need” of a NEPA document, and its ramifications in the proposed alternatives. It comes as no surprise, then, that the conceptual purpose and need proposed by BLM in the RDEP is much broader than in the PEIS. While the overall goal of facilitating the efficient development of renewable energy on Public Land is the same, Arizona BLM has recognized that prioritizing lands where resource conflicts are at a minimum is a key way of attaining that goal. Arizona BLM points out that the chief goal of the RDEP is to obtain “broad consensus on the desired future renewable energy footprint” (BLM, 2011: 1). Because pristine lands, which are more ecologically productive and hence of greater concern to environmental groups, won’t be affected by development, lawsuits or other delays in development are unlikely.

Lynton Caldwell, the guiding force behind NEPA, stated that the overall goal of the law is to provide ethically-based guidance to making decisions where environmental values are in conflict with other values (1998). In his analysis of the implementation of NEPA, he notes that while impact analysis (for example through EIS’s) is important, it is not the central feature of NEPA. Rather, it is a method for discovering the risks and benefits of proposals, so that policy-makers can then apply the ethically-based decision-making criteria laid out in the law. In developing the PEIS, BLM has chosen to rely on impact analysis as the guiding factor—choosing for example the least environmentally impactful way of developing solar energy on Public Land—rather than looking to NEPA’s guiding principles to suggest alternatives. Section 101(b)(3) of NEPA says that it is the policy of the federal government to “attain the widest range of beneficial uses of the environment without degradation,” (1969). The RDEP is an example of a federal agency addressing a problem utilizing the ethical framework of NEPA,

proposing a creative solution that will meet the perceived needs of the American people while staying true to the values that NEPA promotes.

#### **D. Efficiency, Economics & Politics**

There is a significant argument made by project proponents that developing solar on Public Lands is the most cost effective method to reducing greenhouse gas emissions quickly (Haubenstock, 2011). However, this is an example of an efficiency ratio with a simplification bias- it is simply focused on output per inputted cost (Princen, 2005). And the rudimentary cost-benefit analyses utilized by the industry and proponents, for example in the PEIS, ignore a number of costs which, if taken into account, alter the level of efficiency. One of these costs is that of transmission: new transmission lines must be constructed in order to get power from remote generation sites in the desert to population centers, mostly along the coast. These costs are borne by taxpayers, and run between \$12-24 million per mile (Powers & Bowers, 2010). Another indirect cost, again borne by taxpayers, is the many billions of dollars being offered as incentives to developers in the form of loan guarantees from the Department of Energy. These funds originally came from the stimulus bill, ARRA, and obtaining these funds was a key factor driving the rush on the fast-track projects (Mulvaney, 2011). There are significant ramifications of building an industry on these types of subsidies, which will be examined in the case of Spain, below.

Finally, perhaps less tangibly but no less importantly, there are costs associated with environmental externalities. These costs have not been incorporated into the claim of efficiency, and yet have a tremendous bearing on whether or not that claim is valid. For example, the desert has been shown in recent research to function as a carbon sink, sequestering carbon through its biological processes, at a level comparable to or greater than that of forests (Jasoni, Smith, & Arnone, 2005). When the land is completely stripped of all vegetation and biological function, a consequence of utility-scale solar development, this “ecosystem service”, as it is called, will cease, and it is possible that sequestered carbon will actually be released back into the atmosphere (Powers & Bowers, 2010). This is just one



example of a multitude of environmental externalities that have not been included in the efficiency claims made by advocates of these projects.<sup>10</sup>

Advocates of developing utility-scale solar in America would do well to examine the case of solar energy in Spain, where there are valuable lessons to be learned. Riding high on the booming world economy in 2007, Spain introduced a variety of generous subsidies, including loan guarantees similar to those the DOE is currently handing out, intended to boost the solar industry. What followed was a “boom” of utility-scale solar projects, propelling Spain to the top-tier of solar energy nations in the world (“Growing Pains”, 2010). However with the world economy in the doldrums of The Great Recession in 2009, Spain slashed its subsidies significantly. This sent the solar industry of Spain into a spiral, with investors backing out and over 20,000 jobs lost; Spain’s solar industry essentially collapsed overnight (Gonzalez & Johnson, 2009). Janine Blaeloch, director of the Western Lands Project, did an assessment of the utility-scale solar industry in America, and determined that the projects are only economically feasible due to large taxpayer-funded subsidies (2010). Even executives within the solar industry acknowledge that their product is not economically viable without subsidies (Gonzalez & Johnson, 2009). Given that we have such a tenuous fiscal situation on the federal level, it seems very shortsighted to ignore the lessons of Spain’s nascent solar industry, and to continue to build this industry on the basis of subsidies.

However, one must follow the money, and subsidies are, like the rest of the policy-making process surrounding utility-scale solar, a political matter. The entire process of developing solar in the desert has been subject to intense political pressures from all quarters. California Governor Arnold Schwarzenegger, who initially drove much of the rush to development by implementing California’s RPS, was frustrated by environmentalist opposition to some developments, and quipped, “If we cannot put solar power plants in the Mojave Desert, I don’t know where the hell we can put them,” (As qtd. in Woody, 2010). According to some environmentalists, Ken Salazar was appointed to be Secretary of the Interior primarily because he would prioritize energy development on public lands (Lewis-Mernit, 2011). Since

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<sup>10</sup> These costs can be captured through the process of life cycle analysis (LCA), which looks at the cradle-to-grave impacts of production, including manufacturing & disposal (Mulvaney, 2011). However, current LCA practices by the DOE ignore the costs from changes in land use. A thorough LCA is a necessary component of evaluating if these projects truly are “efficient.”

coming into power, he has been “relentless” in his pursuit of developing solar energy, which has driven many of the actions that BLM has conducted since 2009 (Carswell & Lewis, 2010). Because of political pressures, it is common for government agencies to lack a constant course, being frequently pulled in different directions by varying and often capricious political moods in America (Rosenbaum, 2007). But in order to achieve the best policy outcomes for environmental protection, which is laid out as our national policy in NEPA, it is important for agencies to remain above the political fray. Americans need a land-use policy that remains relatively constant, regardless of who happens to be in political power at the moment. BLM should be free to conduct environmental reviews of proposed projects at the pace that the projects dictate, rather than on an artificially sped-up schedule, to ensure that the environment remains the priority, as dictated by NEPA.

### **Conclusions**

The scope of global warming is so vast, affecting so many factors of the economy and national lifestyle, that the only player large enough to deal with in on a systematic scale is the government. BLM’s shift toward a more institutionalist model of policy-making is a positive development, because assessing impacts systematically in the PEIS, however flawed, is superior to treating all of the projects on an individual basis. However, this move does not go far enough. The government needs to institute a nation-wide energy plan, establishing goals for conservation and production, and comprehensively evaluating the environmental impacts of alternative courses of national action. The Department of Energy or the Environmental Protection Agency would be appropriate leaders for such a planning effort (Blaeloch, 2011). By comparing the relative environmental impacts of various courses of action, the nation could more accurately assess if the degradation to our Public Land is worth the gains in energy production.

An example of such an effort, on a somewhat smaller scale, is the San Diego Smart Energy 2020 Plan, authored by Bill Powers. The plan is a blueprint for meeting and exceeding California state RPS requirements in San Diego, resulting in a 50% reduction in greenhouse gas emissions by 2020 (Powers, 2007). It relies heavily on conservation and energy efficiency, peak load pricing models, and finally, distributed power generation, mostly in the form of rooftop solar. While implementation would take a comprehensive effort on the part of local

government, mandating new zoning, regulating pricing structures by utilities, and incentivizing distributed generation, it is this type of all-encompassing planning that is required to meet a large challenge like global warming. Only after such an analysis is undertaken on a national level can it be accurately assessed if utility-scale solar on Public Land is a necessity to our national energy policy.

If it is seen to be an essential component of our national energy policy, the assessment of solar energy on Public Land should cover all land types, identifying those lands, public or private, which are best suited to develop. This will likely include degraded lands, such as those identified in the Arizona RDEP, and other lands such as are being proposed by the DRECP. Simply because Public Lands have been solutions to our energy supply problems in the past, does not imply that we need to continue to perpetuate that pattern. Energy development has left a terrible environmental legacy in the West (Clarke, 2011), and changing that going forward is key to finding an environmentally sustainable method of developing solar power on Public Land. Planning efforts such as the RDEP and DRECP need to be the model that California BLM follows in planning for solar energy on Public Land.

The development of utility-scale solar energy on Public Land has been described by the BLM as “a potentially irreversible commitment of lands,” (as qtd. in Gilman, 2009). Since our public lands are a shared, common resource it is imperative that we not act hastily to meet a perceived short-term need with actions that have very long-term consequences. Scientific advisors to the DRECP project perhaps put it best in their summary of recommendations: that we need to develop solar energy, “using ‘no-regrets’ strategies in the near term—such as siting developments in already disturbed areas—as more refined analyses become available to guide more difficult decisions,” (REAT, 2010b). Until these more thorough planning efforts can be completed, prudence and resource protection must be the priorities of BLM’s management of Public Lands, as is required by law.

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## Appendix A:

Transcript of comments delivered by Patrick Donnelly-Shores  
at the Public Meeting in Sacramento, February 22, 2011

9 MR. DONNELLY-SHORES: Hi. My name is Patrick  
10 Donnelly-Shores. I'm from Berkeley, California most  
11 recently, though I lived in Yucca Valley for a number of  
12 years just down the road from the Iron Mountain proposal.  
13 I spent a number of years working for the SCA and  
14 for BLM in the California desert. And I feel I might lend  
15 a little insight to the kind of unique character of some  
16 of the lands that are being proposed for development.  
17 I guess I'd like to begin by applauding BLM for  
18 approaching this issue in a systematic and comprehensive  
19 manner like this. The PEIS is a really big step forward  
20 it seems like in managing this issue. It sort of felt  
21 like the wild, wild west for a minute with the proposals  
22 coming in left and right.  
23 I agree with the previous speakers that the Solar  
24 Energy Zone alternative is the needed alternative. The  
25 preferred alternative kind of perpetuates the same sort of  
00013  
1 willy-nilly development of solar proposals, as opposed to  
2 more specific concentrated development in a more  
3 systematic way like is proposed with the SEZs.  
4 I'd like to spend a moment addressing very  
5 specifically though the issues to designated wilderness  
6 and to wilderness study areas. While there are no buffers  
7 on wilderness areas, there are indirect impacts that will  
8 be felt by these Solar Energy Zones, specifically impacts  
9 to visual resource and impacts to biological connectivity.  
10 The wilderness is by definition -- by BLM's own  
11 definition, Class 1, Visual Resource Management, which  
12 means it needs to be maintained as it is, and it must not  
13 attract -- new impacts must not attract attention. But  
14 the proposed Solar Energy Zones would actually degrade  
15 both Rodman Mountains Wilderness Area and Palen-McCoy  
16 Wilderness Area to Class 3 VRM, where impacts are  
17 substantially noticeable.  
18 And it was over 76 percent of Palen-McCoy would  
19 experience this, which is -- Palen-McCoy is the biggest  
20 wilderness in the California desert district. It's  
21 214,000 acres. It is part of this kind of central core in  
22 the eastern Mojave, Northeastern Colorado Desert of the  
23 Old Woman Mountains, the Palen-McCoy, the Sheep Hole and  
24 the Turtles is really kind of the heart of the wilderness  
25 out there. It's almost a million acres of wilderness  
1 combined with those four wilderness areas.

2 And Iron Mountain is right smack in the middle of  
3 those four wildernesses. So developing that area would  
4 really have significant impacts to the visual resource  
5 there and also to the biological connectivity. Those four  
6 wilderness areas are really important for bighorn sheep.  
7 I've seen bighorn sheep in three of those wilderness areas  
8 as recently as last week actually, and Palen-McCoy. And  
9 so putting a large industrial development in the middle of  
10 those would have really negative impacts to that.  
11 Pisgah is also sited right next to the Cady  
12 Mountains Wilderness Study Area. And Wilderness Study  
13 Areas, by statute, have to be managed for non-impairment  
14 of wilderness values, until Congress decides whether or  
15 not they're going to be designated or not.  
16 And so putting a big solar development right on  
17 the boundary of this Wilderness Study Area would violate  
18 the non-impairment clause, which I believe is in FLPMA, of  
19 Wilderness Study Areas.  
20 There's sort of some addressing of these effects  
21 in the PEIS. But I think, in some cases, it's a little --  
22 it doesn't address it far enough. For instance,  
23 Palen-McCoy it says that the boundary of Palen-McCoy is  
24 largely disturbed already, because there's some highways  
25 there.

1 Well, I was just out in Palen-McCoy last week and  
2 I got on top of the Granite Mountains and I looked out as  
3 far as I could see in any direction, and you really could  
4 not see anything. There was maybe a highway out there.  
5 But the view if Riverside East was developed and if Iron  
6 Mountain was developed would have been solar fields on all  
7 four sides of me at that point. It would greatly diminish  
8 the wilderness character of these areas. And that is  
9 something I think that needs to be heavily considered when  
10 considering which of the SEZs to develop.  
11 So I definitely agree with the previous speakers  
12 that Iron Mountain is not appropriate. I think Pisgah is  
13 not appropriate for the impacts to wilderness adjacent to  
14 there. And I think Riverside East could be easily  
15 adjusted to concentrate the impact along Highway 10. That  
16 is an area that is developed already and it does about the  
17 southern portion of Palen-McCoy, but it wouldn't sort of  
18 penetrate the heart of Palen-McCoy up in that kind of  
19 eastern side of Palen-McCoy that really is undeveloped as  
20 of now. So Riverside East could definitely be adjusted to  
21 concentrate impacts where there already is impact. And I  
22 guess that's all I have to say.  
23 So thanks.

## Appendix B:

Letter to accompany this document a comment on the Solar PEIS

March 29, 2011

Solar Energy PEIS  
Argonne National Laboratory  
9700 S. Cass Ave.  
EVS/240  
Argonne, IL 60439

Re: Comments on the Draft Solar Programmatic Environmental Impact Statement

My name is Patrick Donnelly-Shores. I am a former resident of the desert, former BLM and SCA employee who has worked across the California Desert District, and above all, a concerned citizen. I am also a student at UC Berkeley, and have written a paper on current policy-making regarding solar energy development on Public Lands in the California desert. I have attached the paper as my comment, and will summarize my recommendations here:

- We need a more thorough, comprehensive assessment of our national energy needs, focused on conservation and efficiency, and evaluating the need for additional production. Additional production should be centered around distributed generation. Only after this process has concluded that solar energy development on Public Lands is a necessity should any further actions toward that end commence.
- The PEIS needs to be re-configured, with a broader “purpose and need” and a wider range of alternatives. There should be a clear “no action” alternative, in which no development of solar on Public Lands occurs.
- BLM does not currently have a mandate to develop renewable energy on Public Land: references to the Energy Policy Act of 2005 are erroneous when referred to as such.
- There are unmitigatable impacts to the desert concomitant with solar energy projects. The impacts are so significant that it constitutes an exclusive use of Public Land.
- The SEZPA is the alternative that BLM should adopt: it concentrates impact to discrete zones, while sparing most of the desert from this type of industrialization.
- The Restoration Design Energy Project being developed by Arizona BLM is a model for how this type of development should happen on Public Land: on previously degraded lands.
- Any evaluations of the efficiency of developing solar energy on Public Land should take into account federal subsidies, pricing for environmental degradation, and other externalities.
- The Iron Mountain and Pisgah SEZs are clearly inappropriate for solar energy development, and should be tossed out. The Riverside East SEZ should be reconfigured so that development occurs only in the I-10 corridor.

Thank you for your consideration,

-Patrick Donnelly Shores  
Berkeley, CA

Thank you for your comment, Barbara Kelly.

The comment tracking number that has been assigned to your comment is SolarD11553.

Comment Date: April 14, 2011 15:13:54PM  
Solar Energy Development PEIS  
Comment ID: SolarD11553

First Name: Barbara  
Middle Initial: P  
Last Name: Kelly  
Organization:  
Address: 5 Camelford Ct.  
Address 2:  
Address 3:  
City: Moraga  
State: CA  
Zip: 94556  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Anything to further solar energy!

Thank you for your comment, Geraldine Card-Derr.

The comment tracking number that has been assigned to your comment is SolarD11554.

Comment Date: April 14, 2011 15:17:06PM  
Solar Energy Development PEIS  
Comment ID: SolarD11554

First Name: Geraldine  
Middle Initial: N  
Last Name: Card-Derr  
Organization:  
Address: 237 North D St  
Address 2:  
Address 3:  
City: Exeter  
State: CA  
Zip: 93221  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. There are four proposed Solar Energy Zones (SEZ) that threaten our national parks. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Christian Schmid.

The comment tracking number that has been assigned to your comment is SolarD11555.

Comment Date: April 14, 2011 15:19:37PM  
Solar Energy Development PEIS  
Comment ID: SolarD11555

First Name: Christian  
Middle Initial: N  
Last Name: Schmid  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: CA  
Zip: 92256  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: PEIS Letter.docx

Comment Submitted:

To whomever it may concern,

In regards to the proposed Solar Energy Development PEIS, I believe that there are numerous implications to consider before such a plan is carried out.

The amount of transmission lines that will be necessary for this plan would be tremendous. Can we be sure that these won't interfere with the private property of the citizens who live close to the areas where the plan is laid out? Transmission lines that become damaged or downed can also be a serious threat to safety, given the fact that at least three of the fires in the San Diego County of California in October, 2007 were caused by downed transmission lines, according to research done by the Responsible Energy Development group. Also please consider the loss of property value to those who own property next to the areas.

The water resource that will be used for this plan must be measured as well. Ground water is important to the ecosystem and it is essential to maintain a good balance of it. How much water will be used to build and power these solar plants?

Lastly, consider the damage this plan will have on the environment itself. The carbon footprint that will be left if these plants were to be built would be relatively large. Yes, the development of this plan would provide better renewable energy, but the natural environment of the desert is known for its value as a carbon sink. Can we be sure that the mass removal of much of the desert environment in the proposed areas won't reduce this value? Also, many towns and cities receive revenue from tourists who come to see the distinctiveness of the desert landscape. This plan will most likely decrease that amount, decreasing the income those said cities and towns receive.

In conclusion, creating such large-scale solar plants would lead to several negative, and even irreversible, effects. However, I do appreciate the idea of finding a source of additional renewable energy. Small scale solar plants would benefit the environment, especially if they were to be built on areas that are not of use, such as oil fields, abandoned mining claims, and closed military bases. Please consider these aspects before carrying out these plans, for the sake of the people who live in the states subject to the plan, and the environment.

Sincerely,  
Christian Schmid

Thank you for your comment, jean tabin.

The comment tracking number that has been assigned to your comment is SolarD11556.

Comment Date: April 14, 2011 15:25:52PM  
Solar Energy Development PEIS  
Comment ID: SolarD11556

First Name: jean  
Middle Initial:  
Last Name: tabin  
Organization:  
Address: 720W 5200N  
Address 2:  
Address 3:  
City: Park City  
State: UT  
Zip: 84098  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I love Solar Energy and wish I could easily install it into my home. That being said, it must be developed taking environmental impact into consideration especially if put (collected) in National Parks/wilderness areas.



Thank you for your comment, Mary Smith.

The comment tracking number that has been assigned to your comment is SolarD11557.

Comment Date: April 14, 2011 15:29:53PM  
Solar Energy Development PEIS  
Comment ID: SolarD11557

First Name: Mary  
Middle Initial: J  
Last Name: Smith  
Organization:  
Address: 13998 165th St.  
Address 2:  
Address 3:  
City: Little Falls  
State: MN  
Zip: 56345  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

If you plan it right from the beginning, it will benefit everything.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11558.

Comment Date: April 14, 2011 15:42:19PM  
Solar Energy Development PEIS  
Comment ID: SolarD11558

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization: Xcel Energy  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

Xcel Energy supports planning efforts to streamline the development of utility-scale solar generation projects in the San Luis Valley. Large, utility-scale generation facilities are often the most cost-effective choice for solar energy. Efficiencies come with economies of scale and the ability to locate systems in areas with optimal solar resources. The San Luis Valley region, which lies within SB 91 Energy Resource Zone 4, has been identified to have great promise for solar energy development. Therefore, in general, we support the action alternatives to allow for the development of solar generation projects on BLM land over the no action alternative. We support the 'generalized' routing of transmission lines to these facilities, as described in the document.

Thank you for your comment, Joe Feinstein.

The comment tracking number that has been assigned to your comment is SolarD11559.

Comment Date: April 14, 2011 15:58:48PM  
Solar Energy Development PEIS  
Comment ID: SolarD11559

First Name: Joe  
Middle Initial:  
Last Name: Feinstein  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

The survival of this planet is related to its using solar power.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11560.

Comment Date: April 14, 2011 16:01:01PM

Solar Energy Development PEIS

Comment ID: SolarD11560

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment: solar energy letter.doc

Comment Submitted:

April 13, 2011

To Whom it May Concern:

There are still many unanswered questions and concerns in regards to using 80% of the desert land remaining in Riverside County. Environmental issues may outweigh the economical advantages to using solar energy. I am aware that there are five other states involved in this project because of the solar energy resources they encompass. As part of the public spector, I believe there are still many factors that have not been thoroughly addressed. These include, but are not limited to; the visual impact it may have on tourism, recreation, the protection of our plants and animals that make this desert their home, air quality, hazardous material being used and possible contamination of our water resources. Cultural aspects, geological research, aviation safety, and transportation issues should also be discussed with the public so that nobody feels they are left in the dark about what the final outcome will be. Solar wind farms can also have a positive impact to this area, bringing new jobs, and economic growth that is desperately needed.

I feel there needs to be more research and planning meetings with all sides concerned to evaluate if technology should take precedence over nature, without ruining the image we have living here. I know the future always involves change, a necessary evil we all have to deal with, but taking away something that can never be replaced may be a mistake. Hopefully with all of our questions being brought to the table, we can work together and make decisions we will not regret in the future.

Sincerely,

A concerned desert dweller

Thank you for your comment, Bonnie Lawrence.

The comment tracking number that has been assigned to your comment is SolarD11561.

Comment Date: April 14, 2011 16:06:10PM  
Solar Energy Development PEIS  
Comment ID: SolarD11561

First Name: Bonnie  
Middle Initial: J  
Last Name: Lawrence  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I am very happy that the National Parks will be using renewal energy (solar energy); however I urge you to only use it within appropriately sited Solar Energy Zones. We do not want to compromise the fantastic views or jeopardize any habitats.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11562.

Comment Date: April 14, 2011 16:10:29PM  
Solar Energy Development PEIS  
Comment ID: SolarD11562

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment: PEIS LETTER.docx

Comment Submitted:

April 14, 2011

To Whom It May Concern:

The proposed Riverside East solar energy zone is a plan attempting to provide renewable energy. However, with the plan involves destruction of 80% of remaining public lands in Riverside County deserts. Riverside County is a county with rolling plains, mountains, deserts, and life. Riverside County is rich with history from the early prominences of agriculture to its indigenous people. Being a resident of Riverside County all my life, I believe it my civic duty to propose my concerns for the plan. We want Riverside to be noted for the wonderful entities it offers, and not massive wind and solar farms.

Although the plan may have potential to bring about renewable energy and attempt to do good for our ecosystem, but would it bring about pros more then cons ideally? The plan would involve wiping out land home to over 1000 creatures. Not to mention, The Responsible Energy Development points out that the creation of all the solar plants can be a hazard to residents near by. The plan will damage the desert landscape, and the natural elements and minerals found in the land. Also the plan will led to effects of water and the air. Would the vision of massive solar towers thrill and individual to enter the desert cities or would they be avoided because its already enough with the windmills in Palm Springs. The number of tourist will decline and so will the appeal of entering the desert lands.

We must remember these lands are not basins of wasteland they have a meaning as well as a past. Theses lands hold tales of history and meaning to native individuals as well as local residents. It is 80% of desert land we are destroying, we must let go of the stigma many often associate these lands with but be open-minded to the closeness many hold to these lands. These lands once were trails for individual's ancestors. The lands lock culture and value to many. The proposed areas for development are also used for recreational purposes. Many individuals use the lands for outdoor enjoyment. The loss of this use will hurt the community and economy overhaul by taking away the economic gain of tourist or personal enjoyment. The cities rely on as much revenue they can gain. Please take this into consideration before developing an area that takes away life and does not allow the community to share the great outdoors.

Although the creation of these plants would contribute a degree to renewable energy and potential jobs, however; the cons far out numbered the pros for the destruction of the desert environment. Please consider the following concerns before destroying these desert lands. Remember that this project will result with irreversible destruction to the landscape and creatures home to the land. To sum, I do not support the plan for destruction of 80% of Riverside County Deserts for massive solar plants. The plan will do more bad then good. Thus, I assure to reconsider the plan and irreversible damages it will cause. As, intelligent creatures we collectively can seek alternative methods for renewable energy or relocation for such plants.

Sincerely,

Anna Acosta

April 14, 2011

To Whom It May Concern:

The proposed Riverside East solar energy zone is a plan attempting to provide renewable energy. However, with the plan involves destruction of 80% of remaining public lands in Riverside County deserts. Riverside County is a county with rolling plains, mountains, deserts, and life. Riverside County is rich with history from the early prominences of agriculture to its indigenous people. Being a resident of Riverside County all my life, I believe it my civic duty to propose my concerns for the plan. We want Riverside to be noted for the wonderful entities it offers, and not massive wind and solar farms.

Although the plan may have potential to bring about renewable energy and attempt to do good for our ecosystem, but would it bring about pros more then cons ideally? The plan would involve wiping out land home to over 1000 creatures. Not to mention, The Responsible Energy Development points out that the creation of all the solar plants can be a hazard to residents near by. The plan will damage the desert landscape, and the natural elements and minerals found in the land. Also the plan will led to effects of water and the air. Would the vision of massive solar towers thrill and individual to enter the desert cities or would they be avoided because its already enough with the windmills in Palm Springs. The number of tourist will decline and so will the appeal of entering the desert lands.

We must remember these lands are not basins of wasteland they have a meaning as well as a past. Theses lands hold tales of history and meaning to native individuals as well as local residents. It is 80% of desert land we are destroying, we must let go of the stigma many often associate these lands with but be open-minded to the closeness many hold to these lands. These lands once were trails for individual's ancestors. The lands lock culture and value to many. The proposed areas for development are also used for recreational purposes. Many individuals use the lands for outdoor enjoyment. The loss of this use will hurt the community and economy overhaul by taking away the economic gain of tourist or personal enjoyment. The cities rely on as much revenue they can gain. Please take this into consideration before developing an area that takes away life and does not allow the community to share the great outdoors.

Although the creation of these plants would contribute a degree to renewable energy and potential jobs, however; the cons far out numbered the pros for the destruction of the desert environment. Please consider the following concerns before destroying these desert lands. Remember that this project will result with irreversible destruction to the landscape and creatures home to the land. To sum, I do not support the plan for destruction of 80% of Riverside County Deserts for massive solar plants. The plan will do more bad then good. Thus, I assure to reconsider the plan and irreversible damages it will cause. As, intelligent creatures we collectively can seek alternative methods for renewable energy or relocation for such plants.

Sincerely,

Anna Acosta



Thank you for your comment, David MacPhail.

The comment tracking number that has been assigned to your comment is SolarD11563.

Comment Date: April 14, 2011 16:21:31PM  
Solar Energy Development PEIS  
Comment ID: SolarD11563

First Name: David  
Middle Initial: H  
Last Name: MacPhail  
Organization:  
Address: 1979 Dowling Ct  
Address 2:  
Address 3: 1979 Dowling Ct  
City: Santa Rosa  
State: CA  
Zip: 95404  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

The proposed SEZs must be reconfigured to reduce their impact on such areas as Joshua Tree National Park and Death Valley wilderness and other natural resources. Similarly for White Sands where wildlife and water resources may be threatened.

Thank you for your comment, Barbara Fry.

The comment tracking number that has been assigned to your comment is SolarD11564.

Comment Date: April 14, 2011 16:31:06PM  
Solar Energy Development PEIS  
Comment ID: SolarD11564

First Name: Barbara  
Middle Initial:  
Last Name: Fry  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sandra Couch.

The comment tracking number that has been assigned to your comment is SolarD11565.

Comment Date: April 14, 2011 16:48:21PM  
Solar Energy Development PEIS  
Comment ID: SolarD11565

First Name: Sandra  
Middle Initial: L  
Last Name: Couch  
Organization:  
Address: 2903 Bartlett Court  
Address 2: Unit 201  
Address 3:  
City: Naperville  
State: IL  
Zip: 60564  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I support solar energy development only within an appropriate site for solar energy zones that do not harm wildlife or the environment for wildlife.

Thank you for your comment, John Walsh.

The comment tracking number that has been assigned to your comment is SolarD11566.

Comment Date: April 14, 2011 17:00:29PM  
Solar Energy Development PEIS  
Comment ID: SolarD11566

First Name: John  
Middle Initial: P  
Last Name: Walsh  
Organization:  
Address: 1181 Church St.  
Address 2: Unit F  
Address 3:  
City: Decatur  
State: GA  
Zip: 300301553  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy offers us a clean and unlimited source of power. It is as dependable as being able to know when each day will start. All life on our planet depends on solar energy either directly or on something that could not live without the sun.

Plants through photosynthesis are the most efficient users of the sun. With the added fuel provided by water, a sustainable arrangement has been developed. We need to increase our use of an energy source that has developed over billions of years. The possibilities are limitless.

Thank you for your comment, Faviola Rincon.

The comment tracking number that has been assigned to your comment is SolarD11567.

Comment Date: April 14, 2011 17:16:41PM  
Solar Energy Development PEIS  
Comment ID: SolarD11567

First Name: Faviola  
Middle Initial:  
Last Name: Rincon  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment: ENG1A LETTER.wps

Comment Submitted:

To whom this may concern:

I am writing this letter on behalf of many of our residents of the Coachella Valley. One voice out of a million to be heard for a change. My name is Faviola Rincon and I have been a resident of the Coachella Valley for twenty one years, which is my whole life. I have seen many changes and improvements, such as developments, new businesses and growth of population. The Coachella Valley is a beautiful and unique home to many. We can't forget how popular it is to many people all over the world for a vacation spot as well as an attraction to many tourists.

We have plenty going on now with our valley, which I must say that it still needs much improvement so that the Valley can be a more improved place to live in and visit. With all of the budget cuts we must focus on what is important to move forward with, and keep in mind the benefits and affects it will bring to our community at large.

I think that the solar energy plan is a good idea and makes sense in many ways. However, there are still many concerns that I must question to weather moving forward with this project will be the rite choice. We will be destroying many of the tourists' home, whom have lived here for many years. Also, will the Valley fever spread uncontrollably with time and cause more harm to the residents? The obstruction this project can cause can be prevented and save lives. If moving forward with this plan, has more cons to it, than pros, we should definitely reconsider the structure of this plan and the affects it will create to our Coachella Valley.

There are still many other unanswered questions and concerns that not only I have, but am positive that many of our residents do as well. I can't stress it enough to really look at the outcome of this plan, cons vs. the pros and especially the affects this

will bring mainly to our residents and animals.

Thank you for your comment, Deborah Drezner.

The comment tracking number that has been assigned to your comment is SolarD11568.

Comment Date: April 14, 2011 17:30:16PM  
Solar Energy Development PEIS  
Comment ID: SolarD11568

First Name: Deborah  
Middle Initial: S  
Last Name: Drezner  
Organization: Metropolitan Water District of Southern California  
Address: 700 North Alameda Street  
Address 2:  
Address 3:  
City: Los Angeles  
State: CA  
Zip: 90012  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: MWD comments on draft BLM PEIS (4-14-11).pdf

Comment Submitted:





THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

Office of the General Manager

April 14, 2011

**Via Electronic Mail and Federal Express**

Solar Energy Draft Programmatic EIS  
Argonne National Laboratory  
9700 S. Cass Avenue—EVS/240  
Argonne, Illinois 60439

To Whom It May Concern:

Comments on the Draft Programmatic Environmental Impact Statement  
for Solar Energy Development in Six Southwestern States

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Draft Programmatic Environmental Impact Statement (Draft PEIS) for Solar Energy Development in Six Southwestern States and Notice of Public Meetings (Project).<sup>1</sup> The U.S. Department of the Interior, Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE) are working jointly as the lead agencies (collectively, Agencies) for the Project. The Agencies prepared the Draft PEIS to facilitate solar energy development in compliance with various orders, mandates and agency policies.

For the BLM, actions proposed in the Draft PEIS include the evaluation of a new Solar Energy Program applicable to multiple solar energy technologies at utility-scale over the next 20 years on BLM-administered lands in Arizona, California, Colorado, Nevada, New Mexico, and Utah where utility-scale solar development is defined as projects capable of generating 20 megawatts (MW) or greater of electricity that is delivered into the electricity transmission grid. The proposed Solar Energy Program will further the BLM's ability to meet the mandates of Executive Order 13212 and the Energy Policy Act of 2005 and has also been designed to meet the requirements of Secretarial Order 3285A1 (Secretary of the Interior 2010) related to identifying and prioritizing specific locations best-suited for utility-scale solar energy development on public lands. For the DOE, these actions include the evaluation of developing new program guidance relevant to DOE-supported solar energy projects. The National Environmental Policy Act (NEPA) analysis contained in the Draft PEIS will be used to the extent practicable to support future decisions; however, in some cases additional NEPA analysis may be necessary.

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<sup>1</sup> In 2008, Metropolitan commented on the Agencies' Notice of Intent to prepare the Programmatic Environmental Impact Statement to evaluate solar energy development. That comment letter is enclosed (Enclosure 1).

Metropolitan is pleased to submit comments for consideration by BLM and DOE during the public comment period for the Draft PEIS. In sum, Metropolitan provides these comments to ensure that any potential impacts on its facilities in the vicinity of the Project and on Colorado River resources are adequately addressed. Because the Draft PEIS is evaluating the new Solar Energy Program at a programmatic level, information on specific project locations or corridors are not considered in this document. Without specific information, Metropolitan cannot determine specific impacts to its facilities and rights-of-way. Therefore, our comments at this time will be of a general nature, focusing on Metropolitan's general service system needs, concerns and issues.

## **BACKGROUND**

Metropolitan is a public agency and regional water wholesaler comprising 26 member public agencies serving more than 19 million people in six counties in southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. The CRA consists of tunnels, open canals, siphons and buried pipelines. CRA-related facilities also include pumping plants, above and below ground reservoirs and aquifers, spillways, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into the southern California coastal plain. Five pumping plants are located along the CRA, which consume approximately 2,500 gigawatt-hours of energy when the CRA is operating at full capacity. The CRA commenced delivery of Colorado River water to member agencies in 1941.

### **Metropolitan's Colorado River Aqueduct Transmission System (CRATS)**

Metropolitan constructed the CRA in the 1930s, starting near the newly completed Parker Dam, through remote areas of the Mojave Desert in Riverside and San Bernardino counties and terminating near the city of Riverside. As mentioned above, five large pumping plants, whose total electrical demand is around 300 MW, were built along the CRA. Due to the remoteness of the area, there was no existing electrical infrastructure to transport and supply the large amount of power required by these pumps. Therefore, Metropolitan constructed a 230 kV transmission system to bring power from the Hoover and Parker Dam power plants to its five pumping plants.

The sole use and purpose of the CRATS was to deliver power to its remote pumping loads. The CRA pumps are basically tied directly to the CRATS, using a main and transfer bus configuration. There is no redundant transmission path to these loads, and the pumping plants must operate in a synchronized fashion. The CRATS was designed essentially as a pumping load tie, not as part of a larger grid system whose purpose is to move large amounts of power from distant generation sources to the load of population centers.

The CRATS currently lies within the California Independent System Operator (CAISO) Balancing Authority Area as a result of a 30-year, complex integration contract with Southern California Edison (SCE) that expires in 2017, under which SCE had performed control area

responsibilities for the CRATS. When SCE joined the CAISO in 1998, its former control area responsibilities were transferred to the CAISO. The CRATS is not part of the ISO Controlled Grid since Metropolitan, its owner, is not a CAISO Participating Transmission Owner.

The water that Metropolitan transports through the CRA is critical to the population and economy of southern California. Metropolitan was created in 1928 for the purpose of supplying the area within its boundaries with water for domestic, industrial and other beneficial uses, and incidentally to provide a means of creating a water supply for such surrounding areas as later may find it advantageous to join the District. Its first objective was the construction of the CRA and a distribution system leading to its member agencies in southern California. Historically, Metropolitan has supplied approximately one half of the total water used by the businesses, industries and 19 million residents of this region, and over 50 percent of that water has come from the CRA. To satisfy such water demands, the CRA must be operated on a near continuous basis. In some years Metropolitan has operated the CRA at maximum flow for the entire year, consumptively using 1.3 million acre-feet of Colorado River water. In other years, the CRA has been shut down briefly to perform scheduled maintenance even during the summer months, when the water supply requirements were met by other resources. Such shutdowns require extensive advance coordination and planning with Metropolitan's 26 member agencies to ensure they can continue to provide reliable water delivery to their wholesale and retail customers. Essentially, the CRA and its supporting transmission system operate on a schedule dictated by water supply requirements, not electrical considerations.

As the electric grid has developed around the CRA, Metropolitan has had to increase the complexity and capability of the protection devices on the CRATS and at the pumping plants. With the potential for higher capacity and voltage transmission lines interconnected to the CRATS or incorporated into it as contemplated by some of the potential PEIS projects, Metropolitan is very concerned about its ability to protect the pumping plants from disruption and the potential incompatibilities of the power and water conveyance missions. Metropolitan's core mission is the supply of water to southern California, and it believes potential transmission network changes to its system could impair that mission.

As explained above, the CRATS is not used as a typical transmission line nor is the CRA pump load a typical utility load. The CRA's physical dimensions limit the amount of water that can be conveyed and hence the amount of power needed to convey the water. The maximum load of the CRA is approximately 300 MW and that limit will not increase. There is no load growth potential on the CRA, so increasing the capability of the CRATS is not a benefit to Metropolitan. Also, Metropolitan has completed a condition assessment of the CRATS. The results indicate a 70 year-old transmission system with little degradation and the potential to last many more years under the same or similar loading conditions. Operating the CRATS at levels below its maximum capabilities and in a benign environment has resulted in a fully amortized system with little or no need to replace or upgrade equipment.

### **Metropolitan Stakeholder Involvement in State Initiatives or Plans to Support Transmission and Renewable Development Efforts**

Metropolitan is an active stakeholder in the California planning activities described in Appendix D.3.2 and D.3.3 of the PEIS:

- Renewable Energy Transmission Initiative (RETI), and
- California Transmission Planning Group (CTPG).

Metropolitan submitted comments to these California planning efforts with concerns of interconnecting large scale renewable energy projects to the CRATS. Metropolitan requested several RETI and CTPG proposed solar generation connections to its CRATS be modified such that they would connect to SCE's system instead, which is designed or planned to transmit large amounts of renewable energy directly to their load centers. SCE has proposed large collector stations near the CRATS, such as the Red Bluff 500kV and Colorado River 500kV substations. Copies of Metropolitan comments are enclosed for reference and incorporated hereto (Enclosures 2a and 2b).

Some of these proposed SCE collector stations and transmission lines are listed in the RETI, CTPG reports, CAISO transmission plans, as well as in SCE's and Western Electricity Coordinating Council's (WECC's) Annual Progress Reports.

### **POTENTIAL IMPACTS TO METROPOLITAN'S ELECTRICAL TRANSMISSION SYSTEM**

Metropolitan is concerned about potential impacts from the Project on its transmission system and related facilities. Metropolitan is concerned that locating utility-scale solar energy facilities or supporting linear infrastructure near or across its electrical transmission system could have a negative impact on Metropolitan's operations, facilities and rights-of-way. Although the Draft PEIS does not yet identify any specific direct impacts, the proposed lands available for application under both the Solar Development Program alternative and the Solar Energy Zone (SEZ) Program alternative would include or be directly adjacent to Metropolitan's facilities and property. Enclosure 3 is a map showing Metropolitan's facilities and rights-of-way juxtaposed with the proposed lands identified in the Draft PEIS. Metropolitan is also concerned that supporting linear infrastructure, not identified in the Draft PEIS, such as roads, transmission lines, and natural gas or water pipelines which could be sited outside of these designated areas could adversely affect Metropolitan facilities and rights-of-way.

The Draft PEIS assumes access to existing 230 kV lines, presumably Metropolitan's. An example of this assumption is stated on page 9.2-4: "For the analysis in this PEIS, it was assumed that the existing 230-kV transmission line that runs north-south through the western portion of the SEZ could provide access to the transmission grid, and thus no additional acreage disturbance for transmission line access was assessed. Access to the transmission line was assumed, without additional information on whether this line would be available for connection of future solar facilities." Any Project should not plan to interconnect to the CRATS as its transmission capacity is fully subscribed. Moreover, such interconnection could compromise

Metropolitan's ability to reliably operate the CRA. Instead, the Final PEIS should identify how the electricity from the SEZ or Projects will interconnect to alternate transmission lines or systems.

### **Summary of Transmission and Interconnection Implications to Metropolitan in the Draft PEIS**

Metropolitan has reviewed sections of the Draft PEIS that could directly affect the CRATS and the reliability of Metropolitan's CRA pumping operations. The following is a summary of Metropolitan's concerns which are described in more detail below:

1. Proposed use and connection to Metropolitan's 230kV transmission system or CRATS,
2. Potential use of Metropolitan owned land for interconnections at its pumping plant substations,
3. Iron Mountain SEZ assumptions to connect to and use a 230kV line, presumably Metropolitan's, and
4. Riverside East SEZ assumptions to connect to and use a 230kV line, presumably Metropolitan's.

### **General Concerns Regarding Transmission and Interconnection Implications to Metropolitan in the Draft PEIS**

Metropolitan has numerous technical concerns with large scale interconnection of solar plants to the CRATS, which could affect Metropolitan's mission to provide water to the 19 million residents of southern California.

From a reliability and safety aspect, Metropolitan is concerned with projects that may be developed within the designated solar development areas or with linear projects (transmission lines, roads, etc.) that may be developed within or outside of these areas that would cross or come in close proximity to Metropolitan's transmission system. Metropolitan requests that the Final PEIS analyze and assess any potential impacts to Metropolitan's transmission system including but not limited to:

- A. Metropolitan could be adversely impacted in meeting its water delivery requirements if development of the proposed lands available for utility-scale solar energy development rights-of-way applications would: (1) require de-energization of a portion or all of Metropolitan's electric system; or (2) cause any disruption of Metropolitan's electric system. The Project or any future projects that tier off the Final PEIS and Record of Decision should be designed to avoid such impacts.
- B. Any designation of solar development areas or SEZs should not lessen or remove the Agencies' responsibility to ensure that any ensuing projects do not cause physical damage to, frustrate or interfere with Metropolitan's operation of its facilities. We suggest that the Agencies discharge this responsibility by requiring future project proponents' compliance with (1) prudent energy utility practice; (2) Metropolitan's

engineering and construction requirements; (3) WECC and North American Electric Reliability Corporation (NERC) reliability standards; and (4) applicable transmission planning processes.

- C. Any new facilities resulting from the Project should not increase Metropolitan's cost or responsibilities in meeting WECC/NERC reliability requirements without appropriate compensation.
- D. Any new facilities resulting from the Project should not impede or increase the cost of any maintenance activities required on Metropolitan's CRA and related transmission lines, including local airfields.
- E. To the extent necessary, cathodic and grounding protection should be provided by any new transmission lines to protect Metropolitan's existing infrastructure, including fencing already in or near Metropolitan's rights of way.
- F. Any new facilities resulting from the Project that may cross Metropolitan's 230 kV transmission system must be designed and installed with properly functioning safety systems to preclude interference or impact to Metropolitan's 230 kV transmission system.

**Specific Concerns Regarding Transmission and Interconnection Implications to Metropolitan in the Draft PEIS**

Metropolitan has concerns with the following excerpts identified below from Chapter 9, *Affected Environment and Impact Assessment for Proposed Solar Energy Zones in California*:

**Iron Mountain SEZ**

- 1. Lines 42-46 on page 9.2-3 of Section 9.2.1.2 describe the following:

A 230kV transmission line which appears to be Metropolitan's.

The Draft PEIS correctly states that the capacity of the 230kV line would be inadequate for 9,469 to 17,043 MW of new capacity in this SEZ. It further mentions substantial new transmission and/or upgrades of existing transmission lines would be required to bring electricity from the SEZ to load centers; however it states that at this time the location and size of such new transmission facilities are unknown.

With this reference, Metropolitan is concerned that the Draft PEIS clearly indicates the existing 230kV line is inadequate to handle the new generating capacity identified in the Iron Mountain SEZ, then in item 2, ignores this limitation and assumes the transmission line would provide access to the grid.

- 2. Lines 11-15 of page 9.2-4 state:

“For the analysis in this PEIS, it was assumed that the existing 230kV transmission line that runs north–south through the western portion of the SEZ could provide access to the transmission grid, and thus no additional acreage disturbance for

transmission line access was assessed. Access to the transmission line was assumed, without additional information on whether this line would be available for connection of future solar facilities.”

The Agencies should not assume that the 230kV transmission line in the Iron Mountain SEZ is available for interconnection and these assumptions should be removed from the Final PEIS.

Metropolitan is also concerned that with this reference the Draft PEIS ignores the need to include or assess additional acreage for transmission lines and interconnections in the Iron Mountain SEZ.

### **Riverside East SEZ**

3. Lines 6-13 on page 9.4-3 and lines 9-10 on page 9.4-25 mentions a 230kV to the west of the Riverside East SEZ which appears to be Metropolitan's.

With respect to this reference, like Item 1 above, Metropolitan is concerned with the assumed use of a 230kV line, presumably Metropolitan's, on the west edge of the Riverside SEZ. The Draft PEIS mentions a potential of 18,035 MW to 32,463 MW of new solar capacity, depending on the solar technology, which is far in excess of any capacity available on the identified 230 kV line. Although the Draft PEIS also mentions assumed connections to a 500kV and 69kV in this SEZ, it ignores the impacts of the substantial amount of transmission that would be necessary to interconnect the proposed new solar capacity to the grid.

As noted above, the Agencies should not assume that the 230kV transmission line in the west edge of the Riverside East SEZ is available for interconnection and these assumptions should be removed from the Final PEIS.

Metropolitan notes, there are other 161kV, 230kV, and 500kV substations and transmission lines in the region, that either exist or are planned, to bring renewable generation to load centers which are not discussed in these reports. As mentioned above, some of these projects are listed in the RETI and CTPG reports, CAISO transmission plans, and SCE and WECC's Annual Progress Reports.

As explained above, Metropolitan wishes to highlight its concern regarding inclusion of potential transmission connections directly affecting CRATS in the Draft PEIS. Metropolitan's concerns are based on the function and unique nature of the CRATS, which was built solely for water conveyance purposes. Metropolitan suggests the Final PEIS incorporate more interconnections, right-of-ways, roads, etc., to existing or planned investor owned utility transmission lines.

### **POTENTIAL IMPACTS ON METROPOLITAN'S WATER CONVEYANCE FACILITIES AND RIGHTS-OF-WAY**

Metropolitan is also concerned about the Project's potential impacts on its water conveyance facilities and rights-of-way that may be affected by the Project. Metropolitan owns extensive

property in fee and easement along the CRA and its related facilities, including lands along the transmission system. Metropolitan is concerned with construction activities that could damage or limit access to our facilities, dust or spills at construction sites that could impact water quality, changes in runoff patterns that could lead to erosion or overtopping of facilities, utility corridor activities that could impact local plants, animals and habitat in such a way as to impose restrictions on Metropolitan's operations and other direct and indirect effects to Metropolitan facilities. In order to avoid potential impacts, Metropolitan requests that the Final PEIS include an assessment of potential impacts to Metropolitan's facilities with proposed measures to avoid or mitigate significant adverse effects, including those specified in Chapter 5 of the Draft PEIS.

Proposed solar facilities in the Iron Mountain subarea could impact the following Metropolitan facilities:

- (1) The CRA between Rice and the Iron Mountain Pumping Plant;
- (2) The CRA between the Coxcomb Tunnel Outlet and the Eagle Mountain Pumping Plant (EMPP);
- (3) The 230 kV lines between Iron Mountain and Hinds Pumping Plant;
- (4) Several CRA water spillways (wasteways) including Iron Mountain reservoir and radial gate, Eagle Mountain reservoir, Coxcomb tunnel inlet, and Rice.

Proposed solar facilities in the Riverside East subarea could impact the following Metropolitan facilities:

- (1) The EMPP;
- (2) The CRA between the Coxcomb tunnel outlet and the EMPP;
- (3) The 230 kV lines between the EMPP and Hinds Pumping Plant;
- (4) Portions of the CRA between Highway 62 and Interstate 10 west of Highway 177;
- (5) Portions of the 230 kV lines between Highway 62 and Interstate 10 west of Highway 177.

Metropolitan provides the following specific comments about its concerns regarding potential impacts on its facilities and rights-of-way for the Agencies' consideration and incorporation into the Final PEIS and Record of Decision:

1. Metropolitan requests that the Final PEIS note that neither private nor public entities have any entitlements to build over Metropolitan's fee-owned rights-of-way or properties, including CRA spillways.
2. Metropolitan's facilities and fee-owned or permanent easement rights-of-way should be considered in planning and in the Final PEIS, and the potential impacts that may occur due to implementation of the Project or future projects that tier off the Final PEIS.
3. Any new facilities arising out of the Project should not impact accessibility to existing facilities or impede the use of existing facilities, including the CRA system and the local airfields, as shown in Enclosure 3.



4. Metropolitan is concerned with potential impacts to its facilities associated from any future excavation, construction, utilities or any development that may result from implementation of the proposed Project.
5. Development associated with the proposed Project must not restrict any of Metropolitan's day-to-day operations and/or access to its facilities
6. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our facilities and properties at all times in order to repair, maintain or replace our system.
7. In order to avoid potential conflicts with Metropolitan's rights-of-way, Metropolitan requires that any design and mitigation plans for any activity in the area of Metropolitan's open canals, pipelines, tunnels, spillways or facilities be submitted for our review and written approval. Approval of any project where it could impact Metropolitan's property should be contingent on Metropolitan's approval of design and mitigation plans for the project.
8. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564.
9. To assist in preparing plans that are compatible with Metropolitan's facilities, easements and properties, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California" (Enclosure 4).
10. All submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

## **WATER RESOURCES: POTENTIAL IMPACTS ON WATER SUPPLIES**

Metropolitan is pleased that the Agencies recognize that: "The use of groundwater in the Chuckwalla Valley and Palo Verde Mesa should be planned for and monitored in cooperation with the BOR and the USGS in reference to the Colorado River Accounting Surface and the rules set forth in the Law of the River." (Draft PEIS at page 9.4-9.) As indicated above, Metropolitan holds an entitlement to water supplies from the Colorado River. Metropolitan notes that the Agencies correctly indicate that: "The Colorado River is managed by an assemblage of compacts, federal laws, court decrees, and contracts that form the 'Law of the River.'" (Draft PEIS at page 4-50.) With water from the Colorado River being allocated pursuant to federal law and being managed by the Department of the Interior, Bureau of Reclamation (BOR), a party must have an entitlement to lawfully use Colorado River water (Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 1501, *et seq.*; *Arizona v. California*, 547 U.S. 150 (2006).)

To the extent the Project or any future project that may tier off the Final PEIS and any future Record of Decision uses Colorado River water, it must have a documented right to do so. To assist the Agencies in more accurately describing the Affected Environment and Impact Assessment in the Final PEIS, Metropolitan has provided detailed comments on the portions of a number of Chapters of the Draft PEIS related to California's Colorado River water resources as Enclosures 5 and 6.

Entities in California are currently using or creating Intentionally Created Surplus and are projected in the future to use or create Intentionally Created Surplus with all of California's apportionment of Colorado River water. "Intentionally Created Surplus" is surplus Colorado River system water available for use under the terms and conditions of a Delivery Agreement with the Bureau of Reclamation, a Forbearance Agreement and the 2007 Interim Guidelines for the Operation of Lake Powell and Lake Mead. Project proponents would have to obtain water from existing contract holders for uses within the contract holder's service area. For Colorado River uses outside contract holders' service areas, Metropolitan is willing to discuss the transfer or exchange of a portion of its Colorado River water supply subject to any required approvals and so long as the project proponent agrees to provide Metropolitan with a replacement water supply. Proponents must fully address the impacts on Colorado River water resources and provide full mitigation for such impacts.

Metropolitan notes that the Draft PEIS indicates that: "Groundwater surface elevations are routinely monitored in the Chuckwalla Valley and Palo Verde Mesa as a part of the methodology used to determine groundwater that is replenished by Colorado River water, as outlined in the 2006 consolidated decree of the U.S. Supreme Court (*Arizona v. California* 2006)." (Draft PEIS at page 9.4-68.) Metropolitan recognizes that a potentially applicable mitigation measure specified in the draft PEIS is:

Project developers who plan to use groundwater should develop and implement a groundwater Water Resources Monitoring and Mitigation Plan, which includes monitoring the effects of groundwater withdrawal for project uses, of vegetation restoration and dust control uses during decommissioning, and of aquifer recovery after project decommissioning. Monitoring frequency should be decided on a site-specific basis and in coordination with federal, state, and local agencies that manage the groundwater resources of the region.

(Draft PEIS at page 5-50.)

Metropolitan proposes that as a mitigation measure, any project arising from the Final PEIS and any future Record of Decision which utilizes groundwater from one or more wells which pump water from above, at, or below the Colorado River Accounting Surface annually report the static water levels in each of the project's production wells at least annually for Colorado River water use accounting purposes, or more frequently if required by BOR. Metropolitan requests that the report reference either the current Colorado River Accounting Surface or a valid accounting surface methodology set forth in future legislation, rule-making, policy, procedure, or applicable

judicial determination, and that Metropolitan receive copies of these reports and all relevant groundwater monitoring data, if requested.

## **POTENTIAL ENVIRONMENTAL IMPACTS**

Metropolitan is also concerned about any potential environmental impacts from siting of the proposed solar developments across or in close proximity to its facilities and rights-of-way. Metropolitan provides the following specific comments on potential environmental issues for the Agencies' consideration and incorporation into the Final PEIS:

1. The Project should not increase the potential harm to water quality from chemicals entering subsurface water tables as has been seen with hexavalent chromium (or Chromium 6) from natural gas pumping plants, liquid petroleum or hydrogen pumping plants.
2. The Project should not increase the potential to harm water quality from new pipelines carrying hazardous material.
3. Hazardous material pipelines, if any, should be placed underground when they cross the CRA.
4. Any change in flow or drainage from new facilities should not cause erosion or damage to Metropolitan's facilities or rights-of-way (i.e. aqueduct, transmission tower footings, roads, fencing, spillways and other surface facilities or rights-of-way).
5. The Project must not adversely affect Metropolitan's Hayfield Groundwater Storage and Recharge Project that is located south of the CRA near the Hinds Pumping Plant.
6. The Final PEIS also needs to take into account cumulative effects of the Project on Metropolitan's facilities, properties, and rights-of-way, both in the various phases of installations and taking into consideration the various types of uses on the proposed lands evaluated in the Draft PEIS.

The Draft PEIS makes numerous references to the potential for the CRA to provide viable habitat for wildlife, including waterfowl and shorebird species (pages 8.1-89, 9.2-106, 9.4-121 and others), amphibians (pages 9.2-11 and 9.2-84 and 9.4-96 and others) fish (9.4-135 and others) and other aquatic organisms (page 9.4-136) and special status species (9.4-140). It should be noted that the CRA is not a playa wetland habitat as noted on page 9.4-95. The CRA does not provide viable habitat for birds, amphibians, fish or other aquatic organisms, and thus, these remarks in the Draft PEIS should be removed in the final PEIS. The CRA is a concrete lined canal that runs on the surface as well as into subsurface pipelines and siphons, and conveys fast moving drinking water supplies, and thus, does not provide viable habitat.

April 14, 2011

On page 9.4-57 of the Draft PEIS, reference is made to levees channeling runoff to the CRA. This is an inaccurate statement. The levees referred to here are the V-dikes that provide flood protection for the CRA. The V-dikes channel water away from the open canal segments of the CRA to the larger washes beneath which the CRA crosses by means of inverted siphons. No floodwater or other surface runoff is ever channeled into the CRA.

### **POTENTIAL SOCIOECONOMIC IMPACTS**

Finally, the Final PEIS should assess the socioeconomic impacts of any avoidable impacts on Metropolitan's and its member agencies' operations, including any financial or Metropolitan rate payer impacts arising out of the Project, for example, any costs due to potential interruptions of service and any costs resulting from required transmission upgrades or interconnections.

\* \* \*

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this project. If we can be of further assistance, please contact Dr. Debbie Drezner at (213) 217-5687.

Very truly yours,



John Shamma  
Manager, Environmental Planning Team

DD:rdl  
(Job No. 2011032427)

Enclosures:

1. Metropolitan's comments on Agencies' Notice of Intent
- 2a-b. Metropolitan's comments on the RETI and CTPG processes
3. Map
4. Metropolitan development guidelines
- 5-6. Detailed comments regarding potential impacts to Colorado River resources

cc: Mr. Christopher S. Harris,  
Acting Executive Director  
Colorado River Board of California  
770 Fairmont Avenue, Suite 100  
Glendale, California 91203-1068

# ENCLOSURE 1



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

July 15, 2008

**Via Electronic & U.S. Mail**

Solar Energy PEIS Scoping  
Argonne National Laboratory  
9700 S. Cass Avenue, EVS/900  
Argonne, IL 60439

Dear Sir or Madam:

Notice of Intent to Prepare a  
Programmatic Environmental Impact Statement to Evaluate Solar Energy Development,  
Develop and Implement Agency-Specific Programs, Conduct Public Scoping Meetings,  
Amend Relevant Agency Land Use Plans, and Provide Notice of Proposed Planning Criteria

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the above referenced Notice of Intent to prepare a Programmatic Environmental Impact Statement (PEIS). The proposed PEIS would establish agency-wide solar energy programs and additional related policy. More specifically, the PEIS will evaluate different management strategies to find the best approach for agencies to use when considering approval of proposed solar energy projects on Bureau of Land Management (BLM) managed public land located in the states of Arizona, California, Colorado, New Mexico, and Utah. The Department of Energy (DOE), the U.S. Department of Interior (DOI), and the Bureau of Land Management (BLM) (collectively, Agencies) are the lead agencies for the PEIS. Metropolitan is pleased to submit these comments for the Agencies' consideration in preparing the PEIS.

Metropolitan currently has a significant number of facilities, real estate interests, and fee-owned rights-of-way, easements, and other properties (Facilities) located on or near BLM-managed land in southern California that are part of our supplemental water distribution system. Metropolitan is concerned with potential direct or indirect impacts that may result from the construction and operation of any proposed solar energy project on or near our Facilities. In order to avoid potential impacts, we request that the PEIS include a requirement that all applications for development of solar energy projects on BLM-managed land located on or near Metropolitan Facilities include an assessment of potential impacts to Metropolitan's Facilities with proposed measures to avoid or mitigate significant adverse effects. Metropolitan's specific concerns of potential impacts to Metropolitan Facilities are discussed below.

## **Background**

Metropolitan is a public agency and a regional water wholesaler. It is governed by a 37-member Board of Directors representing 26 member public agencies serving more than 18 million people in six counties in Southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). The CRA consists of tunnels, open canals, and buried pipelines. CRA-related facilities also include above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into the Los Angeles basin. Metropolitan has five pumping plants located along the CRA, which consume approximately 2,400 gigawatt-hours of energy when the CRA is operating at full capacity.

Concurrent with its construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kV transmission lines that run from the Mead Substation in Southern Nevada, head south, then branch east to Parker, California, and then west along Metropolitan's CRA. The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker power plants on the Colorado River to the five pumping plants along the CRA.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's 5,200 square miles service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. This core function, together with certain proposed solar energy projects near Metropolitan's CRA, its transmission facilities, or both, form the basis for Metropolitan's comments herein.

### **Land Use Issues: Potential Impacts on Metropolitan Facilities**

Metropolitan owns extensive property in fee and easement along the CRA and its related Facilities, including Metropolitan's transmission system. Metropolitan below identifies its specific concerns regarding potential impacts on its Facilities for the Agencies' consideration and incorporation into the PEIS:

1. Metropolitan requests that the PEIS state that neither private nor public entities have any entitlements to build over Metropolitan's Facilities.
2. Metropolitan's Facilities should be considered in planning and in the PEIS, and any projects should avoid potential direct and indirect impacts that may occur due to implementation of the Project.
3. Any new facilities arising out of any projects should not impact accessibility to existing Metropolitan Facilities or impede the use of existing Metropolitan Facilities, including the CRA system.

4. Metropolitan is concerned with potential impacts to its Facilities associated from any future excavation, construction, utilities or any development that may result from implementation of any projects.
5. Development associated with any projects must not restrict any of Metropolitan's day-to-day operations and/or access to its Facilities.
6. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our Facilities at all times in order to repair and maintain our system.
7. In order to avoid potential conflicts with Metropolitan's Facilities, Metropolitan requires that any design plans for any activity in the area of Metropolitan's Facilities be submitted for our review and written approval. Approval of any project where it could impact Metropolitan's property should be contingent on Metropolitan's approval of design plans for that project.
8. All submitted project designs or plans must clearly identify Metropolitan's Facilities.
9. A project shall not rely on Metropolitan's Facilities for mitigation of significant impacts caused by that project.

**Land Use Issues: Potential Impacts on Metropolitan's Electrical Transmission System**

Metropolitan is concerned that locating solar projects near or across its electrical transmission system could have an adverse impact on Metropolitan's electric transmission-related operations and Facilities. From a reliability and safety aspect, Metropolitan is concerned with development of any proposed projects and supporting transmission systems that would cross or come in close proximity with Metropolitan's transmission system, and accordingly provides the following specific comments on this topic for the Agencies' consideration and incorporation into the PEIS:

1. Metropolitan could be adversely impacted in meeting its water delivery obligations if the development of any projects would: (1) require the de-energization of a portion or all of Metropolitan's electric system; or (2) cause any disruption of Metropolitan's electric system. Any projects should be designed to avoid such impacts.
2. Any project should not plan to interconnect to Metropolitan's transmission system as its transmission capacity is fully subscribed. Moreover, such interconnection could compromise Metropolitan's ability to reliably operate the CRA. Instead, projects should be required to identify how they will interconnect to an alternate transmission line or system.

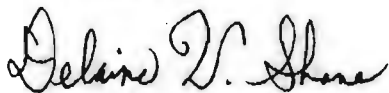
### **Environmental Issues**

Metropolitan also has concerns regarding potential environmental impacts of the solar projects, including impacts to water resources or impacts from the siting of any projects across or in close proximity of its Facilities. Metropolitan provides the following specific comments on potential environmental issues for the Agencies' consideration and incorporation into the PEIS:

1. To the extent the projects require water resources, projects may not rely upon Metropolitan's CRA or other Facilities as a direct source of water, and must identify the source and adequacy of an alternate water supply. The PEIS should address potential impacts to water supplies and resources, including the potential for surface and/or groundwater depletion, and how the projects will mitigate for any such impacts.
2. Any project should not compromise water quality standards or increase the potential of degradation to water quality from chemicals entering subsurface water tables.
3. Any project should not increase the potential of degradation to water quality from new pipelines carrying hazardous material.
4. Hazardous material pipelines, if any, should be placed underground when they cross the CRA.
5. Any change in flow or drainage from new facilities should not cause erosion, subsidence, or damage to Metropolitan's Facilities.
6. Any project must not adversely affect any of Metropolitan's projects, including Hayfield Groundwater Storage and Recharge Project located south of the CRA near the Hinds Pumping Plant.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this Project. If we can be of further assistance, please contact Raeanne Murphy at (213) 217-6319.

Very truly yours,



Delaine W. Shane  
Manager, Environmental Planning Team

RM/rm



# ENCLOSURE 2a



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

June 25, 2009

Via Electronic & U.S. Mail

Ms. Clare Laufenberg Gallardo  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Renewable Energy Transmission Initiative (RETI) Phase 2A Draft Report

Dear Ms. Gallardo:

The Metropolitan Water District of Southern California (Metropolitan) is pleased to provide the following comments on the RETI Phase 2A Draft Report (Draft Report). On May 10, 2009, Metropolitan submitted initial comments expressing concern regarding RETI's potential impact to Metropolitan transmission facilities by email to RETI Stakeholder Steering Committee members Messrs. Richard Ferguson, David Olsen and Shashi Pandey. Since then, Metropolitan has been an active participant in meetings of the RETI Conceptual Planning Work Group (CPWG) and related activities, including providing comments regarding RETI to the California Energy Commission on May 22 in response to the May 4, 2009, Joint Integrated Energy Policy Report and Siting Committee workshop.

These Draft Report comments focus on potential transmission projects directly affecting Metropolitan's Colorado River Aqueduct Transmission System (CRATS). Metropolitan's concerns fundamentally arise from the purpose and unique nature of the CRATS, as explained immediately below.

**Metropolitan's Electrical Transmission System**

Metropolitan was created in 1928 for the purpose of transporting water from the Colorado River to the growing population in Southern California. In the 1930's, it constructed the CRA, starting near the newly completed Parker Dam, through remote areas of the Mojave Desert in Riverside and San Bernardino counties and terminating near the city of Riverside. Five large pumping plants, whose total electrical demand would be nearly 300 MW, were built along the CRA. Due to the remoteness of the area, there was no existing electrical infrastructure to transport and supply the large amount of power required by these pumps. Therefore, Metropolitan had to construct a 230 kV transmission system to bring power from the Hoover and Parker Dam power plants to its five pumping plants.

The sole use and purpose of the CRATS was to deliver power to its remote pumping loads. The CRA pumps are basically tied directly to the CRATS, using a main and transfer bus

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configuration. There is no redundant transmission path to several of our pumping plants, which must operate in a synchronized fashion as there is no water storage facility along the CRA. The CRATS was designed essentially as a pumping load tie.

The CRATS currently lies within the California Independent System Operator (CAISO) Balancing Authority Area as a result of a 30-year, complex integration contract with Southern California Edison that expires in 2017, under which SCE had performed control area responsibilities for the CRATS. The CRATS is not part of the ISO Controlled Grid since Metropolitan, its owner, is not a CAISO Participating Transmission Owner.

The water that Metropolitan transports through the CRA is critical to the population and economy of Southern California. Metropolitan supplies one half of the total water used by the businesses, industries and 19 million residents of this region, and over 50 percent of that water comes from the CRA. To satisfy such water demands, the CRA must be operated on a near continuous basis. In some years, we have operated the CRA at maximum flow 24/7 for the entire year. In other years, the CRA has been shut down briefly to perform scheduled maintenance during the summer, when the water supply requirements were met by other resources. Such shutdowns require extensive advance coordination and planning with Metropolitan's 26 member agencies to ensure they can continue to provide water delivery to their wholesale and retail customers. Essentially, the CRA and its supporting transmission system operate on a schedule dictated by water supply requirements, not electrical considerations.

#### **RETI's Proposed Changes to the CRATS**

RETI proposes construction of the following Iron Mountain Collector lines: (1) Replacement of Metropolitan's existing 230 kV Iron Mountain – Camino transmission line with two new 500 kV double circuit lines connecting Iron Mountain to a new Southern California Edison Company (Edison) Junction 500 kV substation to access renewable generation within the Iron Mountain Competitive Renewable Energy Zone (CREZ); and (2) a new 500 kV single circuit line from SCE Junction – Camino to access the Needles CREZ. Metropolitan's 230 kV Iron Mountain and Camino substations would be modified as 500/230 kV.

The RETI Phase 2A Draft Report also proposed other modifications to Metropolitan's CRATS that Metropolitan is pleased to learn have since been withdrawn from further consideration by the RETI CPWG. Specifically, Metropolitan understands the two new 20 mile, 230 kV double circuit lines proposed from Metropolitan's Julian Hinds 230 kV substation to Desert Center will not appear in the final Phase 2A Report. In addition, reconstruction of Metropolitan's existing 230 kV line with double circuit towers from Julian Hinds to Eagle Mountain substations and addition of a new Hinds – Eagle Mountain line on the open side of the towers has also been withdrawn. Finally, the CPWG deleted two proposed 500 kV lines from Eagle Mountain to Devers substations (Green Energy Express), and modification of Eagle Mountain substation from 230 kV to 500/230 kV. Metropolitan greatly appreciates the CPWG's efforts to reduce RETI's

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impact to Metropolitan's CRATS. For the reasons explained below, we urge further consideration of RETI's proposed changes to CRATS in the Iron Mountain CREZ.

### **Metropolitan's Specific Phase 2A Draft Report Comments**

#### *Apparent Underestimation of Iron Mountain CREZ & Collector Line Environmental Concerns*

The Draft Report appears to have underestimated environmental concerns associated with development of the Iron Mountain CREZ and construction of the associated Iron Mountain Collector lines to deliver renewable energy to load centers. Notably, the Environmental Work Group (EWG) failed to include one of the primary (if not the major) environmental constraint in the immediate area, critical habitat for the desert tortoise in its Transmission Line Environmental Issues Checklist contained in Appendix D to the Draft Report. While the Iron Mountain CREZ lies outside of designated critical habitat for the desert tortoise, the Iron Mountain - SCE Junction and SCE Junction lines lie within a large swath of critical habitat. Such lines also lie within Desert Wildlife Management Areas, and U.S. Bureau of Land Management Areas of Critical Environmental Concern, as the EWG correctly noted. Even with the omission of critical habitat for the desert tortoise, the EWG concluded that the Iron Mountain Collector lines pose "High" Environmental Concern, as documented in Appendix D.

Metropolitan has difficulty reconciling the "High" Environmental Concern noted in Appendix D with Table 1-1 in the Draft Report, which identifies the Iron Mountain Collector lines as having the fifth lowest environmental score of 12 collector lines. Their environmental score of 131 is significantly lower than the median collector line score of 249. Metropolitan assumes the low environmental score for Iron Mountain Collector lines is in part attributable to the apparent intent to locate their construction on existing right-of-way. However, these lines will be constructed in very remote, pristine areas of the Mojave Desert, and significant adverse environmental impact could ensue from such activity.

The Iron Mountain CREZ and Collector lines are subject to additional development risk, for they are located well within the proposed Mojave Desert National Monument. If established, the Monument would appear to frustrate, if not prohibit, development of renewable generation in the Iron Mountain CREZ and possibly also the Needles CREZ. Furthermore, Executive Order S-14-08 which directs development of a Desert Renewable Energy Conservation Plan based upon a Natural Communities Conservation Plan by the end of 2010 is likely to affect development of renewable energy in the Iron Mountain CREZ. Finally, the U.S. Fish & Wildlife Service is in the process of revising its Desert Tortoise Recovery Plan, which may be completed in 2009.

All of the foregoing suggests that prospective renewable generation developers would be prudent to focus their project development efforts in areas that are not subject to the extensive environmental risk and uncertainty that is clearly associated with the Iron Mountain CREZ. Transmission plans should be appropriately focused on providing access to the CREZs that do not suffer from the same degree of project development impediments as the Iron Mountain

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CREZ. This is especially true in light of the Draft Report's recognition that the total estimated renewable generation in identified CREZs is several multiples in excess of the amount of California's utilities need to procure to achieve compliance with a 33% renewable portfolio standard by 2020.

*Need for Coordinated Transmission Planning Efforts*

As a small electric utility, Metropolitan is especially sensitive to the multiplicity of concurrent transmission planning efforts currently going forward on a state and regional basis. RETI has done a good job thus far of coordinating its activities with affected parties. As the proposed conceptual transmission plan undergoes further revision, RETI will need to remain vigilant to ensure that all affected parties have an opportunity to provide comment, and that its plans appropriately reflect external developments such as the results of CAISO generator interconnection queue, local transmission plans and regional planning efforts such as the Western Electricity Coordinating Council's Transmission Expansion Planning Policy Committee and the Arizona Corporation Commission's Biennial Transmission Assessment.

*Focus on core mission*

Metropolitan supports all but one of the Draft Report's Policy Recommendations. The Draft Report's recommendation that multiple transmission charges be eliminated concerns transmission cost recovery. That issue is not germane to RETI's stated purpose, which is to (i) Help identify the transmission projects needed to accommodate these renewable energy goals; (ii) Facilitate transmission corridor designation; (iii) Facilitate transmission and generation siting permitting; and (iv) Support future energy policy. Realization of RETI's purpose is already challenging; it should seek to avoid issues extraneous to the achievement of its objectives.

*Conclusion*

As the electric grid has developed around the CRA, Metropolitan has had to increase the complexity and capability of the protection devices on the CRATS and at the pumping plants. With the higher capacity and voltage Iron Mountain Collector lines proposed to be interconnected to the CRATS and incorporated into it, Metropolitan is very concerned about its ability to protect the pumping plants from disruption and the potential incompatibilities of the power and water conveyance missions.

Metropolitan's core mission is the reliable supply of water to Southern California, and we remain concerned the transmission network changes to our system resulting from development of the Iron Mountain CREZ and Collector lines could impair that mission. Metropolitan looks forward to further participation in the RETI to ensure realization of its important goals is achieved in a manner that doesn't compromise Metropolitan's ability to reliably deliver water to 19 million Southern California residents.

THE METROPOLITAN WATER DISTRICT OF SOUTHRN CALIFORNIA

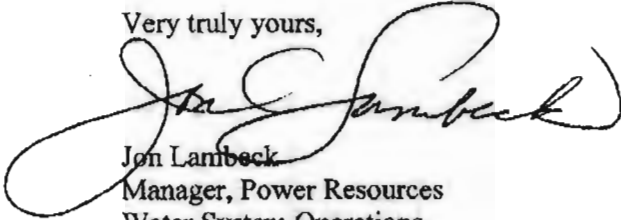
Ms. Clare Laufenberg Gallardo

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Thank you for your consideration of these comments. Please contact me at me at (213) 217-7381 or [jlambek@mwdh2o.com](mailto:jlambek@mwdh2o.com) or Ann Finley at (213) 217-7136 or [afinley@mwdh2o.com](mailto:afinley@mwdh2o.com) should you have any questions concerning them.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jon Lambek", written in a cursive style with a large loop at the end.

Jon Lambek  
Manager, Power Resources  
Water System Operations

(c:\opt\exec\power resources\jon\06\_24\_09\MWD Comments\_RET1)

## ENCLOSURE 2b

Message received on January 14, 2011 at 5:05pm:

MWD appreciates the hard work put forth performing the studies and developing the CTPG reports.

MWD has a question related to a 150 MW solar plant listed in the CTPG Phase 4 report associated with an Iron Mountain CREZ on pages 22-24, 48-49, 53 and 58. The report also indicates that no grid configuration changes are necessary. Please identify the utility and location/grid/bus that this proposed 150MW plant would interconnect to.

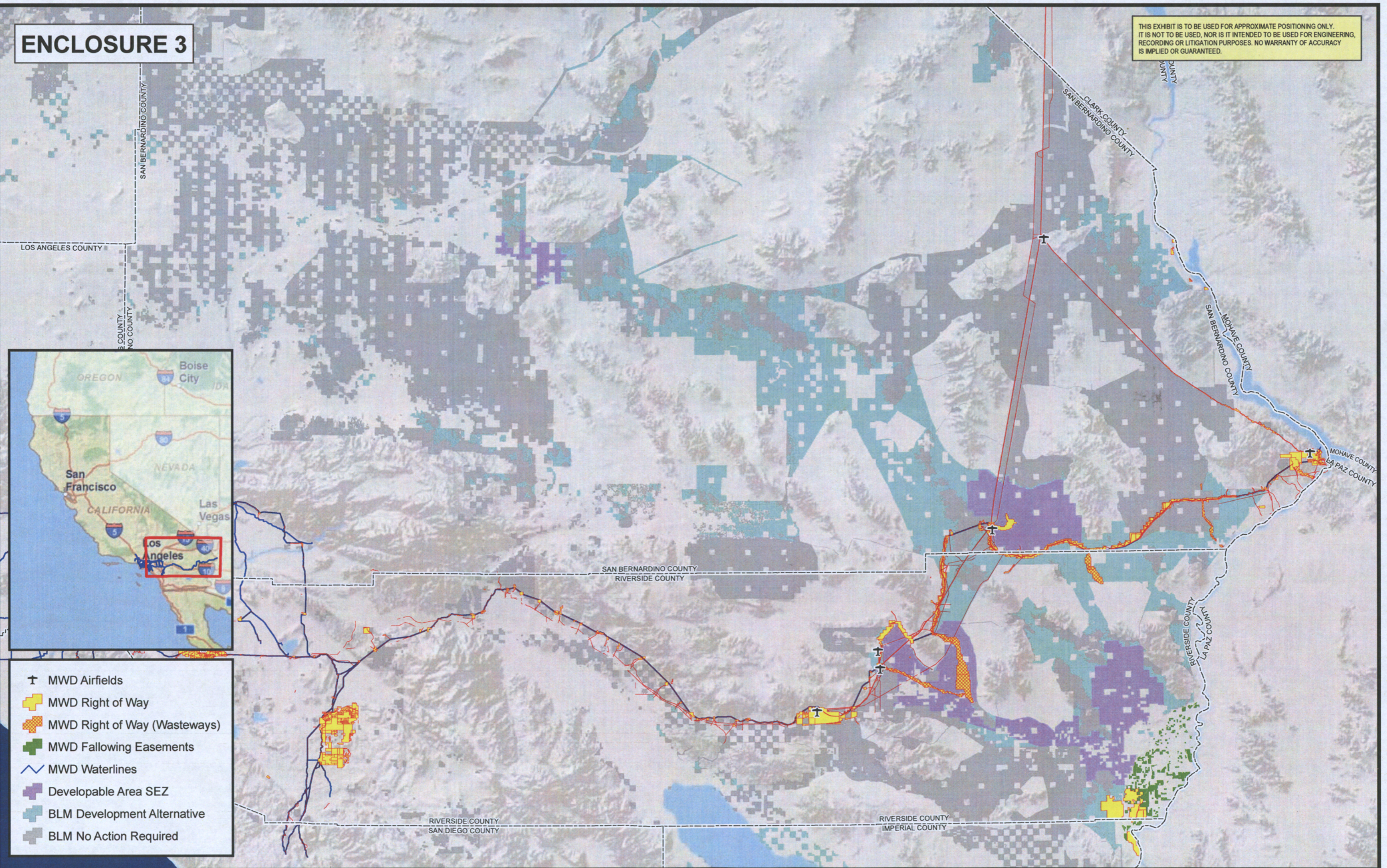
Please confirm with the high stressed WOR flows studied in the Phase 4 report, there were no unacceptable voltages (thermal and post-transient) for MWD's 230 or 6.9kV pumping system.



Regards,  
Ann Finley  
MWD

# ENCLOSURE 3

THIS EXHIBIT IS TO BE USED FOR APPROXIMATE POSITIONING ONLY. IT IS NOT TO BE USED, NOR IS IT INTENDED TO BE USED FOR ENGINEERING, RECORDING OR LITIGATION PURPOSES. NO WARRANTY OF ACCURACY IS IMPLIED OR GUARANTEED.

Project: Environmental\_Planning\BLM\_Lands.mxd | Printed: 04/05/2011 | Photography Date: None | Prepared by: Enrique Chen (Right of Way Engineering Team) | Checked by: Debbie Drezner | Job#: GIS11-03-08



-  MWD Airfields
-  MWD Right of Way
-  MWD Right of Way (Wasteways)
-  MWD Following Easements
-  MWD Waterlines
-  Developable Area SEZ
-  BLM Development Alternative
-  BLM No Action Required

# ENCLOSURE 4

## Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California

### 1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

### 2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.



3. Maintenance of Access Along Metropolitan's Rights-of-Way

a. Proposed cut or fill slopes exceeding 10 percent are normally not allowed within Metropolitan's fee properties or easements. This is required to facilitate the use of construction and maintenance equipment, and provide access to its aboveground and belowground facilities.

b. We require that 16-foot-wide commercial-type driveway approaches be constructed on both sides of all streets crossing Metropolitan's rights-of-way. Openings are required in any median island. Access ramps, if necessary, must be at least 16-foot-wide. Grades of ramps are normally not allowed to exceed 10 percent. If the slope of an access ramp must exceed 10 percent due to the topography, the ramp must be paved. We require a 40-foot-long level area on the driveway approach to access ramps where the ramp meets the street. At Metropolitan's fee properties, we may require fences and gates.

c. The terms of Metropolitan's permanent easement deeds normally preclude the building or maintenance of structures of any nature or kind within its easements, to ensure safety and avoid interference with operation and maintenance of Metropolitan's pipelines or other facilities. Metropolitan must have vehicular access along the easements at all times for inspection, patrolling, and for maintenance of the pipelines and other facilities on a routine basis. We require a 20-foot-wide clear zone around all above-ground facilities for this routine access. This clear zone should slope away from our facility on a grade not to exceed 2 percent. We must also have access along the easements with construction equipment. An example of this is shown on Figure 1.

d. The footings of any proposed buildings adjacent to Metropolitan's fee properties and/or easements must not encroach into the fee property or easement or impose additional loading on Metropolitan's pipelines or other facilities therein. A typical situation is shown on Figure 2. Prints of the detail plans of the footings for any building or structure adjacent to the fee property or easement must be submitted for our review and written approval as they pertain to the pipeline or other facilities therein. Also, roof eaves of buildings adjacent to the easement or fee property must not overhang into the fee property or easement area.

e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.

c. Absolutely no trees will be allowed within 15 feet of the centerline of Metropolitan's existing or future pipelines and facilities.

d. Deep-rooted trees are prohibited within Metropolitan's fee properties and/or easements. Shallow-rooted trees are the only trees allowed. The shallow-rooted trees will not be permitted any closer than 15 feet from the centerline of the pipeline, and such trees shall not be taller than 25 feet with a root spread no greater than 20 feet in diameter at maturity. Shrubs, bushes, vines, and ground cover are permitted, but larger shrubs and bushes should not be planted directly over our pipeline. Turf is acceptable. We require submittal of landscape plans for Metropolitan's prior review and written approval. (See Figure 3).

e. The landscape plans must contain provisions for Metropolitan's vehicular access at all times along its rights-of-way to its pipelines or facilities therein. Gates capable of accepting Metropolitan's locks are required in any fences across its rights-of-way. Also, any walks or drainage facilities across its access route must be constructed to AASHTO H-20 loading standards.

f. Rights to landscape any of Metropolitan's fee properties must be acquired from its Right of Way and Land Division. Appropriate entry permits must be obtained prior to any entry on its property. There will be a charge for any entry permit or easements required.

6. Fencing

Metropolitan requires that perimeter fencing of its fee properties and facilities be constructed of universal chain link, 6 feet in height and topped with 3 strands of barbed wire angled upward and outward at a 45 degree angle or an approved equal for a total fence height of 7 feet. Suitable substitute fencing may be considered by Metropolitan. (Please see Figure 5 for details).

7. Utilities in Metropolitan's Fee Properties and/or Easements or Adjacent to Its Pipeline in Public Streets

Metropolitan's policy for the alinement of utilities permitted within its fee properties and/or easements and street rights-of-way is as follows:

a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alignment as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

g. Overhead electrical and telephone line requirements:

1) Conductor clearances are to conform to the California State Public Utilities Commission, General Order 95, for Overhead Electrical Line Construction or at a greater clearance if required by Metropolitan. Under no circumstances shall clearance be less than 35 feet.

2) A marker must be attached to the power pole showing the ground clearance and line voltage, to help prevent damage to your facilities during maintenance or other work being done in the area.

3) Line clearance over Metropolitan's fee properties and/or easements shall be shown on the drawing to indicate the lowest point of the line under the most adverse conditions including consideration of sag, wind load, temperature change, and support type. We require that overhead lines be located at least 30 feet laterally away from all above-ground structures on the pipelines.

4) When underground electrical conduits, 120 volts or greater, are installed within Metropolitan's fee property and/or easement, the conduits must be incased in a minimum of three inches of red concrete. Where possible, above ground warning signs must also be placed at the right-of-way lines where the conduits enter and exit the right-of-way.

h. The construction of sewerlines in Metropolitan's fee properties and/or easements must conform to the California Department of Health Services Criteria for the Separation of Water Mains and Sanitary Services and the local City or County Health Code Ordinance as it relates to installation of sewers in the vicinity of pressure waterlines. The construction of sewerlines should also conform to these standards in street rights-of-way.

i. Cross sections shall be provided for all pipeline crossings showing Metropolitan's fee property and/or easement limits and the location of our pipeline(s). The exact locations of the crossing pipelines and their elevations shall be marked on as-built drawings for our information.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assist others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ CONDUIT"

m. Cathodic Protection requirements:

1) If there is a cathodic protection station for Metropolitan's pipeline in the area of the proposed work, it shall be located prior to any grading or excavation. The exact location, description and manner of protection shall be shown on all applicable plans. Please contact Metropolitan's Corrosion Engineering Section, located at Metropolitan's F. E. Weymouth Softening and Filtration Plant, 700 North Moreno Avenue, La Verne, California 91750, telephone (714) 593-7474, for the locations of Metropolitan's cathodic protection stations.

2) If an induced-current cathodic protection system is to be installed on any pipeline crossing Metropolitan's pipeline, please contact Mr. Wayne E. Risner at (714) 593-7474 or (213) 250-5085. He will review the proposed system and determine if any conflicts will arise with the existing cathodic protection systems installed by Metropolitan.

3) Within Metropolitan's rights-of-way, pipelines and carrier pipes (casings) shall be coated with an approved protective coating to conform to Metropolitan's requirements, and shall be maintained in a neat and orderly condition as directed by Metropolitan. The application and monitoring of cathodic protection on the pipeline and casing shall conform to Title 49 of the Code of Federal Regulations, Part 195.

4) If a steel carrier pipe (casing) is used:

(a) Cathodic protection shall be provided by use of a sacrificial magnesium anode (a sketch showing the cathodic protection details can be provided for the designers information).

(b) The steel carrier pipe shall be protected with a coal tar enamel coating inside and out in accordance with AWWA C203 specification.

n. All trenches shall be excavated to comply with the CAL/OSHA Construction Safety Orders, Article 6, beginning with Sections 1539 through 1547. Trench backfill shall be placed in 8-inch lifts and shall be compacted to 95 percent relative compaction (ASTM D698) across roadways and through protective dikes. Trench backfill elsewhere will be compacted to 90 percent relative compaction (ASTM D698).

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.



10. Drainage

a. Residential or commercial development typically increases and concentrates the peak storm water runoff as well as the total yearly storm runoff from an area, thereby increasing the requirements for storm drain facilities downstream of the development. Also, throughout the year water from landscape irrigation, car washing, and other outdoor domestic water uses flows into the storm drainage system resulting in weed abatement, insect infestation, obstructed access and other problems. Therefore, it is Metropolitan's usual practice not to approve plans that show discharge of drainage from developments onto its fee properties and/or easements.

b. If water must be carried across or discharged onto Metropolitan's fee properties and/or easements, Metropolitan will insist that plans for development provide that it be carried by closed conduit or lined open channel approved in writing by Metropolitan. Also the drainage facilities must be maintained by others, e.g., city, county, homeowners association, etc. If the development proposes changes to existing drainage features, then the developer shall make provisions to provide for replacement and these changes must be approved by Metropolitan in writing.

11. Construction Coordination

During construction, Metropolitan's field representative will make periodic inspections. We request that a stipulation be added to the plans or specifications for notification of Mr. \_\_\_\_\_ of Metropolitan's Operations Services Branch, telephone (213) 250-\_\_\_\_, at least two working days prior to any work in the vicinity of our facilities.

12. Pipeline Loading Restrictions

a. Metropolitan's pipelines and conduits vary in structural strength, and some are not adequate for AASHTO H-20 loading. Therefore, specific loads over the specific sections of pipe or conduit must be reviewed and approved by Metropolitan. However, Metropolitan's pipelines are typically adequate for AASHTO H-20 loading provided that the cover over the pipeline is not less than four feet or the cover is not substantially increased. If the temporary cover over the pipeline during construction is between three and four feet, equipment must be restricted to that which

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

2) In order to ensure compliance with the regulations implementing CEQA where Metropolitan is not the Lead Agency, the following minimum procedures to ensure compliance with the Act have been established:

a) Metropolitan shall be timely advised of any determination that a Categorical Exemption applies to the project. The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

b) Metropolitan is to be consulted during the preparation of the Negative Declaration or EIR.

c) Metropolitan is to review and submit any necessary comments on the Negative Declaration or draft EIR.

d) Metropolitan is to be indemnified for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

b. When Environmental Documents Have Been Prepared

If environmental documents have been prepared for your project, please furnish us a copy for our review and files in a timely manner so that we may have sufficient time to review and comment. The following steps must also be accomplished:

1) The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

2) You must agree to indemnify Metropolitan, its officers, engineers, and agents for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

15. Metropolitan's Plan-Review Cost

a. An engineering review of your proposed facilities and developments and the preparation of a letter response

giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.

17. Additional Information

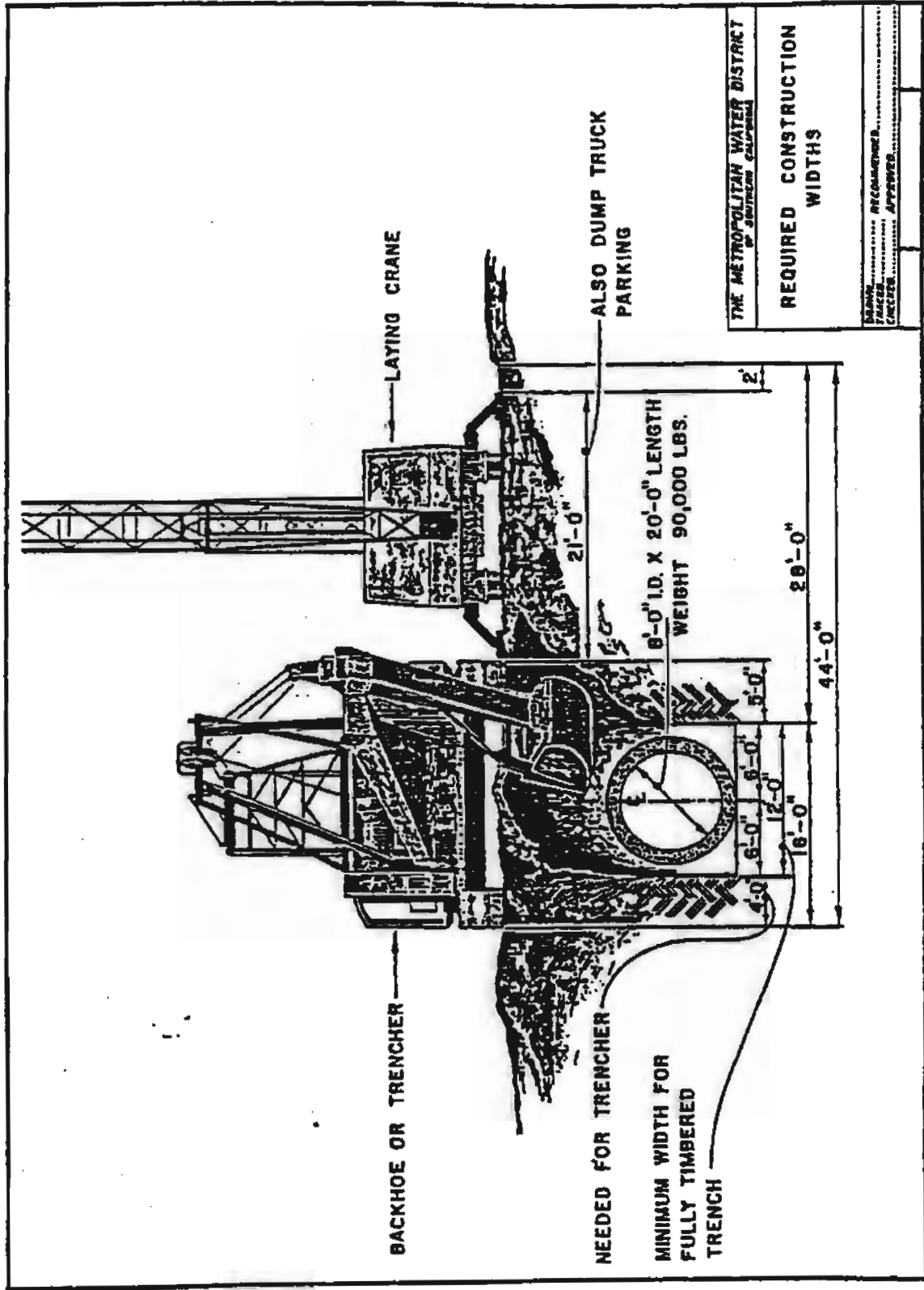
Should you require additional information, please contact:

Civil Engineering Substructures Section  
Metropolitan Water District  
of Southern California  
P.O. Box 54153  
Los Angeles, California 90054-0153  
(213) 217-6000

JEH/MRW/lk

Rev. January 22, 1989

Encl.



THE METROPOLITAN WATER DISTRICT  
 OF SOUTHERN CALIFORNIA  
 REQUIRED CONSTRUCTION  
 WIDTHS  
 DRAWN BY: RECOMMENDED  
 CHECKED BY: APPROVED

FIGURE 1

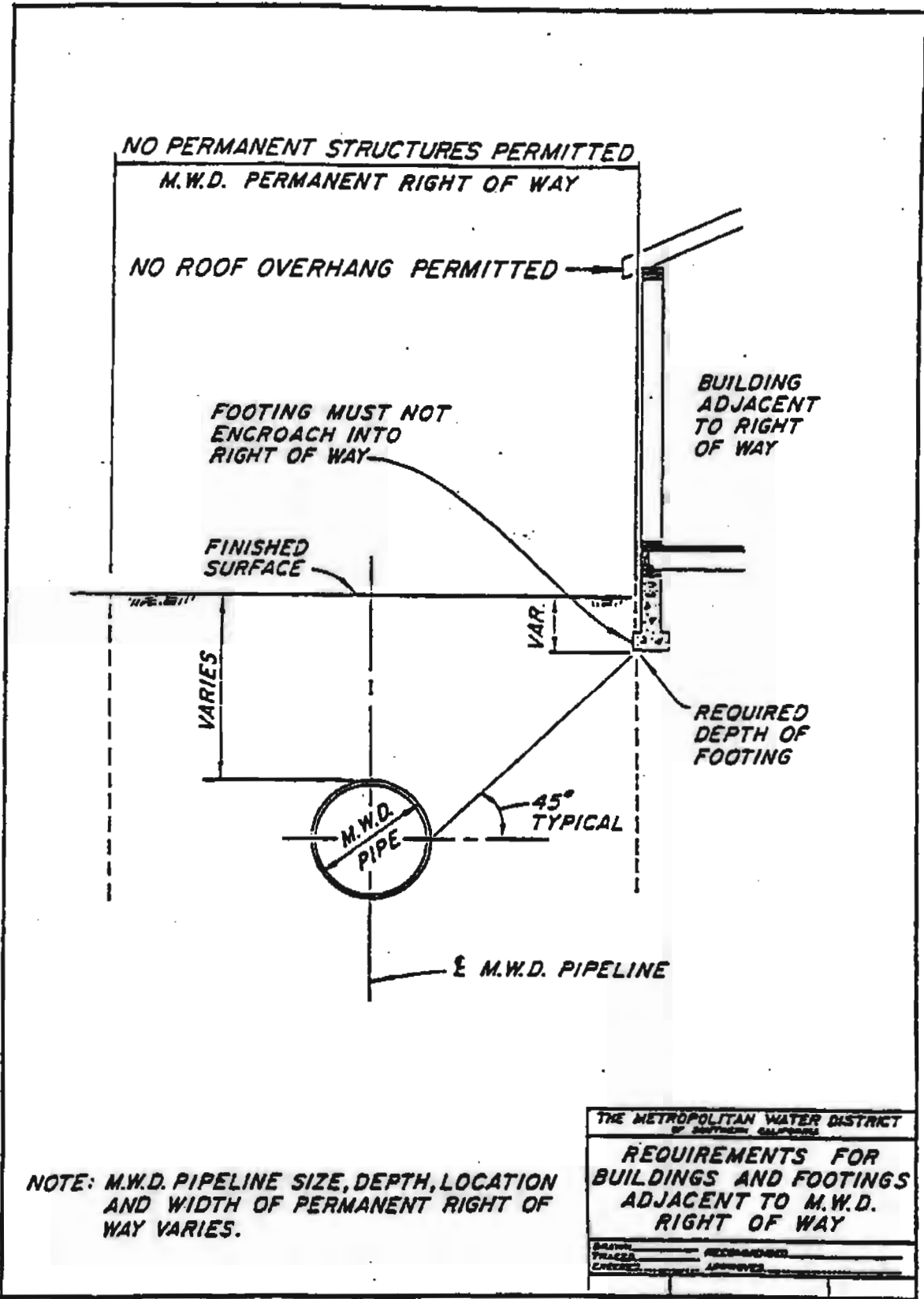
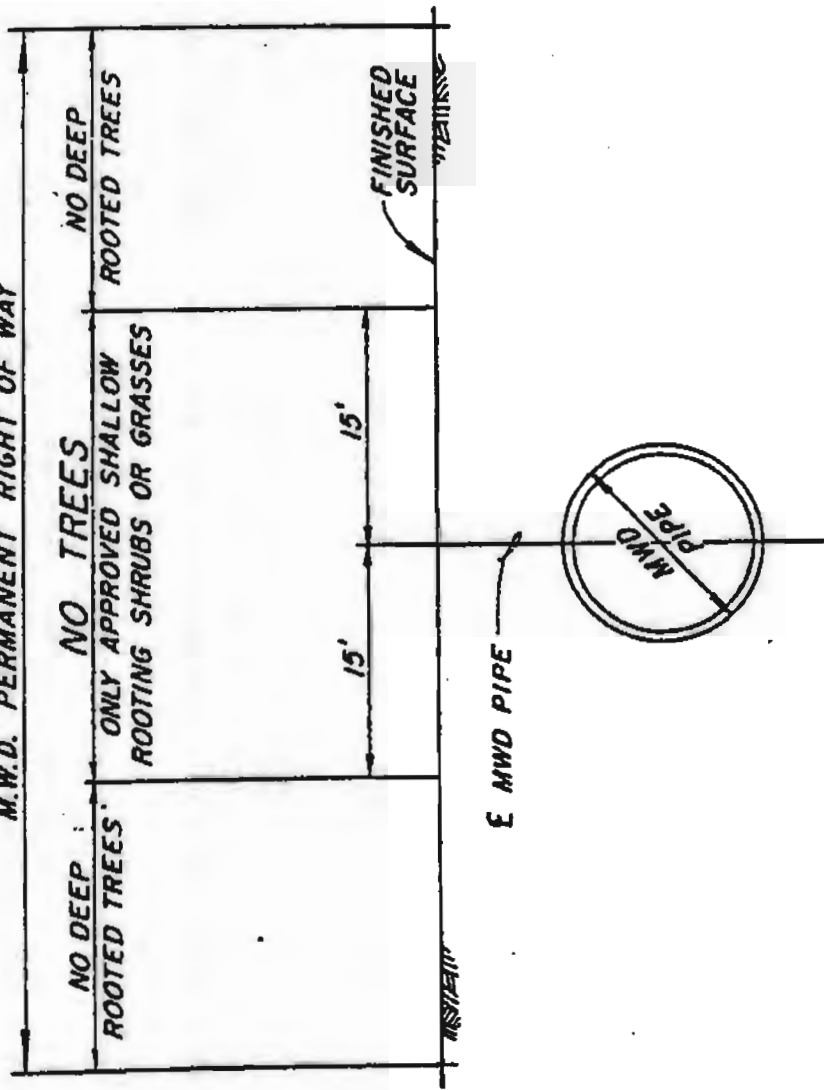


FIGURE 2

M.W.D. PERMANENT RIGHT OF WAY



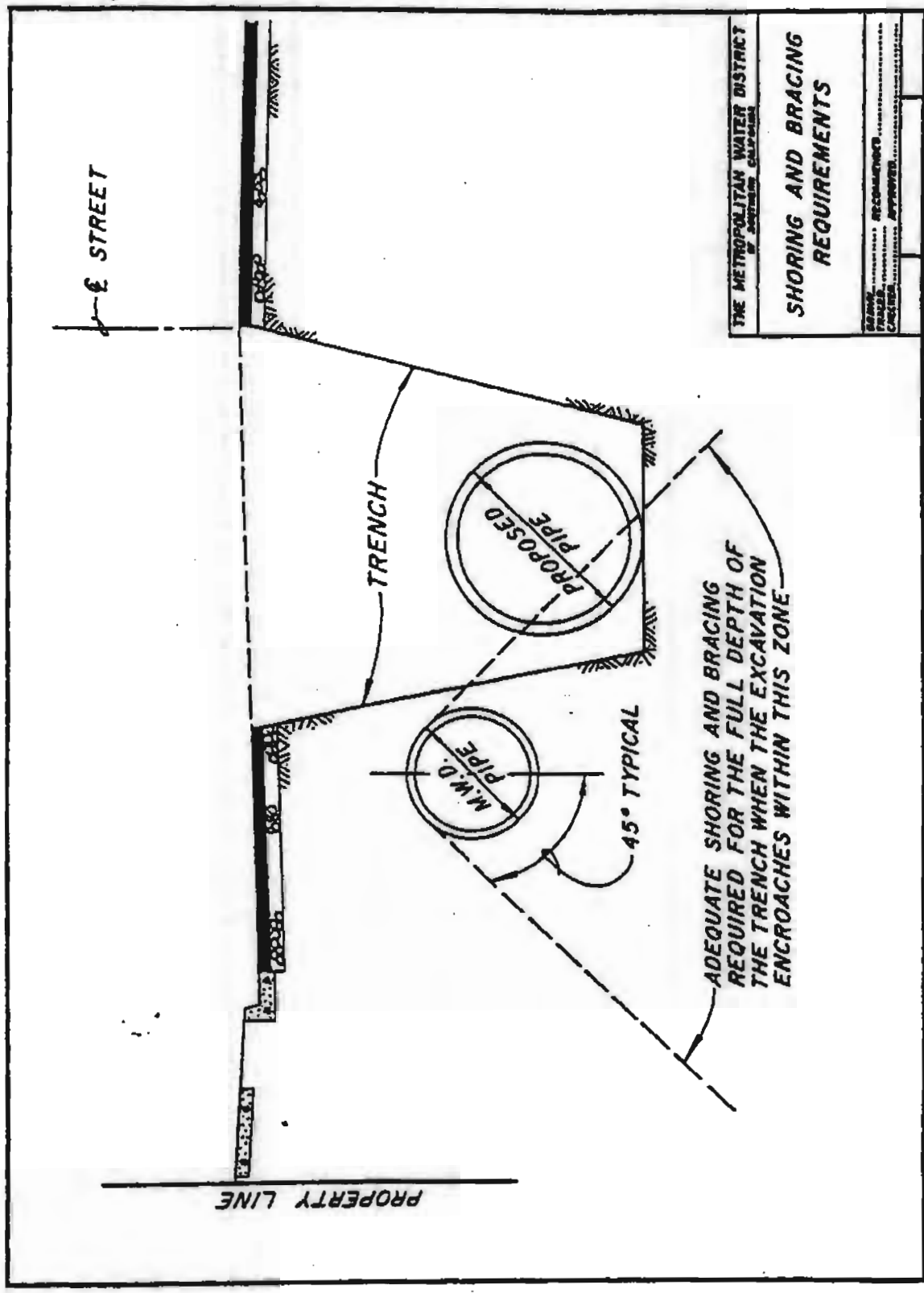
THE METROPOLITAN WATER DISTRICT  
OF DALLAS TEXAS

**LANDSCAPE GUIDELINES  
FOR  
M.W.D. RIGHT OF WAY**

DESIGNED BY: [REDACTED] RECOMMENDED BY: [REDACTED]  
DRAWN BY: [REDACTED] CHECKED BY: [REDACTED] APPROVED BY: [REDACTED]

FIGURE 3



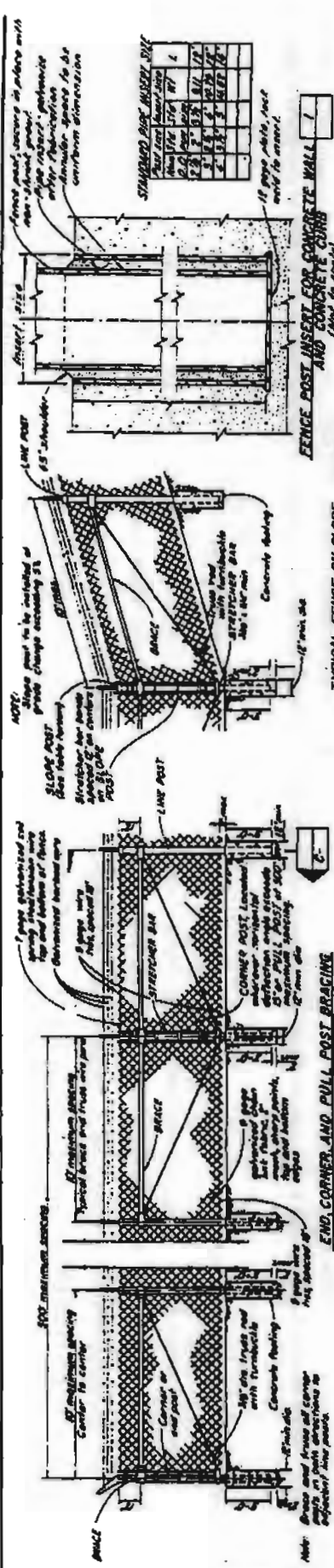


THE METROPOLITAN WATER DISTRICT  
OF DISTRICT OF CALIFORNIA

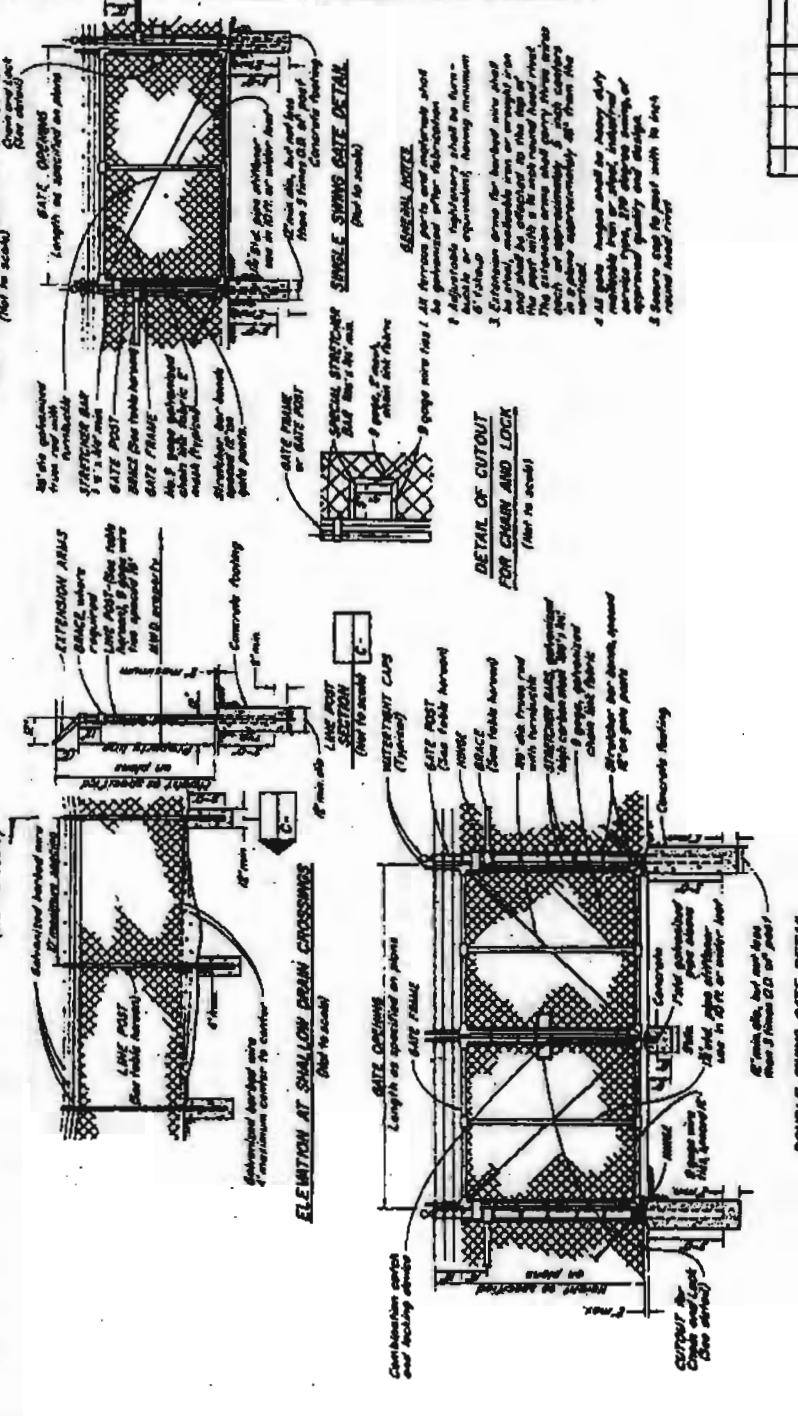
**SHORING AND BRACING  
REQUIREMENTS**

DESIGNED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_

FIGURE 4



Type	Quantity	Spec. No.	Notes
Line Post	22	2.219	5 1/2" dia
Line Post	2	2.219	5 1/2" dia
Line Post	55	4.220	5 1/2" dia
Line Post	5	5.225	5 1/2" dia
Line Post	6	6.230	5 1/2" dia
Line Post	18	7.235	5 1/2" dia
Line Post	18	8.240	5 1/2" dia
Line Post	18	9.245	5 1/2" dia
Line Post	18	10.250	5 1/2" dia
Line Post	18	11.255	5 1/2" dia
Line Post	18	12.260	5 1/2" dia
Line Post	18	13.265	5 1/2" dia
Line Post	18	14.270	5 1/2" dia
Line Post	18	15.275	5 1/2" dia
Line Post	18	16.280	5 1/2" dia
Line Post	18	17.285	5 1/2" dia
Line Post	18	18.290	5 1/2" dia
Line Post	18	19.295	5 1/2" dia
Line Post	18	20.300	5 1/2" dia
Line Post	18	21.305	5 1/2" dia
Line Post	18	22.310	5 1/2" dia
Line Post	18	23.315	5 1/2" dia
Line Post	18	24.320	5 1/2" dia
Line Post	18	25.325	5 1/2" dia
Line Post	18	26.330	5 1/2" dia
Line Post	18	27.335	5 1/2" dia
Line Post	18	28.340	5 1/2" dia
Line Post	18	29.345	5 1/2" dia
Line Post	18	30.350	5 1/2" dia



THE METROPOLITAN WATER DISTRICT OF DISTRICT COUNCILS

CHAIN LINK FENCE DETAILS

REVISIONS

No.	Date	Description	By	App'd.
1				
2				
3				
4				
5				

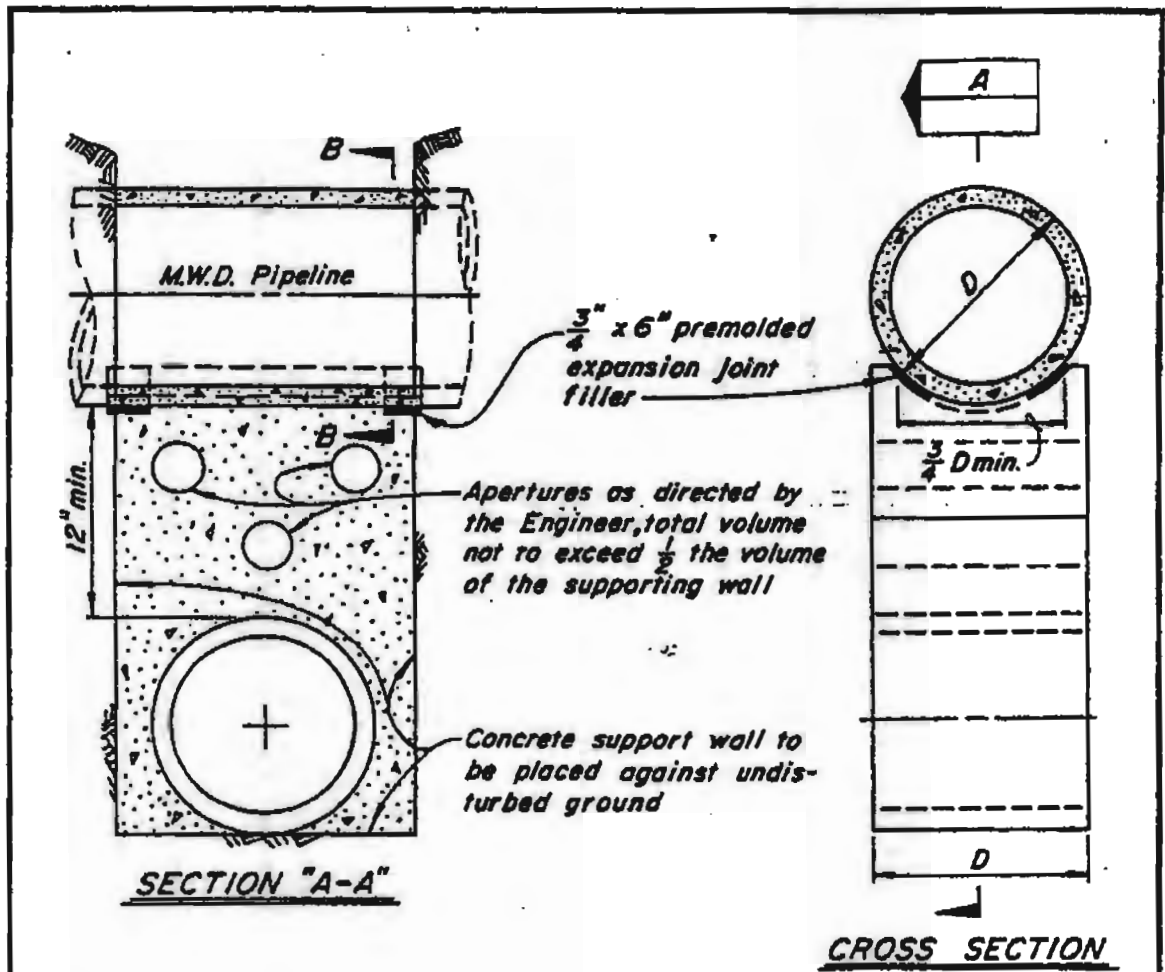
DESIGNED BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

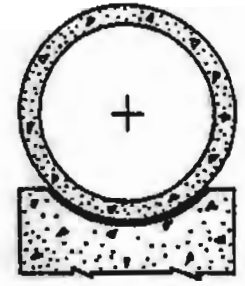
DATE: \_\_\_\_\_

FIGURE 5

FORM NO. 66-6 FROM 11-63 P. O. 67-3714



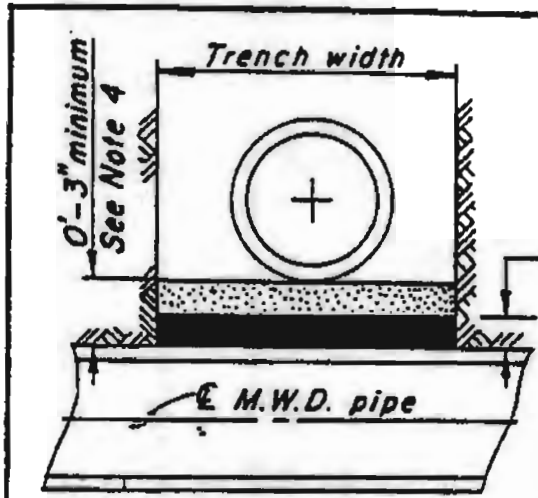
1. Supporting wall shall have a firm bearing on the subgrade and against the side of the excavation.
2. Premolded expansion joint filler per ASTM D-1751-73 to be used in support for steel pipe only.
3. If trench width is 4 feet or greater, measured along centerline of M.W.D. pipe, concrete support must be constructed.
4. If trench width is less than 4 feet, clean sand back-fill, compacted to 90% density in accordance with the provisions of ASTM Standard D-1557-70 may be used in lieu of the concrete support wall.



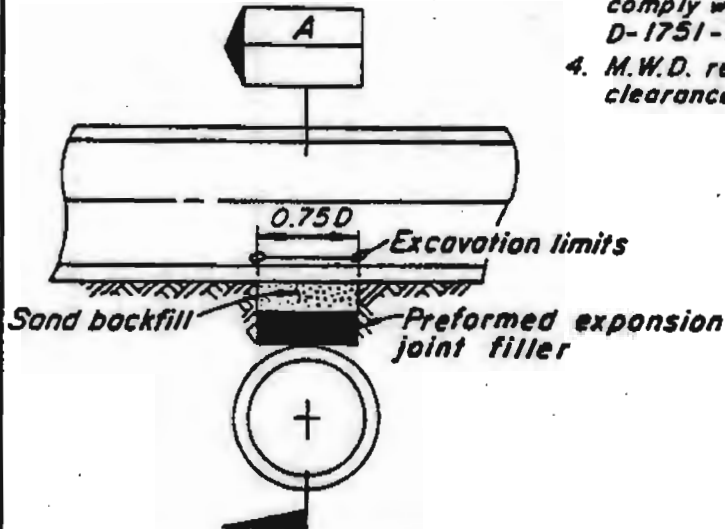
**SECTION "B-B"**

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	
<b>TYPICAL SUPPORT FOR M.W.D. PIPELINE</b>	
DRAWN	RECOMMENDED
TRACES	APPROVED
CHECKED	C-9547

FORM NO. 28 © 1968 11 OF P.D. 07-0721



SECTION A



CROSS SECTION

3" Preformed expansion joint filler

NOTES

1. This method to be used where the utility line is 24" or greater in diameter and the clearance between the utility line and M.W.D. pipe is 12" or less.
2. Special protection may be required if the utility line diameter is greater than M.W.D. pipe or if the cover over the utility line to the street surface is minimal and there is 12" or less clearance between M.W.D. pipe and the utility line.
3. Preformed expansion joint filler to comply with ASTM designation D-1751-73.
4. M.W.D. requests 12" minimum clearance whenever possible.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	
TYPICAL EXPANSION JOINT FILLER PROTECTION FOR OVERCROSSING OF M.W.D. PIPELINE	
DRAWN: _____	REVISIONS: _____
TRACED: _____	APPROVED: _____
CHECKED: _____	
	C-11632

## ENCLOSURE 5

### The Metropolitan Water District of Southern California's Detailed Comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Page 4-49, Line 41: In the Final PEIS in the sentence, “The International Boundary and Water Commission (IBWC) was established in 1889 to implement water treaties between the United States and Mexico (IBWC 2010a).”:

- before the phrase “in 1889” insert “as the International Boundary Commission”,
- after the phrase “in 1889” insert “to apply rules adopted by the Convention of 1884. The United States and Mexico used studies developed by the Commission as the basis for the first water distribution treaty between the two countries, the Convention of March 1, 1906, which allocated the waters of the Rio Grande from El Paso to Fort Quitman, an 89-mile (143 km) international boundary reach of the Rio Grande through the El Paso-Juárez Valley. The Commission was also instrumental in developing the second water distribution treaty between the United States and Mexico in 1944, which addressed utilization of the waters of the Colorado River and Rio Grande from Fort Quitman, Texas to the Gulf of Mexico. The Water Treaty of February 3, 1944 expanded the duties and responsibilities of the Commission and renamed it the International Boundary and Water Commission (IBWC).”  
”, and
- revise the phrase “to implement” to “IBWC implements”

to better reflect the history of the IBWC.

Page 4-50, Line 3: In the Final PEIS in the sentence, “In 2006, the United States and Mexico signed the Transboundary Assessment Aquifer Act (P.L. 109-448), which promotes sustainability of the aquifer systems that are shared across the United States–Mexico border.”:

- revise the phrase “the United States and Mexico signed” to “The President approved”, and
- revise the phrase “which promotes sustainability of the aquifer systems that are shared across the United States–Mexico border” to “directing the Secretary of the Interior to establish a United States-Mexico transboundary aquifer assessment program to systematically assess priority transboundary aquifers.”

to reflect the language of P.L. 109-448.

Page 4-50, Line 19: Insert the phrase “downstream from Lee Ferry, Arizona” following “River” in the Final PEIS in the sentence, “In the Consolidated Decree (2006) the Supreme Court directed the Secretary of the Interior to determine and manage flow of the Colorado River, acting as a water master.” in accordance with Article I(C) of the Decree.

Page 4-51, Line 2 Heading: Revise the word “Agreement” to “Document” in the Final PEIS as not all of the listings are agreements.

Page 4-51: Insert “Colorado River” before “water” in the Final PEIS in the sentence, “Authorized the Secretary of the Interior to manage all water uses in Lower Colorado River Basin.” to reflect the provisions of the Boulder Canyon Project Act.

Page 4-51: Revise “Coachella Valley Irrigation District” to “Coachella Valley Water District” in the Final PEIS in the sentence:

“Prioritized California’s allotment among local water management entities—Palo Verde Irrigation District, Yuma Project, Imperial Irrigation District, Coachella Valley Irrigation District, Metropolitan Water District, and the City and County of San Diego.”

to reflect the proper name of the District.

Page 4-51: Following the sentence “Committed 1.5 million ac-ft/yr (1.9 billion m3/yr) of Colorado River water to Mexico”, in the Final PEIS insert:

“In any year in which, as determined by the United States Section of the IBWC, there exists a surplus of waters of the Colorado River in excess of the amount necessary to supply uses in the United States and the guaranteed quantity of 1.5 million ac-ft (about 1.9 billion m3/yr) annually to Mexico, the United States undertakes to deliver to Mexico additional waters to provide a total quantity not to exceed 1.7 million ac-ft/yr (about 2.1 billion m3/yr). In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1.5 million ac-ft/yr (about 1.9 billion m3/yr), the water allotted to Mexico will be reduced in the same proportion as consumptive uses in the United States are reduced.”

to reflect the provisions of the Treaty.

Page 4-51: Revise the word “Decision” to “Decree” in the Final PEIS in the phrase “Arizona v. California U.S. Supreme Court Decision” as the Decision was rendered in 1963 while the Decree was issued in 1964.

Page 4-51: Revise the word “Decision” to “Decree” in the Final PEIS in the sentence, “Provided a single reference to the 1964 U.S. Supreme Court Decision and provisions. Insert the phrase “the settlement of” before “Tribal” in the Final PEIS in the sentence “Also incorporated provisions for Tribal water rights for the Fort Yuma Indian Reservation.” as provisions for certain Tribal water rights for the Fort Yuma Indian Reservation were included in the 1979 Supplemental Decree.

Page 4-52: Revise the phrase “take action in reducing salinity in Colorado River water released from Morelos Dam into Mexico.” to:

“adopt measures to assure that the approximately 1.36 million ac-ft (1.7 billion m3/yr) delivered to Mexico upstream of Morelos Dam, have an annual average salinity of no more

than 115 parts per million  $\pm$  30 parts per million over the annual average salinity of Colorado River water which arrive at Imperial Dam.”

in the Final PEIS in the sentence, “Required the United States to take action in reducing salinity in Colorado River water released from Morelos Dam into Mexico.” to reflect the text of Minute 242.

Page 4-59, Line 9: Insert the word “certain” before “water” in the Final PEIS in the sentence, “As water rights can be transferred or traded, the use of water among various sectors could also change with time.” to be consistent with the sentence beginning at Line 44.

Page 4-59, Line 23: In the Final PEIS following the sentence, “Two main water rights doctrines are used as the basis of water laws in the United States: the riparian doctrine and the doctrine of prior appropriation.” insert the sentence:

“There are three ways to apportion interstate rivers:

- First, the states in the river basin may seek relief in the U.S. Supreme Court, relying on the Court’s original jurisdiction under the Constitution to apportion the river equitably.
- Second, Congress may allocate the waters, relying on its powers over interstate commerce and navigation.
- Third the states, with Congressional consent, can sign an interstate compact-a binding agreement.

(Colorado River Commission of Nevada, 2006, “*Laws of the Rivers*” *The Legal Regimes of Major Interstate River Systems of the United States*, Oct.)”

to distinguish between intrastate and interstate water resources.

Page 4-61, Line 14: Revise the phrase “*California 15 Code of Regulations*, Title 23” to state “California Water Code and Title 23 of the California Code of Regulations” to more fully describe California’s suite of water laws.

Page 4-62, Line 34: In the Final PEIS in the sentence, “Additionally, in many regions of the southwestern United States, water conservation agencies and irrigation districts are responsible for the local management of water resources, and can also act as the water master for adjudicated basins (e.g. Imperial Irrigation District, Mojave Water Agency, Palo Verde Irrigation District, and Metropolitan Water Agency, operating in California).”:

- revise the word “local” to “regional”,
- move the text in parenthesis to following the word “resources”,
- revise “Metropolitan Water Agency” to “Metropolitan Water District”, and
- insert “(e.g. Mojave Basin Area Watermaster)” following the word “basins”

to accurately name Metropolitan and describe the agencies' responsibilities.

Page 4-66, Line 31: Insert the word "Resources" before "Control" in the Final PEIS in the sentences:

"For example, water rights and water quality are managed by the State Water Control Board, while the Department of Water Resources manages water conveyance, infrastructure, and flood management (CADWR 2010c). Surface water appropriations for nonriparian rights begin with a permit application to the State Water Control Board and a review process that examines the application's beneficial use, pollution potential, and water quantity availability."

to utilize the proper name of the Board.

Page 4-67, Line 23: Revise the phrase "neighboring states, such as Arizona (the Colorado River) and Oregon" to "the Colorado River and a neighboring state, Oregon" in the Final PEIS in the sentence:

"The water supplies of California are based on precipitation in the state as well as imports from neighboring states, such as Arizona (the Colorado River) and Oregon, and from Mexico."

as the portion of the Colorado River or its reservoirs from which water is imported is in California.

Page 4-68, Line 11: In the Final PEIS, revise the sentence "Under the Colorado River Compact of 1922, California is apportioned with 4.4 million ac-ft/yr of the river water." to:

"The State of California is entitled to the consumptive use of up to 4.4 million acre-feet per year (5.4 billion m<sup>3</sup>/yr) of Colorado River water within the Lower Basin apportionment of 7.5 million acre-feet (9.3 billion m<sup>3</sup>/yr) per year when the Secretary of the Interior determines through the Annual Operating Plan (AOP) that a Normal Condition of water availability exists. California is further entitled to additional water during years in which the Secretary determines the existence of a Surplus Condition or makes available to California water apportioned to, but not used by, the States of Arizona and Nevada. (BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.)"

to accurately describe the condition under which California is limited to 4.4 million ac-ft/yr.

Page 4-68, Line 14: Revise the phrase "is going to reduce the inflow in the future to meet the Compact's requirement" to "has reduced the inflow to that available during a Normal Condition or an Intentionally Created Surplus Condition" in the Final PEIS in the sentence:

"The state is going to reduce the inflow in the future to meet the Compact's requirement, thus reducing its supply from the Colorado River."



to reflect this historical development.

Page 4-68, Line 17: Revise the text “14.5million to “14.5 million” in the Final PEIS in the sentence:

“Water use fluctuates among different sectors with hydrologic conditions, such as a wet (1998), normal (2000), or dry year (2001), especially for environmental use, which ranges from 14.5million to 44.7 million ac-ft (17.9 billion to 55.1 billion m3) in depletion from 1998 to 2001.”

to correct a typographical error.

Page 4-66, Line 31: Following the phrase, “For example,” insert the following text in the Final PEIS:

“the apportionment of Colorado River water for use in the Lower Basin in the Lower Division States of Arizona, California, and Nevada is governed by the Boulder Canyon Project Act, Public Law (Pub. L.) No. 70-642, 45 Stat. 1057 (1928) (BCPA) and by the framework established under the United States Supreme Court’s 1963 Opinion and 1964 Decree in *Arizona v. California*. The 1964 Decree was incorporated in 2006 into a final consolidated decree in *Arizona v. California*, 547 U.S. 150 (2006) (Consolidated Decree). Colorado River water is apportioned for use within the Lower Division States by the Secretary of the Interior (Secretary), in accordance with the BCPA and the Consolidated Decree. (BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.) In California,”

to distinguish between Colorado River resources and other water resources.

Page 4-72, Line 30: Revise the phrase “Colorado River Compact of 1922” to “Boulder Canyon Project Act and the Consolidated Decree when the Secretary of the Interior determines through the Annual Operating Plan (AOP) that a Normal Condition of water availability exists” in the Final PEIS in the sentence:

“It is entitled to 300,000 ac-ft/yr (370 million m3/yr) of water under the Colorado River Compact of 1922.”

to reflect the fact that the Compact did not allocate a specific quantity of water to Nevada.

Page 4-75, Line 18: Delete the word “of” following “evaluating” in the Final PEIS in the sentence, “The responsibilities of the commission include evaluating of the conditions of the eight interstate river basins and ensuring compliance with interstate compacts for those basins.” to correct a grammatical error.

Page 4-77, Line 34: Delete the word “be” following “will” in the Final PEIS in the sentence,

“The appropriation and use of effluent requires a water right that must be granted by the Utah Division of Water Rights, and the main criterion of assessment is whether the proposed right will be reduce the water quantity for use by downstream users who may depend on the effluent to satisfy their water rights (Utah Department of Water Resources 2001).”

to correct a grammatical error.

Page 4-92, Line 33: Insert the word “California” following “Arizona” in the Final PEIS in the sentence, “As described in Section 4.9.1 (Surface Water Resources), the Lower Colorado, Rio Grande, and Great Basin hydrologic regions include arid areas in Arizona, Nevada, New Mexico, southwestern Utah, and south-central Colorado (Figure 4.9-1)” to be consistent with the area shown in Figure 4.9-1.

Page 4-93, Line 13: With respect to the sentences,

“The native fish community within the lower Colorado River hydrologic region is dominated by fishes within the minnow and sucker families. The Lower Colorado River itself was historically a warm, turbid, and swift river (Schmidt 1993). Construction of dams within the region, such as the Glen Canyon and Hoover Dams on the main-stem Colorado River, has now altered habitat conditions and changed flow regimes in some of the major river systems by creating a series of cold, clear impoundments.”,

Glen Canyon Dam is in the upper Colorado River hydrologic region as indicated by the text on page 4-95 at line 12.

Page 5-40, Line 3: Delete the word “a” before “flat” in the Final PEIS in the sentence, “Land disturbance impacts are expected to be greater in areas occupied by an alluvial fan or other landscape features with topography more so than in a flat regions.” to correct a grammatical error.

Page 6-20: Insert the phrase “and its associated right-of-way” following “Aqueduct” in the Final PEIS in the sentence, “Avoid ephemeral drainages, Ford Dry Lake, Palen Lake, McCoy Wash, and the Colorado River Aqueduct.”

Page 8.1-224, Line 31, Page 9.2- 253, Line 27 and Page 9.4-318, Line 45: Revise the word “Municipal” to “Metropolitan” in the Final PEIS in the sentence, “Patton worked out deals with the railroad companies (Union Pacific, Santa Fe, and Southern Pacific) and the Municipal Water District in order to supply transportation and water for the troops.” to properly reflect the name of the District.

Page 8.1-270, Line 1: Revise the word “Blyth” to “Blythe” in the Final PEIS in the sentence, “Census block groups with low-income populations more than 20 percentage points higher than the state average are located to the northwest of the SEZ, including the Colorado River Indian Reservation, in the city of Blyth, and to the southeast of the site, in Yuma County.” to correct a typographical error.

Figure 9.1.1.1-1, Proposed Imperial East SEZ, on Page 9.1-12 shows “BLM Lands Available” south of the Fort Yuma (Quechan) Reservation and north of the California-Arizona boundary. These lands were conveyed by BLM to the State of Arizona in 1982. As such, this area should not be shown as “BLM Lands Available” in the Final PEIS. Enclosure 6 is a copy of a February 15, 1982 letter from BLM’s Arizona State Office Acting State Director to the Governor of Arizona regarding the conveyance of this land.

The following figure, received from the Arizona State Lands Department shows the State Trust Lands in this area, called the Yuma Island.



Page 9.1-57, Line 34: Revise the word “Highland” to “Highline” in the Final PEIS in the sentence, “Diversions off the All-American Canal include the Coachella Canal (9 mi [14.5 km] east), East Highland Canal (4 mi [6.5 km] west), and Central Main Canal (14 mi [22.5 km] west of the proposed SEZ)” to correctly state the name of the canal.

Figure 9.1.9.1-1, Surface Water Features near the Proposed Imperial East SEZ, on page 9.1-58 shows the Coachella Canal as two discontinuous reaches. The figure should be revised in the Final PEIS to also show the reach between the northern and southern reaches.

Page 9.1-60, Line 37: Revise the sentence:

“In 2005, water withdrawals from surface waters and groundwater in Imperial County were 2.4 million ac-ft/yr (2.9 billion m<sup>3</sup>/yr), of which 98% came from surface waters and was used primarily for irrigating agricultural fields.”

to account for the Bureau of Reclamation’s records that diversions and consumptive use of Colorado River water by Imperial Irrigation District totaled 2,860,526 and 2,756,846 acre-feet, respectively, in that year (see <http://www.usbr.gov/lc/region/g4000/4200Rpts/DecreeRpt/2005/2005.pdf>, page 20 of pdf file).

Page 9.1-61, Line 3, Page 9.2-62, Line 15, and Page 9.4-69, Line 39: Following the phrase, “For example,” insert the following text in the Final PEIS to more accurately describe the management of Colorado River water resources in California:

“the apportionment of Colorado River water for use in the Lower Basin in the Lower Division States of Arizona, California, and Nevada is governed by the Boulder Canyon Project Act, Public Law (Pub. L.) No. 70-642, 45 Stat. 1057 (1928) (BCPA) and by the framework established under the United States Supreme Court’s 1963 Opinion and 1964 Decree in *Arizona v. California*. The 1964 Decree was incorporated in 2006 into a final consolidated decree in *Arizona v. California*, 547 U.S. 150 (2006) (Consolidated Decree). Colorado River water is apportioned for use within the Lower Division States by the Secretary of the Interior, in accordance with the BCPA and the Consolidated Decree.

The State of California’s apportionment is further governed by *General Regulations for Contracts for the Storage of Water in Boulder Canyon Reservoir, Boulder Canyon Project, and the Delivery Thereof*, adopted by the Secretary of the Interior on September 28, 1931, which incorporate a priority system agreed to by seven California water agencies in an August 18, 1931, agreement (Seven-Party Agreement). These priorities are further incorporated into the water delivery contracts entered into between the Secretary of the Interior and California water agencies pursuant to the BCPA. The parties to the Seven-Party Agreement are the Palo Verde Irrigation District (PVID), IID, Coachella Valley County Water District (now Coachella Valley Water District or CVWD), MWD, City of Los Angeles, City of San Diego, and County of San Diego. The first three priorities in the Seven-Party Agreement are for agricultural uses, in an amount collectively not to exceed 3,850,000 acre-feet (4.7 billion m<sup>3</sup>) of water per year of consumptive use. The first three priorities are not, however, individually quantified in terms of allowable consumptive use. The unquantified third priority is also a shared priority (among IID, CVWD, and PVID – for mesa lands), as is the sixth priority. The priorities established by the Seven-Party Agreement are illustrated in the following table.

<b>California Priority System</b>		
<b>Priority</b>	<b>Description</b>	<b>Acre-feet* Annually</b>
1	PVID - gross area of 104,500 acres (42,290 hectares)	)
2	Yuma Project (Reservation Division) - not exceeding a gross area of 25,000 acres (10,117 hectares) located in said Project	) )
3(a)	IID and lands in Imperial and Coachella Valleys** to be served by All American Canal	) 3,850,000 )
3(b)	PVID - 16,000 acres (6,475 hectares) of Lower Palo Verde Mesa lands	) )
4	MWD and/or City of Los Angeles and/or others on coastal plain	550,000
5(a)	MWD and/or City of Los Angeles and/or others on coastal plain	550,000
5(b)	City and/or County of San Diego***	112,000
6(a)	IID and lands in Imperial and Coachella Valley* to be served by All American Canal	) ) 300,000
6(b)	PVID - 16,000 acres (6,475 hectares) of Lower Palo Verde Mesa lands	) )
<b>Total</b>		<b>5,362,000</b>

\* To convert acre-feet to meters<sup>3</sup>, multiply by 1,234.

\*\* CVWD serves Coachella Valley.

\*\*\*In 1946, the City of San Diego, the San Diego County Water Authority (SDCWA), MWD and the Secretary of the Interior entered into a contract that merged and added the City and County of San Diego's rights to storage and delivery of Colorado River water to the rights of MWD.

As the result of an agreement reached in connection with the construction of the Coachella Canal as a branch of the All-American Canal, CVWD's entitlements to water in the third and sixth priorities for lands in the Coachella Valley were subordinated to those of IID. The Secretary of the Interior has constructed the All-American Canal and delivers water to IID and CVWD under water delivery contracts by which those districts are entitled to receive deliveries of water in amounts reasonably required for potable and irrigation purposes. The Secretary of the Interior determines the amount of water reasonably required for beneficial use on an annual basis by evaluating an entitlement holder's estimated water requirements in accordance with 43 CFR Part 417 to ensure that deliveries of Colorado River water to the entitlement holder will not exceed those reasonably required for beneficial use under the respective BCPA contract or other authorization for use of Colorado River water.

The State of California is entitled to the consumptive use of up to 4,400,000 acre-feet per year (5.4 billion m<sup>3</sup>/yr) of Colorado River water within the Lower Basin apportionment of 7,500,000 acre-feet per year (9.3 billion m<sup>3</sup>/yr) when the Secretary of the Interior determines through the Annual Operating Plan (AOP) that a Normal Condition of water availability exists. California is further entitled to additional water during years in which the Secretary of the Interior determines the existence of a Surplus Condition or makes available to California water apportioned to, but not used by, the States of Arizona and Nevada.

The Colorado River Water Delivery Agreement (CRWDA), dated October 10, 2003, was entered into among the Secretary of the Interior, IID, CVWD, MWD, and the SDCWA and is

the Federal Quantification Settlement Agreement (QSA), which was required as a condition of the Interim Surplus Guidelines (ISG). Secretary of the Interior Bruce Babbitt took action to encourage the California water agencies to reach agreement, adopting the ISG on January 16, 2001, to be in place for an interim period through 2016. The CRWDA assists California in meeting the goals of California's draft Colorado River Water Use Plan by quantifying for a specific term of years the deliveries under certain Colorado River entitlements within shared priorities, so that transfers may occur. In particular, for the term of the CRWDA, quantification of Priority 3(a) was effected through caps on water deliveries to IID (consumptive use of 3.1 million acre-feet per year [3.8 billion m<sup>3</sup>/yr]) and CVWD (consumptive use of 330,000 acre-feet [407 million m<sup>3</sup>]). Quantification of Priority 6(a) was effected through quantifying consumptive use amounts to be made available in order of priority to MWD (38,000 acre-feet [47 million m<sup>3</sup>] per year), IID (63,000 acre-feet [77 million m<sup>3</sup>] per year), and CVWD (119,000 acre-feet [147 million m<sup>3</sup>] per year) with the provision that any additional water available to Priority 6(a) be delivered under IID's and CVWD's existing water delivery contracts with the Secretary. The CRWDA provides that the underlying water delivery contracts with the Secretary remain in full force and effect. (BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.) In California,"

Page 9.2-59, Line 32: Revise the phrase "and water districts of" to ", water districts, and a county water authority in" in the Final PEIS in the sentence:

"The CRA delivers Colorado River water from a diversion near Parker Dam on the California–Arizona border (approximately 43 mi [69 km] northeast of the proposed SEZ) to municipalities and water districts of southern California."

to more accurately reflect the agencies receiving Colorado River water.

Page 9.2-59, Line 35: Revise the values "550,000" and "0.7" to "632,000" and "0.8", respectively, in the Final PEIS in the sentence, "The CRA conveys flows that range from 550,000 ac-ft/yr up to 1.3 million ac-ft/yr (0.7 billion to 1.6 billion m<sup>3</sup>/yr) (MWD 2008)" to reflect the minimum value shown in Figure 2-3 of the reference.

Page 9.2-62, Line 35: Following "26", insert the text "cities,", following "municipal" delete the word "and" and following "districts", insert the phrase ", and a county water authority", in the Final EIS in the sentence, "The CRA is managed and maintained by the MWD, a consortium of 26 municipal and water districts." to more accurately reflect the consortium of governments.

Page 9.2-62, Line 38: With respect to the sentence,

"While the CRA conveys substantial water flows along the southern boundary of the proposed SEZ, this water is essentially unavailable for solar energy development because of its location outside of the MWD service area; thus, any water transfers would have to be approved by the MWD board (MWD 2009, Section 4200)."

Metropolitan is willing to discuss the transfer or exchange of a portion of its Colorado River water supply subject to any required approvals and so long as the solar energy project proponent agrees to provide Metropolitan with a replacement water supply.

Page 9.2-63, Line 1: Following the word “River”, insert the text “and MWD has not taken delivery of any Full Domestic Surplus water since 2002” in the Final PEIS in the clause, “Continued low water levels in Lake Mead affect the surplus water supplies provided to the MWD by the Bureau of Reclamation from the Colorado River;” to describe this historical development.

Page 9.2-64, Line 39: Delete the word “board”, in the Final PEIS in the sentence, “Water from the CRA is assumed to be unavailable to solar energy facilities because of two factors: (1) the mechanisms to obtain CRA water would have to be negotiated with the MWD board on a project-specific basis and (2) current water demands by MWD member agencies suggest minimal water is available.”

Page 9.2-70, Line 43 and Page 9.4-79, Line 11: Insert the following text in the Final PEIS:

- “Groundwater pumping in the region along the CRA should be limited to avoid land surface subsidence.”

to address the concern expressed at line 9 on page 9.2-67 of the Draft PEIS. This sentence should also be included on Page 9.2-9 in Table 9.2.1.3-1 and on Page 9.4-9 in Table 9.4.1.3-1 of the Final PEIS.

Page 9.2-252, Line 39 and Page 9.4-318, Line 9: In the Final PEIS in the sentence, “Water did not come to the Colorado Desert until the 1930s when the Metropolitan Water District was created and work began on the CRA from Parker Dam to Los Angeles; it was completed in 1938.”:

- revise the word “when” to “after”,
- revise the phrase “Los Angeles” to “Lake Mathews, the CRA’s terminal reservoir”, and
- revise the year “1938” to “1940”

to accurately describe this historical development.

Page 9.2-316, Line 29 and Page 9.4-387, Line 6: With respect to the sentence:

“The project would involve taking water from the CRA during high rainfall years and storing it in aquifer systems to supply southern California’s water needs during periods of severe drought.”,

it should be noted that Metropolitan has not agreed to the diversion of water from the CRA for the “Cadiz Valley Dry-Year Supply Project” as of this point in time. A copy of the Notice of Preparation of a Draft EIR and Public Scoping Meeting Notice, Cadiz Valley Water

Conservation, Recovery, and Storage Project may be found at <http://www.smwd.com/assets/downloads/cadiz-nop-02-25-11.pdf>.

Page 9.4-12 and Page 9.4-134, Line 30: Revise the phrase “wetlands, and the CRA should be avoided.” to “and wetlands should be avoided. The CRA and its associated right-of-way should be avoided without prior Metropolitan approval.” in the Final PEIS in the sentence, “To the extent practicable, ephemeral drainages, Ford Dry Lake and Palen Lake, wetlands, and the CRA should be avoided.”

Page 9.4-23, Line 10: Delete the words “Los Angeles” in the Final PEIS in the sentence, “The SEZ is located along a critical east–west corridor that contains I-10, numerous pipelines, and transmission lines and surrounds a portion of the Los Angeles Metropolitan Water District (MWD) Colorado River Aqueduct (CRA).” as Los Angeles is not part of The Metropolitan Water District of Southern California’s proper name. The City of Los Angeles is one of 26 member agencies of Metropolitan.

Page 9.4-70, Line 28: In the Final PEIS in the bullet, “1964 U.S. Supreme Court decision, along with the Consolidation Decree of 2006, which provides a single reference to the 1964 decision (*Arizona v. California* 2006)”:

- revise the word “decision” to “decree”,
- revise the word “Consolidation” to “Consolidated”, and
- insert the phrase “as amended and supplemented” before “(*Arizona*)”

to reflect the wording in BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.

Page 9.4-70, Line 32: Before the phrase “In accordance with the Law of the River”, insert the following sentences in the Final PEIS:

“The decree is specific about the responsibility of the Secretary of the Interior to account for consumptive use of water from the mainstream. Consumptive use is defined to include ‘water drawn from the mainstream by underground pumping.’ (Wiele et al. 2008)”

to explain why certain groundwater pumping is considered to be Colorado River water.

Page 9.4-70, Line 34: Following the words “Accounting Surface”, insert the following text in the Final PEIS:

“ Wells that have a static water-level elevation near, equal to, or below the Accounting Surface are presumed to yield water that will be replaced by water from the river. Wells that have a static water-level elevation above the Accounting Surface are presumed to yield water that will be replaced by water from precipitation and inflow from tributary valleys. (Wiele et al. 2008)”

to explain the presumptions associated with the Accounting Surface.



Page 9.4-70, Line 34: Revise the text “and, it” to “The Accounting Surface” in the Final PEIS in the phrase “and it establishes a surface of static groundwater elevations,” to begin a new sentence after incorporating the previous comment.

Page 9.4-70, Line 35: Revise the text “below which water is” to “near, equal to or below which water is to be” in the Final PEIS in the phrase “below which water is accounted for as Colorado River water and above which water is accounted for as local tributary replenished water (Wilson and Owen-Joyce 1994; Wiele et al. 2008) to be consistent with Wiele et al. 2008, in particular pages 6 and 11 of that reference.

Page 9.4-70, Line 37: Insert the text “near, at, or” before “below” in the Final PEIS in the sentence:

“Groundwater below the Accounting Surface is subject to water management by the Law of the River, which is administered by the BOR (Wilson and Owen-Joyce 1994), and water above the Accounting Surface is subject to water management by state and local entities.”

to be consistent with Wiele et al. 2008.

Page 9.4-71, Line 14: Revise the word “develop” to “use” and insert “and Coachella Valley Water District” following “District” in the Final PEIS in the sentence:

“The PVID shares a priority right to develop up to 3.85 million ac-ft/yr (4.75 billion m<sup>3</sup>/yr) with the Yuma Project and the Imperial Irrigation District according to the California Seven Party Agreement of 1931”.

reflecting text in BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep..

Page 9.4-74, Line 17: Insert the phrase “are recommended to be” before “less” and revise the phrase “for prolonged use to meet California drinking water standards” to “to meet secondary maximum contaminant levels” in the Final EIS in the sentence:

“As mentioned previously, TDS values in a potable water supply must be lower than 1,500 mg/L for short durations and less than 500 mg/L for prolonged use to meet California drinking water standards (*California Code*, Title 22, Article 16, Section 64449).”

to be consistent with the text on page 9.4-73 at line 22.

Page 9.4-77, Line 26: Insert the text “near, at, or” before “below” in the Final PEIS in the sentence:

“An additional constraint on groundwater development in the proposed Riverside East SEZ is the water rights issue related to the Colorado River Accounting Surface, which defines a

groundwater elevation below which the groundwater is accounted for as fully allocated Colorado River water.”

to be consistent with Wiele et al. 2008.

Page 9.4-121, Line 40: Revise the phrase “wetlands and the CRA.” to “and wetlands. Avoid the CRA and its associated right-of-way without prior Metropolitan approval.” in the Final PEIS in the sentence, “To the extent practicable, avoid ephemeral drainages, Ford Dry Lake and Palen Lake, wetlands, and the CRA.”

Page 10.1-328, Line 46, Page 10.2-266, Line 34, Page 10.3-319, Line 27, and Page 10.4-300, Line 42: Cite a source for the statement, “Hydrologic studies of the Upper Colorado River Basin estimate average decreases in runoff of 6 to 20% by 2050 (as compared to the twentieth century average)”. Include the source in the References.

Page 11.3-10 and Page 11.3-125, Line 35: Revise the word “Meade” to “Mead” in the Final PEIS in the sentence, “Minimize or eliminate the impact of groundwater withdrawals on streams near the SEZ such as the Muddy River, and springs such as those along the north shore of Lake Meade and within Desert NWR and Moapa NWR” to correct a typographical error.

Page 11.3-123, Line 32: Revise the word “Meade” to “Mead” in the Final PEIS in the sentence, “The nearest perennial stream (Muddy River) and permanent water body (Lake Meade) are both more than 14 mi (24 km) away from the SEZ.” to correct a typographical error.

Page 11.2-123, Line 35: Revise the word “Meade” to “Mead” in the Final PEIS in the sentences:

“Several springs are located within 50 mi (80 km) of the Dry Lake SEZ, including springs on the north shore of Lake Meade, and springs within the Desert NWR and the Moapa Valley NWR. Historically, some springs on the north shore of Lake Meade contained native fishes like the speckled dace (*Rhinichthys osculus*), but introduced fishes like cichlids have reduced or eliminated native species (Courtenay and Deacon 1983).”

to correct typographical errors.

Page 11.3-125, Line 1: Revise the word “Meade” to “Mead” in the Final PEIS in the sentence:

“In addition, groundwater withdrawals could alter the size and chemical and physical conditions of groundwater-dependent springs (including those on the north shore of Lake Meade and within Desert NWR and Moapa NWR) in the vicinity of the SEZ, and adversely affect associated aquatic communities.”

to correct a typographical error.

Page 13.1-271, Line 35 and Page 13.2-267, Line 26: Revise the phrase “on the Lower Colorado River” to “in the Upper Colorado River Basin” in the Final PEIS in the sentence:

“To meet future increases in water demand, Washington, Iron, and Kane Counties in southwestern Utah are studying the feasibility of an agreement to obtain water from Lake Powell on the Lower Colorado River via a pipeline.”

as Lake Powell is in the Upper Colorado River Basin as indicated by the text on page 4-95 beginning at line 12.

Page 13.1-271, Line 44 and Page 13.2-267, Line 35: In the Final PEIS, revise the sentence “It would tap into Utah’s unused portion of the Upper Colorado River, which was defined as belonging to Utah in the 1922 Colorado River Compact.” to:

“The water diverted into the pipeline will be a portion of Utah’s Upper Colorado River Basin Compact allocation, and will consist of water rights to be held or acquired by the three water districts and the Utah Board of Water Resources.” (Utah Division of Water Resources, 2011, Lake Powell Pipeline, General Information. Available at <http://www.water.utah.gov/LakePowellPipeline/GeneralInformation/default.asp>.)

as the 1948 Upper Colorado River Basin Compact rather than the 1922 Colorado River Compact allocated consumptive use of water from the Upper Colorado River System to Utah.

Page H-14: Following the row that includes “Safe Drinking Water Act (42 USC 300(f) et seq.)”, in the Final PEIS insert:

- “Boulder Canyon Project Act of 1928 (43 USC. §§ 1501, et seq.)”

as a federal law applicable to proponents of solar energy projects utilizing groundwater from near, at, or below the Colorado River Accounting Surface, based on the text on page 4-51.

ENCLOSURE 6



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

ARIZONA STATE OFFICE  
2400 VALLEY BANK CENTER  
PHOENIX, ARIZONA 85073

9620:2  
MAG C

February 15, 1982

Honorable Bruce Babbitt  
Capitol Building  
1700 West Washington  
Phoenix, Arizona 85007

Dear Governor Babbitt:

I am pleased to transmit to you a copy of the new land survey of the Yuma Island area which was completed and approved on February 4, 1982. This is the new survey authorized by Secretary of the Interior James G. Watt to replace the 1962 survey of the same area.

This new survey, in effect, conveys to the State title to about 1,568 acres on the "west half" of Yuma Island. The survey designates these lands as accretion to other State lands located at the confluence of the Gila and Lower Colorado Rivers. The location of these new State lands is shown on the enclosed map. You will note that most of these lands are in the State of California.

Most of these Yuma Island lands have been in agricultural use for many years under permits issued by the Bureau of Land Management. Late last year the agricultural permittees were notified that the State Land Department would be their new landlord in 1982.

The "east half" of Yuma Island, consisting of about 776 acres of Federal land, will be conveyed to the State within the next 60 days as part of the lands being given to the State in compensation for the State lands on South Yuma Mesa that were taken by the Bureau of Reclamation for the Lower Colorado River Salinity Control Project.

We are providing copies of this survey plat, the survey notes, and the existing agricultural permits to State Land Commissioner Joe T. Fallini. Our Yuma District staff will assist in any way we can to facilitate the transfer of records relating to the existing uses on those lands.

Sincerely,

Tom Allen

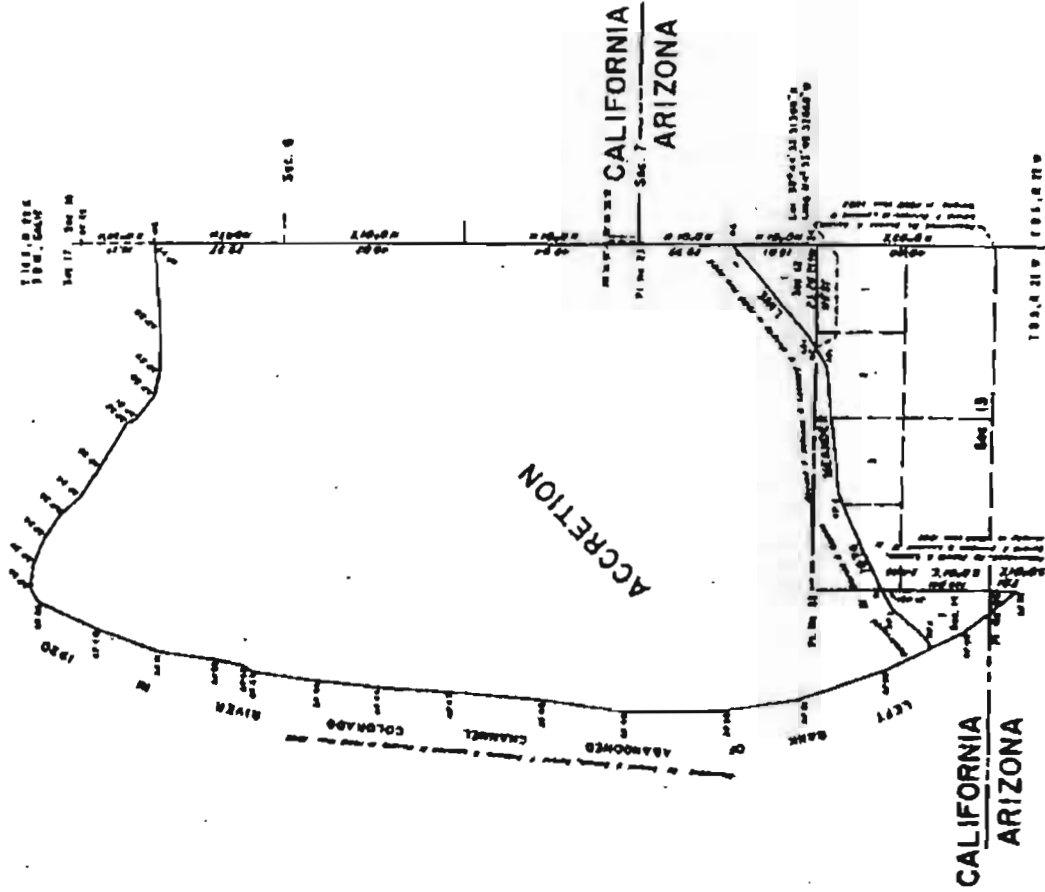
Tom Allen  
Acting State Director

Enclosures

RECEIVED
Feb 18
Yuma
BLM
DM
ADM
Asst. Dir.
Rec. Mgmt.
Adm. Serv.
Ext. Aff.
Gen. Inv.
YURA
HRA
Action By
Due Date

TOWNSHIP 8 SOUTH, RANGE 23 WEST, OF THE GILA AND SALT RIVER MERIDIAN, ARIZONA

DEPENDENT RESURVEY



A history of surveys is contained in the field notes.

This plat represents the dependent acreage of a portion of the range line between T. 8 S., R. 23 W. and 27 W., (south boundary T. 8 S., R. 21 W.) Gila and Salt River Meridian, Arizona, dependent thereon. The corners in their true original positions, according to the best available evidence, and showing of accreted lands in front of Sec. 6, 7, and 14, T. 8 S., R. 21 W., Gila and Salt River Meridian, Arizona.

This plat represents that portion of the survey with of the 1915 Number 1214 as shown on the plat accepted March 21, 1915.

The showing of the position of the left bank of the Colorado River is based on the field note made at the survey conducted March 21, 1907 and the showing of the former-California boundary is based on the plat accepted April 9, 1907.

The locations and areas are as shown on the plat approved April 19, 1914.

Survey conducted by Harry E. Smith, Supervisory Chief of Survey, beginning December 15, 1911, and completed December 16, 1911, pursuant to Special Instructions dated December 14, 1911, for Group No. 27, Arizona.

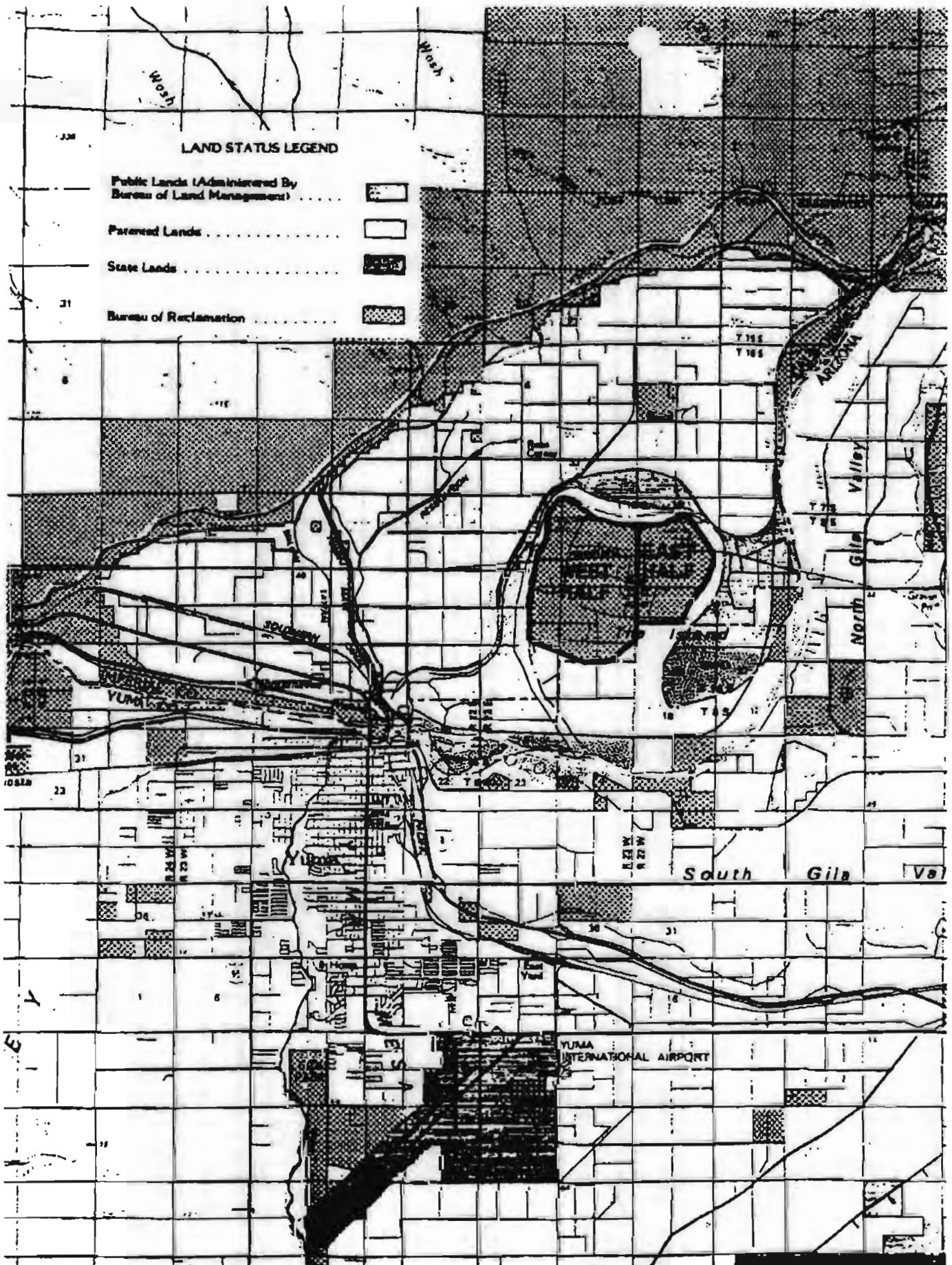
UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Denver, Colorado February 4, 1912

This plat is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

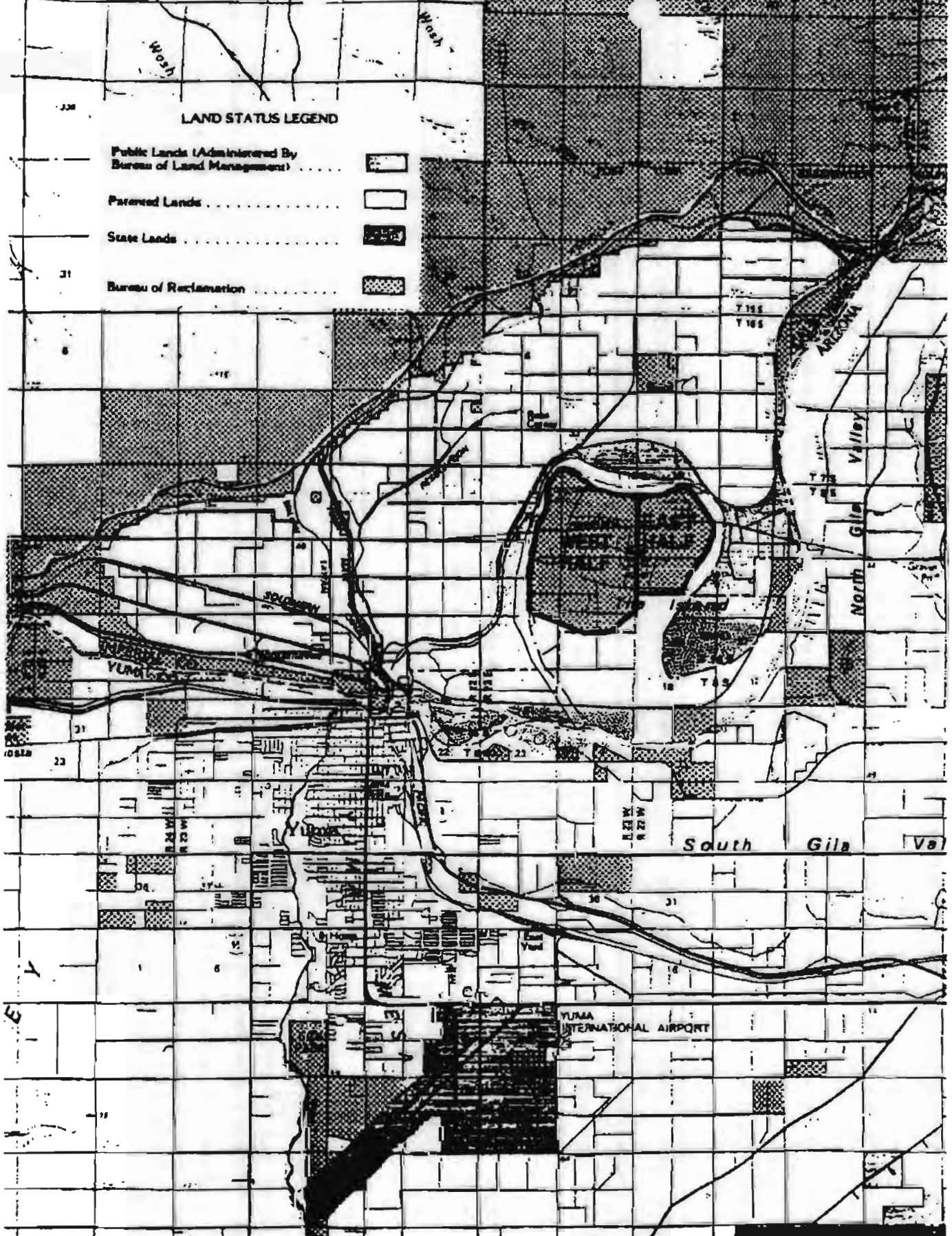
*Harry A. Spaight*

Walter C. Galt, Chief of Survey  
Assistant and Approval Staff.

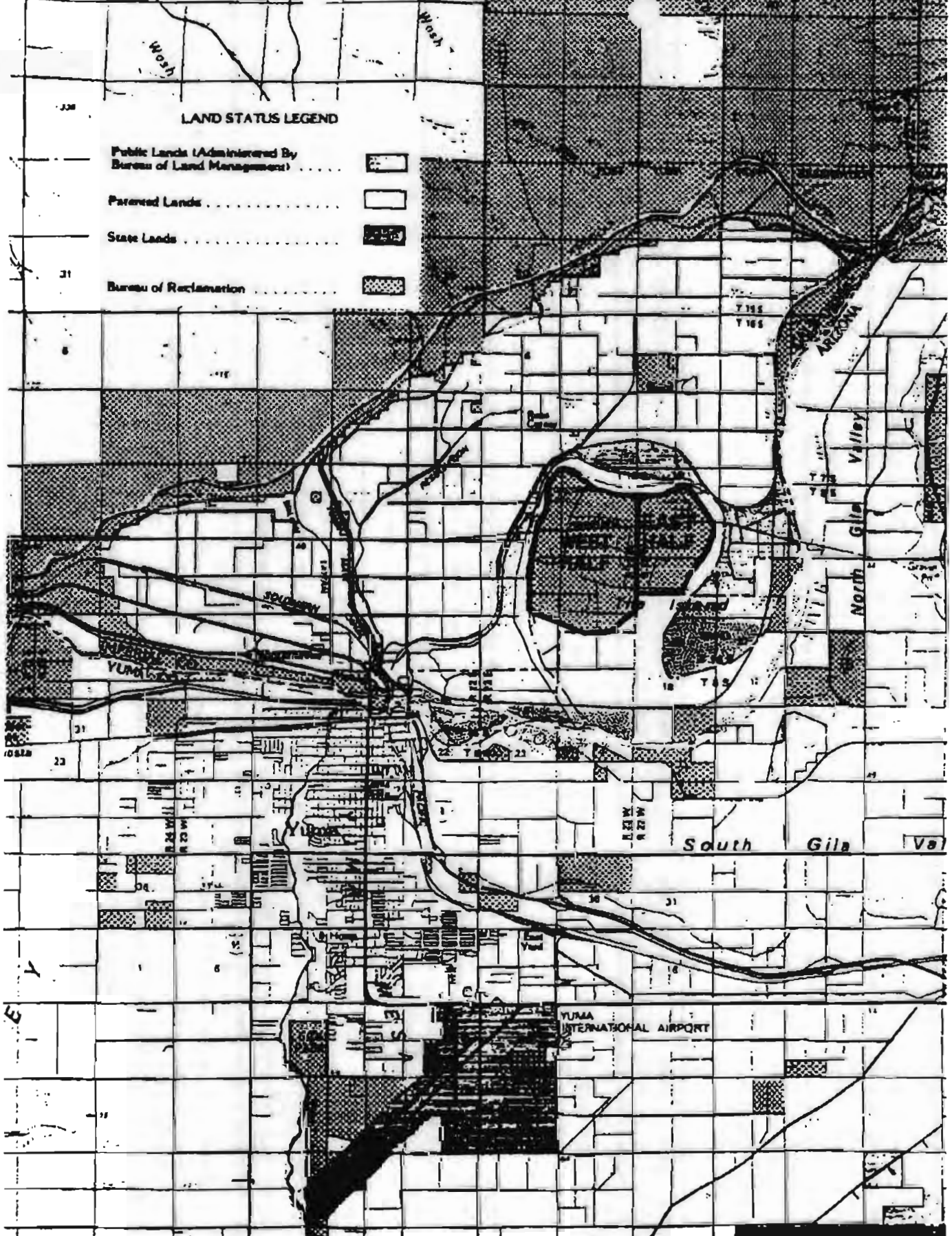


**LAND STATUS LEGEND**

- Public Lands (Administered By Bureau of Land Management) . . . . . [Symbol]
- Patented Lands . . . . . [Symbol]
- State Lands . . . . . [Symbol]
- Bureau of Reclamation . . . . . [Symbol]



- Public Lands (Administered By Bureau of Land Management) . . . . . [Symbol]
- Patented Lands . . . . . [Symbol]
- State Lands . . . . . [Symbol]
- Bureau of Reclamation . . . . . [Symbol]



- Public Lands (Administered By Bureau of Land Management) . . . . . [Symbol]
- Patented Lands . . . . . [Symbol]
- State Lands . . . . . [Symbol]
- Bureau of Reclamation . . . . . [Symbol]

Thank you for your comment, Gayle Early.

The comment tracking number that has been assigned to your comment is SolarD11569.

Comment Date: April 14, 2011 17:36:23PM  
Solar Energy Development PEIS  
Comment ID: SolarD11569

First Name: Gayle  
Middle Initial:  
Last Name: Early  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I'm very concerned that BLM has already, at least once, downgraded scenic areas in order to accelerate energy development in our back country areas. Please respect hard-won EXISTING laws.

Thank you for your comment, Dennis Trembly.

The comment tracking number that has been assigned to your comment is SolarD11570.

Comment Date: April 14, 2011 18:06:30PM  
Solar Energy Development PEIS  
Comment ID: SolarD11570

First Name: Dennis  
Middle Initial:  
Last Name: Trembly  
Organization:  
Address: 880 West 1st St. #301  
Address 2:  
Address 3: 880 West 1st St. #301  
City: Los Angeles  
State: CA  
Zip: 90012  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy is necessary now, as well as in the future.



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11571.

Comment Date: April 14, 2011 18:16:21PM  
Solar Energy Development PEIS  
Comment ID: SolarD11571

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors and tourism.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife and tourism.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 35 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,  
MME

Thank you for your comment, Ken Gilmour.

The comment tracking number that has been assigned to your comment is SolarD11572.

Comment Date: April 14, 2011 18:22:50PM  
Solar Energy Development PEIS  
Comment ID: SolarD11572

First Name: Ken  
Middle Initial:  
Last Name: Gilmour  
Organization:  
Address: 173 Adeline Street  
Address 2:  
Address 3:  
City: Peterborough  
State: ON  
Zip: K9J 5E2  
Country: Canada  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten your national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Casey Herr.

The comment tracking number that has been assigned to your comment is SolarD11573.

Comment Date: April 14, 2011 18:28:55PM  
Solar Energy Development PEIS  
Comment ID: SolarD11573

First Name: Casey  
Middle Initial:  
Last Name: Herr  
Organization:  
Address: 2669 Shillington Rd  
Address 2: PMB 189  
Address 3: 2669 Shillington Rd  
City: Sinking Spring  
State: PA  
Zip: 19608  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, aSybil Schlesinger.

The comment tracking number that has been assigned to your comment is SolarD11574.

Comment Date: April 14, 2011 18:50:44PM  
Solar Energy Development PEIS  
Comment ID: SolarD11574

First Name: aSybil  
Middle Initial: E  
Last Name: Schlesinger  
Organization:  
Address: 22 Rockland Street  
Address 2:  
Address 3:  
City: Natick  
State: MA  
Zip: 01760  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jennifer Danner.

The comment tracking number that has been assigned to your comment is SolarD11575.

Comment Date: April 14, 2011 19:21:21PM  
Solar Energy Development PEIS  
Comment ID: SolarD11575

First Name: Jennifer  
Middle Initial:  
Last Name: Danner  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment.

Thank you for your comment, Annette Overstreet.

The comment tracking number that has been assigned to your comment is SolarD11576.

Comment Date: April 14, 2011 19:36:58PM  
Solar Energy Development PEIS  
Comment ID: SolarD11576

First Name: Annette  
Middle Initial: S  
Last Name: Overstreet  
Organization:  
Address: 202 Shady Oak Lane  
Address 2:  
Address 3:  
City: Forest  
State: VA  
Zip: 245511112  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Fossil fuels are killing our planet, but those who stand to gain from their exploitation are fighting tooth and nail to maintain their status as the world's only sensible means of energy. This is so not true. Solar energy is a practical and readily available source, and we even already have the research and knowledge to integrate it into the system. Our powers that be just don't have the incentive to let go their prejudices and, most of all, their greed. Please do all possible to promote solar energy as quickly as possible.

Thank you for your comment, Christian Camphire.

The comment tracking number that has been assigned to your comment is SolarD11577.

Comment Date: April 14, 2011 19:52:57PM  
Solar Energy Development PEIS  
Comment ID: SolarD11577

First Name: Christian  
Middle Initial: T  
Last Name: Camphire  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I would strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tracey McManus.

The comment tracking number that has been assigned to your comment is SolarD11578.

Comment Date: April 14, 2011 20:07:09PM  
Solar Energy Development PEIS  
Comment ID: SolarD11578

First Name: Tracey  
Middle Initial: A  
Last Name: McManus  
Organization:  
Address: 69 Valley Rd  
Address 2:  
Address 3:  
City: Hazelbrook  
State:  
Zip:  
Country: AUS  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

get with the program and support anything renewable to assist in the protection of our fragile environment. It's our world too



Thank you for your comment, Melinda Burgess.

The comment tracking number that has been assigned to your comment is SolarD11579.

Comment Date: April 14, 2011 20:09:38PM  
Solar Energy Development PEIS  
Comment ID: SolarD11579

First Name: Melinda  
Middle Initial:  
Last Name: Burgess  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11580.

Comment Date: April 14, 2011 20:20:11PM  
Solar Energy Development PEIS  
Comment ID: SolarD11580

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Betty Sabo.

The comment tracking number that has been assigned to your comment is SolarD11581.

Comment Date: April 14, 2011 21:00:50PM  
Solar Energy Development PEIS  
Comment ID: SolarD11581

First Name: Betty  
Middle Initial:  
Last Name: Sabo  
Organization:  
Address: 3137 Palmdesert Way  
Address 2:  
Address 3:  
City: Las Vegas  
State: NV  
Zip: 891203460  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As a resident of Nevada, I support solar energy development; however, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. The sensitive desert ecology must be preserved.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Again, I support the idea of solar energy development, but I do not want us to make the same mistakes we have made and continue to make with mining and oil drilling. Let's move forward only after the impacts on our natural habitats have been eliminated. Let's be the guardians of the earth while we find ways to lesson our reliance on fossil fuels.

Thank you for taking the time to speak up for responsible solar development. Your actions today will impact all of our tomorrows.

Thank you for your comment, Al Giles.

The comment tracking number that has been assigned to your comment is SolarD11582.

Comment Date: April 14, 2011 21:32:04PM  
Solar Energy Development PEIS  
Comment ID: SolarD11582

First Name: Al  
Middle Initial:  
Last Name: Giles  
Organization:  
Address: 8503 Forest Heights Lane  
Address 2:  
Address 3:  
City: Austin  
State: TX  
Zip: 78749  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Cecilia Burns.

The comment tracking number that has been assigned to your comment is SolarD11583.

Comment Date: April 14, 2011 21:58:27PM  
Solar Energy Development PEIS  
Comment ID: SolarD11583

First Name: Cecilia  
Middle Initial:  
Last Name: Burns  
Organization:  
Address: 3080 S. Telluride St.  
Address 2:  
Address 3:  
City: Aurora  
State: CO  
Zip: 80013  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Liz Ritter.

The comment tracking number that has been assigned to your comment is SolarD11584.

Comment Date: April 14, 2011 22:02:06PM  
Solar Energy Development PEIS  
Comment ID: SolarD11584

First Name: Liz  
Middle Initial:  
Last Name: Ritter  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: [Withheld by requestor]  
Zip:  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Why is it 'Private For Profit Businesses' need to use 'Public Property' to get the job done.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ needs to be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ needs to be reduced and reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Please do what's right for 'all', which includes Mother Nature and her family members. We can all co-exist.

Thank you for you consideration!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11585.

Comment Date: April 14, 2011 22:08:49PM  
Solar Energy Development PEIS  
Comment ID: SolarD11585

First Name: [Withheld by requestor]  
Middle Initial: [Withheld by requestor]  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

The National Parks should be preserved, and energy production--solar or wind--should be evaluated before it is placed on public land, where it may cause unforeseen damage to the flora and fauna of the area.

Thank you for your comment, Larry Orzechowski.

The comment tracking number that has been assigned to your comment is SolarD11586.

Comment Date: April 14, 2011 22:29:01PM  
Solar Energy Development PEIS  
Comment ID: SolarD11586

First Name: Larry  
Middle Initial:  
Last Name: Orzechowski  
Organization:  
Address: 2835 E. Sylvia St.  
Address 2:  
Address 3:  
City: Phoenix  
State: AZ  
Zip: 85032  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Put solar panels on large buildings and factories like you see in Germany. You don't need to destroy open space for solar collectors.

End profit making electric companies that are against multiple building use of solar panels.



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11587.

Comment Date: April 14, 2011 22:30:20PM  
Solar Energy Development PEIS  
Comment ID: SolarD11587

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

To whom it may concern:

I believe this is a terrible idea to build a solar energy. Nothing ever satisfied the people, when you give them a little taste of something they rather have the entire thing than just a bite. It is just ridiculous and harmful what they plan to do. They're not really thinking about the negative effects and damages this is going to cause to our beautiful land and free animals. How could they have the heart to remove the shelter of our desert animals? It is just crazy how they want to just remove them like if it wasn't going to do any harm. Well, they should put themselves in the animal's shoes, and really think if that's what is best for them. Where would the animals go, If 80% of the land is destroyed to make this machines. Not only are we damaging our wild life animals but our desert. Our land is the most precious thing and memory that we can carry for as long as we shall live. These memories that we have as children can be passed down to our loving children and it is the best and most valuable memory in the world.

Thank you for your comment, Michelle Buerger.

The comment tracking number that has been assigned to your comment is SolarD11588.

Comment Date: April 14, 2011 22:36:55PM  
Solar Energy Development PEIS  
Comment ID: SolarD11588

First Name: Michelle  
Middle Initial:  
Last Name: Buerger  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time!

Thank you for your comment, Janice Jochum.

The comment tracking number that has been assigned to your comment is SolarD11589.

Comment Date: April 14, 2011 22:47:03PM  
Solar Energy Development PEIS  
Comment ID: SolarD11589

First Name: Janice  
Middle Initial: C  
Last Name: Jochum  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Janice C. Jochum

Thank you for your comment, Randi Reed.

The comment tracking number that has been assigned to your comment is SolarD11590.

Comment Date: April 14, 2011 22:52:19PM  
Solar Energy Development PEIS  
Comment ID: SolarD11590

First Name: Randi  
Middle Initial: J  
Last Name: Reed  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Although I am an avid supporter of solar energy it must be developed responsibly, in solar energy zones that don't mar the beauty or environment of our National Parks. These solar energy zones must not compromise national park wildlife, scenery, archaeological sites, water resources, or night sky viewing.

Additionally, I would like to see the BLM work with the Sierra Club to ensure that:

- \* The Riverside East SEZ be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Additionally, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. This must be changed.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ruth Mendelson.

The comment tracking number that has been assigned to your comment is SolarD11591.

Comment Date: April 14, 2011 23:05:15PM  
Solar Energy Development PEIS  
Comment ID: SolarD11591

First Name: Ruth  
Middle Initial:  
Last Name: Mendelson  
Organization:  
Address: Rdge Rd  
Address 2:  
Address 3:  
City: Lincoln  
State: MA  
Zip: 01773  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar is the way to go. Enough greed.

Thank you for your comment, Patricia Kolstad.

The comment tracking number that has been assigned to your comment is SolarD11592.

Comment Date: April 14, 2011 23:12:11PM  
Solar Energy Development PEIS  
Comment ID: SolarD11592

First Name: Patricia  
Middle Initial: A  
Last Name: Kolstad  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Thank you for your comment, Sabrina Aguirre Aguirre.

The comment tracking number that has been assigned to your comment is SolarD11593.

Comment Date: April 14, 2011 23:31:44PM  
Solar Energy Development PEIS  
Comment ID: SolarD11593

First Name: Sabrina Aguirre  
Middle Initial: M  
Last Name: Aguirre  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold address from public record  
Attachment: Letter.rtf

Comment Submitted:

April 14, 2011

To whom it may concern:

I have been a resident of the Coachella Valley for 18 years, and believe that the implantation of an solar energy development is an insufficient proposal.

The development certainly thrives from a good intention of conserving energy; however, the research behind it lacks the whole capsulization of the negative effects it would have on the desert. There are many aspects of the development that needs to be considered.

The development is going to cover vast areas of land, as up to 80% of the land remaining in East Riverside. The potential of hazardous materials being spilled out onto the desert, and the risk of contamination to our water resources. The solar radiation from an utility-scale energy facility could have numerous effects on the plants, and animals who inhabit the desert. Also, the installation of the solar energy facilities may be viewed as being very unappealing to tourists who visit the desert. The solar energy development will convey the incorrect message of the desert being industrial land, instead of a place of nature. It should be our priority to be consistent with the true reputation of desert land.

Sincerely, Sabrina Aguirre



Thank you for your comment, maria ortega.

The comment tracking number that has been assigned to your comment is SolarD11594.

Comment Date: April 14, 2011 23:45:51PM  
Solar Energy Development PEIS  
Comment ID: SolarD11594

First Name: maria  
Middle Initial:  
Last Name: ortega  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

To whom it may concern,

As a resident of Eastern Riverside County, I cannot agree with the plans of turning the 80% of the remaining public lands, in riverside, into massive winds and solar farms. At first, I did support this government plans, but I never thought about the consequences. Allowing the government to install this solar energy plants could cause many damages on our deserts. It will mainly destroy our public lands' ecosystems, such as plants, animals, water, and weather. Also, it will affect our communities' health by causing valley fibers and other bad diseases. It is definably a really bad idea to install this energy plants in our deserts.

Our desert is a very popular place; many people from all around the world come and visited frequently. It is a wonderful place where we can camp, hike, and do many other fun activities. Also, it is a bad idea to destroy them because these lands were sacred for ancient Indian tribes, they fought for it and they took care of it for many centuries. We, the community don't want our desert to disappear.

The government should spend sometime camping in our beautiful desert, that way they could see that the desert is not a waste of land. It is our home, our life, and our animals and plants reason of living. Please, think about it, don't destroy this public lands, you will destroy California's residents' heart.

Thank you for your time and consideration,

Anonymous

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11595.

Comment Date: April 15, 2011 00:01:01AM  
Solar Energy Development PEIS  
Comment ID: SolarD11595

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: [Withheld by requestor]  
Zip:  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

I am thrilled that solar energy is being expanded, but I want to protect our natural parks as well. Being able to get away from it all and be completely surrounded by nature is restoring for my soul. I highly value space away from artificial light. Please consider this as you develop plans.

Thank you for your comment, James Jorgensen.

The comment tracking number that has been assigned to your comment is SolarD11596.

Comment Date: April 15, 2011 00:49:59AM  
Solar Energy Development PEIS  
Comment ID: SolarD11596

First Name: James  
Middle Initial: H  
Last Name: Jorgensen  
Organization:  
Address: 4207 Westbrook Drive  
Address 2:  
Address 3:  
City: Ames  
State: IA  
Zip: 500143472  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11597.

Comment Date: April 15, 2011 00:55:51AM  
Solar Energy Development PEIS  
Comment ID: SolarD11597

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Monica Gilman.

The comment tracking number that has been assigned to your comment is SolarD11598.

Comment Date: April 15, 2011 00:58:40AM  
Solar Energy Development PEIS  
Comment ID: SolarD11598

First Name: Monica  
Middle Initial:  
Last Name: Gilman  
Organization:  
Address: 25525 s. Laura Ln  
Address 2:  
Address 3:  
City: Estacada  
State: OR  
Zip: 97023  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I would like our nation to take better advantage of solar energy, but solar plants need critical placement. Please make careful considerations when placing these installations to protect fragile environments and the resident wildlife.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11599.

Comment Date: April 15, 2011 01:17:30AM

Solar Energy Development PEIS

Comment ID: SolarD11599

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment: To whom it may concern.rtf

Comment Submitted:

To whom it may concern:

I Renee Meza was born, and raised in Indio, which is a small desert town located in the Riverside County. I take the position of opposing against the Solar Energy Development project. According to this web site, this project can cause several environmental problems including increasing the demand in water. Having enough water in the desert is important to the residents here. I get a monthly notice from my local water provider stating that I need to pay in the water tier allotted to me for the size of my property. Imagine with the building of the solar panels how that would affect our water supply. This project could also cause hazardous material to leak in to the surrounding land. It would also affect the natural resources that this land has; plants, minerals that come from the desert, animal species will also suffer. The land has a life of its own and we need to protect it.

To take up 80% of the land for windmill farms and or solar panel is unconventional. This project is too large of a magnitude to leave in the hands of the BLM and the DOE. The land needs an outside advocate. The surrounding cities need to know what will happen to the environment and the possible health issues that could arise from building solar panels next to our surrounding cities. I see nothing positive from building windmill farms and solar energy panels in my back yard.

I am completely aware of the need of energy. However their need's to be another solution this particular proposal on this land is just too fragile of a subject. This land has a rich history regarding its cultural history that has carried over for hundreds of years, and this is most valuable to some residents and priceless. If anything this land should be protected as an endangered species of wild untouched land. Once again I believe the land needs to have an advocate.

I know this debate will continue on for many years. My opinion comes from living here for many years and watching the changes on the land progressively continue to change. I think the remaining 80% should be left untouched and preserved. This is America after all, I think the government or other agencies can come up with several different alternatives.

Best Regards,

Renee Meza



Thank you for your comment, Kimberly Spiegel.

The comment tracking number that has been assigned to your comment is SolarD11600.

Comment Date: April 15, 2011 01:58:17AM  
Solar Energy Development PEIS  
Comment ID: SolarD11600

First Name: Kimberly  
Middle Initial:  
Last Name: Spiegel  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: NJ  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jianshen Dai.

The comment tracking number that has been assigned to your comment is SolarD11601.

Comment Date: April 15, 2011 02:34:12AM  
Solar Energy Development PEIS  
Comment ID: SolarD11601

First Name: Jianshen  
Middle Initial: J  
Last Name: Dai  
Organization:  
Address: 73373 Country Club Dr  
Address 2:  
Address 3:  
City: Palm Desert  
State: CA  
Zip: 92260  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: Letter Desert.docx

Comment Submitted:

The issue of proposing a solar energy project in desert area has been heating up recently. In my opinion the project may do more harm than creating benefits.

Though not living in the planned projection area, I still have concern about whether this government project can achieve its expected goal without sacrifice the environment of desert area. According to the purposed plan 80% of remaining public lands in Riverside county deserts to be turned into massive wind and solar farms, which means the most public land in Riverside County, will literally, become “solar”. Imagine that if the solar plants are built in that area, then what are left for those who are living there, and natural species that have been living there for millions of years. It is inevitable that building up those massive solar plants will harm the environment to certain extent. Then who should take responsibility for the remedy? Especially in a place like California Desert where countless endangered species can only survive, we cannot afford to lose more of them. Natural scenery is a gift Nature gives us. We should tend to protect it but not to devastate.

Not only it hurts heavily on the environment of the desert, but it will impact tremendously on the local businesses. Imagine that when the solar projection takes over the desert’s economy, local businesses have to force to shut down or reduce their scales. Then thousands of people could lose jobs because of that.

So please leave the desert in peace and harmony.

Thank you for your comment, Robert Moeller.

The comment tracking number that has been assigned to your comment is SolarD11602.

Comment Date: April 15, 2011 04:45:23AM  
Solar Energy Development PEIS  
Comment ID: SolarD11602

First Name: Robert  
Middle Initial:  
Last Name: Moeller  
Organization:  
Address: 579 Glen St  
Address 2:  
Address 3:  
City: Glens Falls  
State: NY  
Zip: 128012243  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Yes, installation and operation of wind and solar energy devices in national parks should be done with respect for nature and the public and preserve the intention of national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11603.

Comment Date: April 15, 2011 06:59:34AM  
Solar Energy Development PEIS  
Comment ID: SolarD11603

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy must be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's astounding heritage. Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Daniel Orfe.

The comment tracking number that has been assigned to your comment is SolarD11604.

Comment Date: April 15, 2011 07:21:18AM  
Solar Energy Development PEIS  
Comment ID: SolarD11604

First Name: Daniel  
Middle Initial: F  
Last Name: Orfe  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

To Whom it may concern,

The Joshua Tree and Death Valley National Park along with White Sands National Monument are gems of our National Parks and Monuments. The current proposals for solar energy exploitation have the following issues. The Riverside East SEZ should be reconfigured to reduce its impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ should be reduced or reconfigured to mitigate its negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Lastly, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Thank you for your consideration of the significant potential impacts to our national treasures.

Thank you for your comment, Christine Barrett.

The comment tracking number that has been assigned to your comment is SolarD11605.

Comment Date: April 15, 2011 07:59:37AM  
Solar Energy Development PEIS  
Comment ID: SolarD11605

First Name: Christine  
Middle Initial: A  
Last Name: Barrett  
Organization:  
Address: P.O. Box 922  
Address 2:  
Address 3:  
City: Chester  
State: CA  
Zip: 96020  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I support the development of solar energy, but not in National Parks, Monuments, archeological areas, sacred places or other sensitive areas. Please ensure that distance buffers these priceless areas and protect them from exploitation and degradation

Thank you for your comment, Katherine Owens.

The comment tracking number that has been assigned to your comment is SolarD11606.

Comment Date: April 15, 2011 09:14:14AM  
Solar Energy Development PEIS  
Comment ID: SolarD11606

First Name: Katherine  
Middle Initial: A  
Last Name: Owens  
Organization: National Parks Conservation Association  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,  
Katherine A. Owens



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11607.

Comment Date: April 15, 2011 09:41:03AM  
Solar Energy Development PEIS  
Comment ID: SolarD11607

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda North.

The comment tracking number that has been assigned to your comment is SolarD11608.

Comment Date: April 15, 2011 09:46:35AM  
Solar Energy Development PEIS  
Comment ID: SolarD11608

First Name: Linda  
Middle Initial: J  
Last Name: North  
Organization:  
Address: 804 Barrett Mtn Rd  
Address 2:  
Address 3:  
City: Taylorsville  
State: NC  
Zip: 28681  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

This is exciting - I am such a believer in the possibilities of solar and wind power. For my own use I got an evaluation on some solar additions to my home, but price prevented me from action. Maybe this will change in the future as solar becomes more common.

The "doing it right" emphasis is so important to me. We certainly can learn from mistakes made in other fuel and power, the mistakes are still being found.

I believe we are destroying this planet with our current policies, but I have faith in the future if it includes responsible alternative energy sources.

Thank you for your comment, Justin Barnett.

The comment tracking number that has been assigned to your comment is SolarD11609.

Comment Date: April 15, 2011 09:47:05AM  
Solar Energy Development PEIS  
Comment ID: SolarD11609

First Name: Justin  
Middle Initial: t  
Last Name: Barnett  
Organization:  
Address: po Box 3544  
Address 2:  
Address 3:  
City: Eagle  
State: CO  
Zip: 81631  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Renewable energy...WE WIN!!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11610.

Comment Date: April 15, 2011 09:53:21AM  
Solar Energy Development PEIS  
Comment ID: SolarD11610

First Name: [Withheld by requestor]  
Middle Initial: [Withheld by requestor]  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

Protecting our national parks and producing more sustainable energy are two goals which should not be in conflict. What good is it to make less of an impact on the environment with our energy production if we harm some of the most beautiful and important ecosystems in our country. Please consider the following points on the proposed project.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Zach Freidhof.

The comment tracking number that has been assigned to your comment is SolarD11611.

Comment Date: April 15, 2011 10:01:01AM  
Solar Energy Development PEIS  
Comment ID: SolarD11611

First Name: Zach  
Middle Initial:  
Last Name: Freidhof  
Organization: Akron Peace Project  
Address: 8289 Brecksville Rd  
Address 2:  
Address 3:  
City: Brecksville  
State: OH  
Zip: 441411543  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, G Allen Daily.

The comment tracking number that has been assigned to your comment is SolarD11612.

Comment Date: April 15, 2011 10:02:27AM  
Solar Energy Development PEIS  
Comment ID: SolarD11612

First Name: G Allen  
Middle Initial:  
Last Name: Daily  
Organization:  
Address: 4119 N 110th ST  
Address 2:  
Address 3:  
City: Wauwatosa  
State: WI  
Zip: 532221104  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rebecca Bralek.

The comment tracking number that has been assigned to your comment is SolarD11613.

Comment Date: April 15, 2011 10:06:04AM  
Solar Energy Development PEIS  
Comment ID: SolarD11613

First Name: Rebecca  
Middle Initial:  
Last Name: Bralek  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Pat and Gary Gover.

The comment tracking number that has been assigned to your comment is SolarD11614.

Comment Date: April 15, 2011 10:19:01AM  
Solar Energy Development PEIS  
Comment ID: SolarD11614

First Name: Pat and Gary  
Middle Initial:  
Last Name: Gover  
Organization:  
Address: 300 Lincoln St.  
Address 2:  
Address 3:  
City: Fairhope  
State: AL  
Zip: 365322818  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment, Pat and Gary Gover.

The comment tracking number that has been assigned to your comment is SolarD11615.

Comment Date: April 15, 2011 10:20:22AM  
Solar Energy Development PEIS  
Comment ID: SolarD11615

First Name: Pat and Gary  
Middle Initial:  
Last Name: Gover  
Organization:  
Address: 300 Lincoln St.  
Address 2:  
Address 3:  
City: Fairhope  
State: AL  
Zip: 365322818  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

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Thank you for your comment, Constance Mainwaring.

The comment tracking number that has been assigned to your comment is SolarD11616.

Comment Date: April 15, 2011 10:49:09AM  
Solar Energy Development PEIS  
Comment ID: SolarD11616

First Name: Constance  
Middle Initial: W  
Last Name: Mainwaring  
Organization:  
Address: 705 Stypmann Bl  
Address 2:  
Address 3:  
City: Stuart  
State: FL  
Zip: 349942325  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

parts of the U.S. have abundant sun.

Using solar for energy only makes sense.

Just don't forget to consider the environmental impact on the creatures that live there.

Thank you for your comment, Jo Anna Hebberger.

The comment tracking number that has been assigned to your comment is SolarD11617.

Comment Date: April 15, 2011 10:50:18AM  
Solar Energy Development PEIS  
Comment ID: SolarD11617

First Name: Jo Anna  
Middle Initial:  
Last Name: Hebberger  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: IA  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Jo Anna Hebberger

Thank you for your comment, James Bauder.

The comment tracking number that has been assigned to your comment is SolarD11618.

Comment Date: April 15, 2011 10:58:01AM  
Solar Energy Development PEIS  
Comment ID: SolarD11618

First Name: James  
Middle Initial: C  
Last Name: Bauder  
Organization:  
Address: 15815 Indian Creek Road  
Address 2:  
Address 3:  
City: Fort Jones  
State: CA  
Zip: 96032  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As commendable as the solar energy zones are they need to be balanced with already established public interest areas such as the national parks. To endanger the pup fish in Death Valley and Damage the Joshua Tree National park and ancient trees of that area is absurd. Please reconfigure the Riverside East SEZ so that it will not impact Joshua Tree National Park. Please reduce or reconfigure the Amargosa Valley SEZ so that it will not impact in any way the limited water that is available in Death Valley for the Devil's Hole Pup Fish which is a miracle in its survival in the hostile environment of Death Valley. Please remove the Iron Mountain SEZ as it will be adverse to the scenery and the wildlife of Joshua Tree National Park. Admittedly these area are ideal for solar energy development but their negative impact on these national wonders should remove them from the list Thank you for your consideration.

Thank you for your comment, Daniel Ogas.

The comment tracking number that has been assigned to your comment is SolarD11619.

Comment Date: April 15, 2011 11:04:18AM  
Solar Energy Development PEIS  
Comment ID: SolarD11619

First Name: Daniel  
Middle Initial: R  
Last Name: Ogas  
Organization:  
Address: 10643 Matinal Circle  
Address 2:  
Address 3:  
City: San Diego  
State: CA  
Zip: 92127  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Please insure that ANY solar or other renewable energy projects are only done with the utmost concern for the environment and any National, State or Local parks that may be impacted. We really should be putting in solar where the electricity is consumed. I think that here in San Diego and the southern States we should be putting solar panels and roofs on every horizontal or near horizontal surfaces. It seems like such a simple idea if we would just get away from the profit and control mindset of the greedy energy providers.

Thank you for your comment, Daniel Ogas.

The comment tracking number that has been assigned to your comment is SolarD11620.

Comment Date: April 15, 2011 11:04:31AM  
Solar Energy Development PEIS  
Comment ID: SolarD11620

First Name: Daniel  
Middle Initial: R  
Last Name: Ogas  
Organization:  
Address: 10643 Matinal Circle  
Address 2:  
Address 3:  
City: San Diego  
State: CA  
Zip: 92127  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Please insure that ANY solar or other renewable energy projects are only done with the utmost concern for the environment and any National, State or Local parks that may be impacted. We really should be putting in solar where the electricity is consumed. I think that here in San Diego and the southern States we should be putting solar panels and roofs on every horizontal or near horizontal surfaces. It seems like such a simple idea if we would just get away from the profit and control mindset of the greedy energy providers.

Thank you for your comment, Elisabeth Fiekowsky.

The comment tracking number that has been assigned to your comment is SolarD11621.

Comment Date: April 15, 2011 11:11:11AM  
Solar Energy Development PEIS  
Comment ID: SolarD11621

First Name: Elisabeth  
Middle Initial:  
Last Name: Fiekowsky  
Organization:  
Address: PO Box 2476  
Address 2:  
Address 3:  
City: Sebastopol  
State: CA  
Zip: 95473  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Brian Waters.

The comment tracking number that has been assigned to your comment is SolarD11622.

Comment Date: April 15, 2011 11:14:08AM  
Solar Energy Development PEIS  
Comment ID: SolarD11622

First Name: Brian  
Middle Initial:  
Last Name: Waters  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

While I completely support solar energy I would like to go on record that because i am a huge supporter and user of our national parks and a citizen who is concerned that we conserve our biological diversity that I want to see solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks or the surrounding ecosystems.

I am in total agreement with the NPCA when it states that There are four proposed Solar Energy Zones that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I have visited both Joshua Tree National Park and Death Valley, and have plans to do so again within the next couple of years.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11623.

Comment Date: April 15, 2011 11:18:27AM  
Solar Energy Development PEIS  
Comment ID: SolarD11623

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lisa Koehl.

The comment tracking number that has been assigned to your comment is SolarD11624.

Comment Date: April 15, 2011 11:25:03AM  
Solar Energy Development PEIS  
Comment ID: SolarD11624

First Name: Lisa  
Middle Initial: M  
Last Name: Koehl  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Once amended, I am in support of the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Lisa M Koehl

Thank you for your comment, Taylor Riek.

The comment tracking number that has been assigned to your comment is SolarD11625.

Comment Date: April 15, 2011 11:29:27AM  
Solar Energy Development PEIS  
Comment ID: SolarD11625

First Name: Taylor  
Middle Initial: A  
Last Name: Riek  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

To Whom it may concern,

I am a 13 year resident of the Coachella Valley, but I am originally from Scottsdale, Arizona so I spend many weekends driving the freeway and seeing the beautiful desert we call home. Although I believe we need to come up with a way too implement green solar energy we also need a way to do this without destroying vast amounts of beautiful desert landscape.

It is mostly definitely a great opportunity for the Coachella Valley because not only would it be great alternative energy source but would also create a lot of jobs, but to destroy all this beautiful land that has been there for many, many years would be such a down fall. Also animals would be killed and would not be able to run freely as they have for so long.

Thank you for your comment, Eric Cadora.

The comment tracking number that has been assigned to your comment is SolarD11626.

Comment Date: April 15, 2011 11:54:46AM  
Solar Energy Development PEIS  
Comment ID: SolarD11626

First Name: Eric  
Middle Initial:  
Last Name: Cadora  
Organization:  
Address: 1344 Park St.  
Address 2:  
Address 3:  
City: Salt Lake City  
State: UT  
Zip: 84105  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am absolutely for solar development but only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Nathan Wilson.

The comment tracking number that has been assigned to your comment is SolarD11627.

Comment Date: April 15, 2011 11:58:28AM  
Solar Energy Development PEIS  
Comment ID: SolarD11627

First Name: Nathan  
Middle Initial:  
Last Name: Wilson  
Organization:  
Address:  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robyn Sumners.

The comment tracking number that has been assigned to your comment is SolarD11628.

Comment Date: April 15, 2011 11:58:31AM  
Solar Energy Development PEIS  
Comment ID: SolarD11628

First Name: Robyn  
Middle Initial:  
Last Name: Sumners  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I believe solar power for our parks is a no-brainer, my only concern is that the fragile ecosystems aren't compromised, so please let the park officials and the community be apart of the input process. Thank you!!!

Thank you for your comment, Nathan Wilson.

The comment tracking number that has been assigned to your comment is SolarD11629.

Comment Date: April 15, 2011 12:00:26PM  
Solar Energy Development PEIS  
Comment ID: SolarD11629

First Name: Nathan  
Middle Initial:  
Last Name: Wilson  
Organization: National Parks Conservation Association  
Address:  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

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Thank you for your comment, Kathy Gottberg.

The comment tracking number that has been assigned to your comment is SolarD11630.

Comment Date: April 15, 2011 12:13:35PM  
Solar Energy Development PEIS  
Comment ID: SolarD11630

First Name: Kathy  
Middle Initial:  
Last Name: Gottberg  
Organization: Coachella Valley Green.com  
Address: 42335 Washington St. #F303  
Address 2:  
Address 3:  
City: Palm Desert  
State: CA  
Zip: 92211  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am very much in favor of renewable energy. However, I believe that renewables like solar and wind power should be done in the urban landscape rather than destroying natural desert landscapes. Besides the environmental impact on undisturbed landscape, the transmission of such far away power will be extremely costly and inefficient. The benefits of decentralized power in urban areas and on rooftops is much greater for national security, transmission issues, putting people to work where they live, and helping citizens become self-sufficient instead of dependent upon public utilities. A FIT Program that rewards local business and homeowners is a MUCH better plan than sticking solar out in the desert!



Thank you for your comment, Mike Sanni.

The comment tracking number that has been assigned to your comment is SolarD11631.

Comment Date: April 15, 2011 12:23:15PM  
Solar Energy Development PEIS  
Comment ID: SolarD11631

First Name: Mike  
Middle Initial: L  
Last Name: Sanni  
Organization:  
Address:  
Address 2:  
Address 3:  
City: Chambersburg  
State: PA  
Zip: 17202  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

For once, let's do this right and THINK AHEAD! Keep solar where it's most effective - in solar zones!

Thank you for your comment, Susan Valdivia.

The comment tracking number that has been assigned to your comment is SolarD11632.

Comment Date: April 15, 2011 12:32:26PM  
Solar Energy Development PEIS  
Comment ID: SolarD11632

First Name: Susan  
Middle Initial: K  
Last Name: Valdivia  
Organization: NPCA, Sierra Club, Center for Biological Diversity  
Address:  
Address 2:  
Address 3:  
City: Tucson  
State: AZ  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

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Thank you for your comment, Beaver County Commission Beaver County Commission .

The comment tracking number that has been assigned to your comment is SolarD11633.

Comment Date: April 15, 2011 12:35:13PM  
Solar Energy Development PEIS  
Comment ID: SolarD11633

First Name: Beaver County Commission  
Middle Initial:  
Last Name: Beaver County Commission  
Organization: Beaver County Commission  
Address: 105 E. Center  
Address 2:  
Address 3:  
City: Beaver  
State: UT  
Zip: 84713  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: SEZ PEIS COMMENT\_BEAVER COUNTY UTAH\_4-11-11.pdf

Comment Submitted:

The attached document is to replace the document/comment submitted on April 11, 2011 at 9:29 a.m. comment # SEDD10161.

Please disregard the document with the comment # SED10161.

The attached document is the official statement from Beaver County. Any other comments besides this one are not official and should not be considered valid from Beaver County.

**BEAVER COUNTY BOARD OF COUNTY  
COMMISSIONERS**

**COMMENTS REGARDING: BLM & DOE'S  
DRAFT SOLAR ENERGY DEVELOPMENT PEIS**

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## EXECUTIVE SUMMARY

As an entity having two (2) proposed SEZ's within its jurisdiction, Beaver County welcomes the opportunity to be involved in the SEZ PEIS process. The Beaver County Board of County Commissioners are pro renewable energy, as seen in the Beaver County's Renewable Energy Portfolio section of this document.

It is the intent of Beaver County, through this document, to coordinate with and assist the Department of Energy and Bureau of Land Management in developing an effective and efficient renewable energy program.

After reviewing the draft SEZ PEIS document the county provides within this document comments addressing the following topics:

- **SEZ'S & ALTERNATIVE OPTIONS' EFFECTS UPON THE AUM PERMITEES**  
Beaver County must protect the agriculture and the subsets of that industry (grazing) in order to maintain the economy and lifestyle of its citizens. Appropriate mediation standards should be set and if the affects upon the AUM holders is too significant and the mediation requirements are not sufficient Beaver County would not support the creation of the SEZ(s)
- **SEZ'S & EFFECTS UPON OTHER POTENTIAL RENEWABLE ENERGY RESOURCES**  
Beaver County does not want other Renewable Energy Resources and Potential Developments upon the proposed SEZ(s) area to be hindered or prohibited because of the creation of the SEZ(s).
- **CRITERIA USED IN EXCLUDING LAND FROM THE SUZ'S**  
What has BLM done to ensure all data is accurate, adequate and unbiased in forming their proposed SEZs? If some areas that may be a viable resource, or may become viable resources through technology, for utility scale solar energy development were left out due to either inaccurate, inadequate, or biased information, these areas would either not be considered or not benefit from the streamlined process and therefore both the developer and Beaver County suffer great economic and social set-backs, especially if the SEZ program alternative is chosen.
- **COUNTY'S RECOMMENDATION RE: ACTION AND NO ACTION ALTERNATIVES**  
Beaver County promotes RE Energy development and feels if the other conditions/concerns are met as discussed in this document, we select the Solar Energy Development Program alternative.

For each topic listed above Beaver County has provided the concern, why the concern is valid, and recommendations to the DOE & BLM of how to mediate the concern.

## INTRODUCTION

Beaver County was first formally introduced to the Solar Energy Zones Programmatic Environmental Impact Statement (PEIS) process at the public scoping meeting held in Cedar City, UT on March 9, 2011. Though there may have been attempts in the past to coordinate with or introduce Beaver County to the process, Beaver County had not been involved due to reasons that may have included personnel changes, undelivered mail, miscommunications and others. Please do not take our lack of involvement in the process thus far as an indicator that Beaver County is not interested in the process, or in Solar Energy development.

Since the scoping meeting held on March 9<sup>th</sup> Beaver County has been inundated with the task of catching up on information regarding the PEIS, developing a consensus among the County Commissioners regarding the county's view on the SEZ PEIS and finally providing comments regarding the draft PEIS.

Beaver County is obligated to act in accordance with the Beaver County Land Use Ordinances.

As stated in your Executive Summary line 26-27 "utility-scale energy facilities have not yet been constructed on BLM-administered public lands, but there is great interest in such development." Beaver County also has no utility-scale solar energy facilities within Beaver County, but there is great interest in such development.

Beaver County is aware of the abundant renewable energy resource for a variety of technologies within the county boundaries. Beaver County has and will continue to be a advocate for Renewable Energy. Both the Board of County Commissioners and the Beaver County Planning and Zoning Commission have taken considerable steps in allowing for a streamlined yet thorough Plan of Development and permitting process for existing utility-scale renewable energy facilities. It is imperative that the decisions made within the PEIS are in line with the efforts made by Beaver County to allow a streamlined yet sufficiently thorough permitting process.

With the land within the County only having 12% private land and 88% Federally and State owned land, Beaver County is greatly affected by decision made concerning the management of and development on land owned by the Federal and State Government. Much of the existing renewable energy resources are located on Federal or State Land. Therefore, in planning for future revenue for Beaver County, the decisions affecting renewable energy on Federal land directly and significantly impact the future of Beaver County.

## BEAVER COUNTY'S RENEWABLE ENERGY PORTFOLIO

**BLUNDELL GEOTHERMAL.** This geothermal plant has been in operation since 1981. It is located on BLM administered ground. Beaver County performs all maintenance on the transportation routes allowing access to the plant. The plant produces 28 MW of energy for use within the Rocky Mountain Power grid.

**FIRST WIND.** First Wind has had their utility scale wind farm in operation since 2009. Phase I and II have been completed with the majority of turbines located in Beaver County. They are currently working on Phase III, which is located in Millard County. Phase I & II are located on a mix of BLM administered land and private land. Beaver County performs all maintenance on the transportation routes allowing access to the project. Phase I & II has the capacity of 305 MW and contracts with SCAPA to buy their power.

**RAZOR TECHNOLOGIES.** Razor has been in operation since 2009. It is located primarily on SITLA administered land but involves some private as well. The County maintains all roads accessing the plant. Razor produces 10 MW.

**ENEL.** Enel is in the design phase of their proposed geothermal plant. The proposed site had been used for geothermal power generation several years ago but has been dormant for the last few years. The County also maintains all roads accessing the proposed plant. Enel proposed to produce 25 MW of power-using 5 internally and selling the remaining 20.



## PEIS COMMENTS

### **1. SEZ'S & ALTERNATIVE OPTIONS' EFFECTS UPON THE AUM PERMITEES**

Being a rural county with the population of 6,629 and not being in relatively close proximity to any large urban areas, Beaver County's agriculture and livestock industries are an intercut and vital part of these communities past, present and future. As of 2009 and according to the Department of Workforces Services data, Agriculture made up 19% of the County's jobs distribution. Thus, it is imperative that Beaver County protects and promotes the agriculture industry. As a subset and an integral part of the agriculture industry is the use of AUM's on BLM administered land. Without the availability of grazing on BLM administered ground, many agriculture and cattle operations would not be viable and would result in the loss of the culture, livelihood, and sustainability of many families and even entire communities.

For these reasons we ask that in the PEIS the BLM and DOE intensely look into the effects of the SEZ's on AUM holders within the SEZ boundary. With the average SEZ being approximately 6,500 acres, this could potentially have a substantial impact on AUM holders.

If the effect is either minimal or significant, and the BLM and DOE decide to move forward with the proposed SEZ, Beaver County would strongly recommend appropriate and generous mediation standards be set to compensate the AUM holder for his/her loss. Whether the mediation be through the BLM by redistribution of AUMs or some other compensation or the mediation measures are placed upon the developer of the SEZ, they need to be fair and generous. When figuring the appropriate compensation formula, the BLM should not only consider the monetary value of the AUMs to the holder, but also the value of the lifestyle and culture the holder has and has had in some cases for four to five generations.

Beaver County would also suggest the BLM explores all options that would allow the SEZ to be a multiple use area. If technology permits, Beaver County would support the coexistence of the solar development(s) and the grazing of cattle upon the proposed SEZ. Practical in the mechanical sense but may not be in the technical or economical sense, options may include requiring the mounting systems to be elevated high enough that the cattle could not affect the actual solar panels. Another option may include individual fences around each array instead of fencing off the entire development.

### **2. SEZ'S & EFFECTS UPON OTHER POTENTIAL RENEWABLE ENERGY RESOURCES**

As noted in the Beaver County's Renewable Energy Portfolio section of this document, Beaver County has several existing utility scale renewable energy generating facilities with the resources for many more in the areas of wind, solar, geothermal, and biomass. Because of these abundant resources for a variety of renewable energies and because many of those resources for the different types of renewable energy are within the same area and would require the use of the same land, Beaver County provides the following recommendation/suggestions.

BLM & DOE include in their analysis the impact(s) the SEZ may or may not have upon other renewable energy sources/technologies. Located within the Wah-Wah valley is promising and encouraging data that indicates enough wind resource for the development of a utility scale wind power generation facility. This data most likely includes the area proposed as the Wah-Wah Valley SEZ. It is the concern of Beaver County that through the declaration of this SEZ the possibility and potential of wind development would either be completely diminished or heavily restricted. By declaring these areas as SEZ does it set aside that area only for the use of solar energy? Or, does it give priority to solar energy development and make other applications for other sources of RE go through a less expedited or even more cumbersome permitting process? Beaver County would recommend that if this area does become a SEZ it does not completely prohibit or even restrict other viable applications for development of other RE technologies.

The Milford Flat South proposed SEZ does not have any existing data that we are aware of other RE sources. However, Razor Technologies geothermal facility is located within relative close proximity to the SEZ, therefore the possibility of their being adequate geothermal resources are likely. Thus, we ask that the same suggestions/recommendations expressed in the preceding paragraph be applied to the Milford Flat South site as well.

### **3. CRITERIA USED IN EXCLUDING LAND FROM THE SEZ'S**

It is Beaver County's understanding that the development of the proposed SEZ(s) were derived mainly from the input, research, and information from the local BLM office. Beaver County has a good relationship with the local office and does not question their integrity, however, it is a concern that the input, research, and information provided by the local BLM may either be inadequate, inaccurate, lacking in detail, or biased in some way. The concern of this last sentence is not so much on the selection of the existing proposed sites (Wah-Wah and Milford Flat South) but on the areas that may have been excluded. For example, if for some reason the option of SEZ program alternative is selected and another resource for solar development is located, either due to the finding of additional or more accurate data/information or technology improves, this new finding would not be recognized and the possible permit would not even be looked at. What has the BLM/DOE done to secure and make sure the most accurate, sufficient, and unbiased information has been selected to base the proposed SEZ(s) off of?

### **4. COUNTY'S RECOMMENDATION RE: ACTION AND NO ACTION ALTERNATIVES**

After review of the two action alternatives and the no action alternative, Beaver County has selected the solar energy development program alternative as our preferred alternative.

As stated in the opening statements Beaver County is pro renewable energy and strives to promote the development of it. Beaver County has chosen their preferred alternative as part of these efforts. It is imperative to improve the current permitting process/system to allow development of RE be expedited and to relieve cost to the developer for the permitting process. For these reason Beaver County supports the development of SEZ as long as the points of concern as stated in this document are addressed.

Furthermore, as long as the impacts upon AUM holders is minimal or if it is deemed significant the mediation standards are fair and generous; the development of other RE sources is not prohibited or restricted, and the information used to form the SEZ is deemed accurate, sufficient and unbiased, Beaver County supports the solar energy development program alternative.

We thank you for your efforts in the development of renewable energy and specifically solar power.

Sincerely,



Mark S. Whitney  
Chairman



William L. Dalton  
Commissioner



Chad W. Johnson  
Commissioner

Dated this 11 day of April, 2011

Thank you for your comment, Joe Stuart.

The comment tracking number that has been assigned to your comment is SolarD11634.

Comment Date: April 15, 2011 13:01:55PM  
Solar Energy Development PEIS  
Comment ID: SolarD11634

First Name: Joe  
Middle Initial:  
Last Name: Stuart  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

As a home owner in San Luis Valley in southwestern Colorado I welcome any project which will provide jobs and stimulus to the area.

Thank you for your comment, Francis Palmer.

The comment tracking number that has been assigned to your comment is SolarD11635.

Comment Date: April 15, 2011 13:35:00PM  
Solar Energy Development PEIS  
Comment ID: SolarD11635

First Name: Francis  
Middle Initial: H  
Last Name: Palmer  
Organization:  
Address: 5724 7th Avenue  
Address 2:  
Address 3:  
City: Sacramento  
State: CA  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Please designate areas of federal lands that are appropriate for solar development.

Thank you for your comment, Elizabeth Schlein.

The comment tracking number that has been assigned to your comment is SolarD11636.

Comment Date: April 15, 2011 13:55:11PM  
Solar Energy Development PEIS  
Comment ID: SolarD11636

First Name: Elizabeth  
Middle Initial:  
Last Name: Schlein  
Organization:  
Address: 1911 Post Oak Park Dr. #5220  
Address 2:  
Address 3:  
City:  
State: TX  
Zip: 77027  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

We need Power from the sun. It's better than oil or gas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11637.

Comment Date: April 15, 2011 14:01:38PM  
Solar Energy Development PEIS  
Comment ID: SolarD11637

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

It's what we need to do!!!!  
The technology is there, but it's too expensive for most people.  
Instead of bailing out the car manufacturers, the government should have invested in turning their plants in solar panel production facilities.

Thank you for your comment, Robert Pope.

The comment tracking number that has been assigned to your comment is SolarD11638.

Comment Date: April 15, 2011 14:03:58PM  
Solar Energy Development PEIS  
Comment ID: SolarD11638

First Name: Robert  
Middle Initial: H  
Last Name: Pope  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: PA  
Zip: 194032241  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am a great supporter of solar energy and am very interested in seeing parks utilize fossil fuel alternatives to work towards becoming as energy efficient as possible.  
Having said that, I must also add that I never want those efforts to compromise historic preservation in any way! I also would, of course, want to see a minimal impact on the natural ecosystem and on scenic views.



Thank you for your comment, Arthur Morris.

The comment tracking number that has been assigned to your comment is SolarD11639.

Comment Date: April 15, 2011 14:29:53PM  
Solar Energy Development PEIS  
Comment ID: SolarD11639

First Name: Arthur  
Middle Initial:  
Last Name: Morris  
Organization: HEAL Utah  
Address: 68 South Main  
Address 2:  
Address 3:  
City: Salt Lake City  
State: UT  
Zip: 84101  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: PEIS HEAL Comments\_Final.doc

Comment Submitted:

April 6, 2011  
Solar Energy PEIS  
Argonne National Laboratory  
9700 S. Cass Avenue  
EVS/900  
Argonne, IL 60439

HEAL Utah is grateful for the opportunity to submit comments regarding the Bureau of Land Management and Department of Energy's (the Agencies) Solar Energy Development Programmatic EIS (PEIS). HEAL is a Utah-based non-profit organization dedicated to protecting Utah's public health and promoting environmentally- and economically-responsible development of renewable energy resources in Utah. In our view, solar development is a key component of a renewable energy portfolio needed to protect the health of Utahans and support long-term public health and economic stability for the state and the region. We support careful efforts toward the Agencies' goal of developing renewable energy sources on public lands.

HEAL would also like to recognize the previously submitted comments of numerous organizations. The Wilderness Society, Natural Resources Defense Council, Defenders of Wildlife, Wild Utah Project, Center for Native Ecosystems, Western Resource Advocates, New Mexico Wilderness Alliance, Arizona Wilderness Coalition, Californians for Western Wilderness, National Wildlife Federation, California Native Plant Society, Wyoming Outdoor Council, Colorado Environmental Coalition, Great Old Broads for Wilderness, Soda Mountain Wilderness Council, California Wilderness Coalition, Desert Protective Council, Sierra Club, Southern Utah Wilderness Alliance, and the Mojave Desert Land Trust (the Groups) have all presented sound scientific perspectives that should be weighed as the Agencies move forward with the development of solar energy plans. As HEAL strives to support the development of renewable energy sources within Utah's borders, we are encouraged by the quality of the process and comments thus far. To assure that solar energy can be affordably developed in Utah, we wish to draw the Agencies' attention to two specific areas of concern:

- We see, in the comments submitted by the Groups, strong support for the adoption of two localized Solar Energy Zones. These zones represent a significant resource and a PEIS would allow development on these lands to move forward quickly and in a cost effective manner. Our first concern is that lumping these

well-studied and qualified zones together with the 2 million acres of unstudied BLM lands considered under the Solar Development Energy Plan (SDP) and the Wah-Wah Valley SEZ, will effectively derail what to this point has been an effective and open process. Moving forward with a PEIS that includes the SDP and the Wah-Wah SEZ, in spite of concerns over the environmental protection and technical feasibility which have surfaced through the comment process, will materially disadvantage the process and slow the development of solar power in Utah. We, therefore, urge the Agencies to set aside the SDP alternative and the Wah-Wah SEZ to ensure that the PEIS and resulting solar development will be approved with minimal cost and delays. Furthermore, given the consensus on the technical and environmental viability of establishing SEZs in Milford Flats and the Escalante Valley, we recommend that the Agencies develop both of these areas as SEZs. These actions will support the timely development of cost-effective solar energy on Utah's public lands.

- Our second and more general concern is about the economics of renewable energy. HEAL would like to reinforce the Agencies' consideration of electricity transmission costs. Given the potentially scattered and remote development of solar projects under the SDP alternative, transmission would surely be more cost effective under the SEZ alternative. Furthermore, given the lack of currently available infrastructure for the Wah-Wah Valley SEZ, transmission would be significantly less cost effective if this SEZ were developed. Therefore, we recommend that the Agencies continue the process through which they identified the Milford Flats and Escalante Valley SEZs. We also urge the Agencies to pay close attention to the concerns of local and regional stakeholders with regard to both the 2 million recently added acres of the SDP alternative and the establishment of the Wah-Wah Valley SEZ. These actions will support the most cost effective and efficient development of solar energy on Utah's public lands.

Thank you for your comment, Janet Rafferty.

The comment tracking number that has been assigned to your comment is SolarD11640.

Comment Date: April 15, 2011 15:08:05PM  
Solar Energy Development PEIS  
Comment ID: SolarD11640

First Name: Janet  
Middle Initial: E  
Last Name: Rafferty  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: MS  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am a strong supporter of solar and other renewable energy use. Any development of areas where such energy collection occurs should be carefully planned to avoid adverse effects on archaeological and other significant cultural resources, as well as on National Parks and monuments. Preserving these resources should be a high priority that has no necessary conflict with renewable energy sites.

Thank you for your comment, Stephanie Foster.

The comment tracking number that has been assigned to your comment is SolarD11641.

Comment Date: April 15, 2011 15:36:23PM  
Solar Energy Development PEIS  
Comment ID: SolarD11641

First Name: Stephanie  
Middle Initial: H  
Last Name: Foster  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

We strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Adrienne Frey.

The comment tracking number that has been assigned to your comment is SolarD11642.

Comment Date: April 15, 2011 15:50:30PM  
Solar Energy Development PEIS  
Comment ID: SolarD11642

First Name: Adrienne  
Middle Initial:  
Last Name: Frey  
Organization:  
Address: 403 Stable Dr  
Address 2:  
Address 3:  
City: Franklin  
State: TN  
Zip: 37069  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy is vital for the future.

Thank you for your comment, Raven Dorantes.

The comment tracking number that has been assigned to your comment is SolarD11643.

Comment Date: April 15, 2011 15:54:54PM  
Solar Energy Development PEIS  
Comment ID: SolarD11643

First Name: Raven  
Middle Initial:  
Last Name: Dorantes  
Organization:  
Address: 1425 Mcallister St  
Address 2:  
Address 3:  
City: San Francisco  
State: CA  
Zip: 941154518  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Maria Nasif.

The comment tracking number that has been assigned to your comment is SolarD11644.

Comment Date: April 15, 2011 15:56:08PM  
Solar Energy Development PEIS  
Comment ID: SolarD11644

First Name: Maria  
Middle Initial:  
Last Name: Nasif  
Organization:  
Address: 6601 N Longfellow Drive  
Address 2:  
Address 3:  
City: Tucson  
State: AZ  
Zip: 85718  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

More solar energy!



Thank you for your comment, Doug Landau.

The comment tracking number that has been assigned to your comment is SolarD11645.

Comment Date: April 15, 2011 16:15:05PM  
Solar Energy Development PEIS  
Comment ID: SolarD11645

First Name: Doug  
Middle Initial:  
Last Name: Landau  
Organization:  
Address: 150 73rd St. S.  
Address 2:  
Address 3:  
City: St. petersburg  
State: FL  
Zip: 33707  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Carl Stein.

The comment tracking number that has been assigned to your comment is SolarD11646.

Comment Date: April 15, 2011 16:53:34PM  
Solar Energy Development PEIS  
Comment ID: SolarD11646

First Name: Carl  
Middle Initial:  
Last Name: Stein  
Organization:  
Address:  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology, once it is amended.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thomas Proett.

The comment tracking number that has been assigned to your comment is SolarD11647.

Comment Date: April 15, 2011 17:49:02PM  
Solar Energy Development PEIS  
Comment ID: SolarD11647

First Name: Thomas  
Middle Initial:  
Last Name: Proett  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I think solar development is a good thing but doing so on otherwise undeveloped land should be much lower in priority than using existing structures. Any new development should only be considered in urban or suburban areas -- far from wilderness or parks.

Thank you for your comment, Tom Reidy.

The comment tracking number that has been assigned to your comment is SolarD11648.

Comment Date: April 15, 2011 18:29:09PM  
Solar Energy Development PEIS  
Comment ID: SolarD11648

First Name: Tom  
Middle Initial:  
Last Name: Reidy  
Organization:  
Address: 9708 10th Pl. SW.  
Address 2: #202  
Address 3:  
City: Seattle  
State: WA  
Zip: 981063230  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

please do move ahead with research and consideration of using solar as alternative energy future on public lands.

Thank you for your comment, Lorna Paisley.

The comment tracking number that has been assigned to your comment is SolarD11649.

Comment Date: April 15, 2011 19:07:31PM  
Solar Energy Development PEIS  
Comment ID: SolarD11649

First Name: Lorna  
Middle Initial:  
Last Name: Paisley  
Organization:  
Address: 664 N. Hickory St  
Address 2:  
Address 3: 664 N. Hickory St  
City: Joliet  
State: IL  
Zip: 604356369  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

It is time for the US to step up to the plate like the rest of the world.  
We are being very foolish in letting the rest of the industrial world get ahead of us in production of solar energy panels and in their use.  
We have really dumbbed ourselves down.

Thank you for your comment, Tara Hess-McGeown.

The comment tracking number that has been assigned to your comment is SolarD11650.

Comment Date: April 15, 2011 19:56:33PM  
Solar Energy Development PEIS  
Comment ID: SolarD11650

First Name: Tara  
Middle Initial: D  
Last Name: Hess-McGeown  
Organization: Washoe Tribe of NV & CA  
Address: 919 US Hwy. 395 South  
Address 2:  
Address 3:  
City: Gardnerville  
State: NV  
Zip: 89410  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: BLM\_DOE Comment Ltr DEO\_EIS draft PEIS 041511.pdf

Comment Submitted:

Please find the following attachment

# Washoe Tribe of Nevada and California

Environmental Protection Department



April 15, 2011

Solar Energy Draft PEIS  
Argonne National Laboratory  
9700 S. Cass Avenue – EVS/240  
Argonne, Illinois 60439

RE: Draft Programmatic Environmental Impact Statement for Solar Energy  
Development in Six Southwestern States – DES 10-59; DOE/EIS-0403

To Whom It May Concern:

In 2010 the Bureau of Land Management (BLM) and the Department of Energy (DOE) prepared the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States. The Draft PEIS was released to the public on December 17, 2010 and the comment period extended until April 16, 2011. The Washoe Environmental Protection Department (WEPD) understands that the state of Nevada is an important resource for solar energy development and could have large impacts to our neighboring Tribes. WEPD is submitting the following comments/questions regarding the Draft PEIS:

- The Draft PEIS does not treat Tribes as a sovereign nation relative to DOE's allocation of solar energy zones (SEZ) by state per renewable energy portfolio requirements as a driver for allocating solar project demand. The Washoe Tribe has a Strategic energy plan goal of providing all its energy renewably from tribal lands by 20xx, and thus has an energy portfolio standard that is no less than that adopted by the state of Nevada, and is bounded by tribal lands. If a Tribe had an established renewable energy portfolio standard, and Tribes were treated in a manner similar to a state, Tribes could make the argument that DOE should allocate this influence to Tribal lands as a market driver. Additionally, how do the agencies plan on addressing the Tribes' that do not have an established renewable energy portfolio standard, but still have interests in having their energy needs met with renewable energy, and/or from tribal lands?

- Has the BLM completed compiling new visual resources inventory (VRI) data for each of the BLM field offices in Nevada? If not, will these VRIs be completed prior to the Final PEIS? We would like to be able to view this data collection and have the opportunity to comment.
- How will the Tribes be able to view proposed "fast track" project applications or solar energy Right-of-Way applications now that LR2000 is no longer available on line? Many Tribes in Nevada are in remote areas and will have to travel great distances to go to the Reno State Office to view any proposed applications.
- The interests of Tribes in getting priority right of first refusal/and or option(s) to acquire or the right to use adjacent/proximate BLM surplus properties to tribal holdings and/or historic range for energy projects or other uses is not considered in the PEIS. How are the agencies planning on addressing the Tribes' land adjacency/ proximity issues and interests?
- How will the agencies address proposed project areas that are adjacent to areas with important cultural and archaeological resources, such as traditional cultural properties and Native American sacred sites?

Thank you for your consideration in review of this document. We look forward to your response and appreciate your continued efforts with government-to-government consultation. If you have any questions, please call me at 775-265-8691.

Sincerely,

Tara Hess-McGeown  
Environmental Specialist II

THM/ns



Thank you for your comment, Tara Hess-McGeown.

The comment tracking number that has been assigned to your comment is SolarD11651.

Comment Date: April 15, 2011 20:01:20PM  
Solar Energy Development PEIS  
Comment ID: SolarD11651

First Name: Tara  
Middle Initial: D  
Last Name: Hess-McGeown  
Organization: Washoe Tribe of NV & CA  
Address: 919 U.S. Hwy. 395 South  
Address 2:  
Address 3:  
City: Gardnerville  
State: NV  
Zip: 89410  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: BLM\_DOE Comment Ltr DEO\_EIS draft PEIS 041511.rtf

Comment Submitted:

please find the attached comment letter

# Washoe Tribe of Nevada and California

Environmental Protection Department



April 15, 2011

Solar Energy Draft PEIS  
Argonne National Laboratory  
9700 S. Cass Avenue – EVS/240  
Argonne, Illinois 60439

RE: Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States – DES 10-59; DOE/EIS-0403

To Whom It May Concern:

In 2010 the Bureau of Land Management (BLM) and the Department of Energy (DOE) prepared the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States. The Draft PEIS was released to the public on December 17, 2010 and the comment period extended until April 16, 2011. The Washoe Environmental Protection Department (WEPD) understands that the state of Nevada is an important resource for solar energy development and could have large impacts to our neighboring Tribes. WEPD is submitting the following comments/questions regarding the Draft PEIS:

- The Draft PEIS does not treat Tribes as a sovereign nation relative to DOE's allocation of solar energy zones (SEZ) by state per renewable energy portfolio requirements as a driver for allocating solar project demand. The Washoe Tribe has a Strategic energy plan goal of providing all its energy renewably from tribal lands by 20xx, and thus has an energy portfolio standard that is no less than that adopted by the state of Nevada, and is bounded by tribal lands. If a Tribe had an established renewable energy portfolio standard, and Tribes were treated in a manner similar to a state, Tribes could make the argument that DOE should allocate this influence to Tribal lands as a market driver. Additionally, how do the agencies plan on addressing the Tribes' that do not have an established renewable energy portfolio standard, but still have interests in having their energy needs met with renewable energy, and/or from tribal lands?

- Has the BLM completed compiling new visual resources inventory (VRI) data for each of the BLM field offices in Nevada? If not, will these VRIs be completed prior to the Final PEIS? We would like to be able to view this data collection and have the opportunity to comment.
- How will the Tribes be able to view proposed "fast track" project applications or solar energy Right-of-Way applications now that LR2000 is no longer available on line? Many Tribes in Nevada are in remote areas and will have to travel great distances to go to the Reno State Office to view any proposed applications.
- The interests of Tribes in getting priority right of first refusal/and or option(s) to acquire or the right to use adjacent/proximate BLM surplus properties to tribal holdings and/or historic range for energy projects or other uses is not considered in the PEIS. How are the agencies planning on addressing the Tribes' land adjacency/ proximity issues and interests?
- How will the agencies address proposed project areas that are adjacent to areas with important cultural and archaeological resources, such as traditional cultural properties and Native American sacred sites?

Thank you for your consideration in review of this document. We look forward to your response and appreciate your continued efforts with government-to-government consultation. If you have any questions, please call me at 775-265-8691.

Sincerely,

Tara Hess-McGeown  
Environmental Specialist II

THM/ns

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11652.

Comment Date: April 15, 2011 20:23:58PM  
Solar Energy Development PEIS  
Comment ID: SolarD11652

First Name: [Withheld by requestor]  
Middle Initial: [Withheld by requestor]  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

The opposition to megaprojects in places like Colorado must not be viewed as a NIMBY issue. It includes those of us who reside in New England. I was head of the engineering department at a multi-state company that has installed megawatts of solar systems, only to be told after the very successful completion of a huge project, that this nation's best panels were no longer available to us for similar projects because every panel being manufactured was now being dedicated to megaprojects on public lands. The many systems we designed contiguous to high demand locations now operate with full efficiency and almost no transmission loss. Electrical energy wastefully degenerates to heat when power is transmitted from a remote wilderness area and your approval of such land use would mean that this country's best solar panels are NO LONGER AVAILABLE to high-demand zones where those panels would provide the most efficient power contribution and grid de-stressing benefit. Thousands of huge roofs are available for solar development in high-density parts of the nation. I no longer have any personal financial interest whatsoever in your decision, but for my grandchildren, I want you to make an intelligent distinction between good solar and bad solar.

Thank you for your comment, Walter McClatchey.

The comment tracking number that has been assigned to your comment is SolarD11653.

Comment Date: April 15, 2011 21:36:11PM  
Solar Energy Development PEIS  
Comment ID: SolarD11653

First Name: Walter  
Middle Initial: P  
Last Name: McClatchey  
Organization:  
Address: 203 Terra Avenue  
Address 2:  
Address 3:  
City: Alexandria  
State: LA  
Zip: 713032237  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Maria Brady.

The comment tracking number that has been assigned to your comment is SolarD11654.

Comment Date: April 15, 2011 22:18:44PM  
Solar Energy Development PEIS  
Comment ID: SolarD11654

First Name: Maria  
Middle Initial: C  
Last Name: Brady  
Organization:  
Address: 20 Whispering Way NE  
Address 2:  
Address 3: 20 Whispering Way NE  
City: Sandy Springs  
State: GA  
Zip: 30328  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy is the key to energy independence and American jobs.

Thank you for your comment, Sandra Smallwood-Beltran.

The comment tracking number that has been assigned to your comment is SolarD11655.

Comment Date: April 15, 2011 23:09:17PM  
Solar Energy Development PEIS  
Comment ID: SolarD11655

First Name: Sandra  
Middle Initial:  
Last Name: Smallwood-Beltran  
Organization: NPCA supporter  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I am writing about the federal government initiating an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

I urge you to keep in mind that there's a right way and a wrong way to take this on. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Thank you for your comment, William Schoene.

The comment tracking number that has been assigned to your comment is SolarD11656.

Comment Date: April 15, 2011 23:39:36PM  
Solar Energy Development PEIS  
Comment ID: SolarD11656

First Name: William  
Middle Initial: J  
Last Name: Schoene  
Organization:  
Address: 1519 Oak Street  
Address 2:  
Address 3:  
City: Santa Monica  
State: CA  
Zip: 904054847  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

It's hugely important that we ramp-up the generation of solar power as quickly as possible, but there's no reason we can't carefully choose solar installation sites, so that they don't adversely affect other things we value highly such as wildlife, scenic vistas, water resources and public lands with significant recreational potential. If our needs for more solar energy become so compelling that we need to expand beyond carefully-selected solar energy zones, then those tradeoffs can be dealt with at that time.



Thank you for your comment, Bruce Gabbard.

The comment tracking number that has been assigned to your comment is SolarD11657.

Comment Date: April 15, 2011 23:48:46PM  
Solar Energy Development PEIS  
Comment ID: SolarD11657

First Name: Bruce  
Middle Initial:  
Last Name: Gabbard  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold address from public record  
Attachment: A landscape.doc

Comment Submitted:

A landscape, a meadow of orange and yellow flowers, rock formations like no other place, joyous animals running freely all found in an area they call home, the Mojave Desert. Twenty years into the future, same place, but yet different. Dry plants rooted up, corpses cover the land and a lonely kangaroo rat looks overhead at his mother, who once breathed life, and he cries. A creature with two feet and that walked upright has ruined his home with giant pieces of technology and now he's the only one left of his kind.

I live in an area where four towns are very close to each other, interact, and rely on one another to maintain stability and stay economically sound. These towns are Morongo Valley, Yucca Valley, Joshua Tree, and Twentynine Palms. There has been an intensely large solar project being proposed by the government near our community. From what I understand, the Bureau of Land Management has sold over much of the private lands in southern California and Arizona which includes the Mojave Desert.

We know that there is a need to move toward clean, renewable energy sources in order to preserve our earth and its atmosphere but we need to realize that this is not the right way to go about it at all. This method of flattening out the land to put in technology to power our whole country will directly kill our desert with its rare plant and animal life. We need something more environmentally safe projects. It's the environment that makes our towns what they are. These proposed projects will touch Joshua Tree National Park, the Big Morongo Canyon Preserve, and will inevitably affect our communities. This immense industry will kill our natural beauty that we hold dear to preserve, and it will murder our local economy.

Not only will it hurt the economy but it will devastate the natural balance of the desert life. The beautiful night sky is diminishing before our eyes as technology improves. Rare and unique animals will struggle to survive. There are protected species that live here in the desert. The Kangaroo Rats are one. I remember as a child I would see these adorable animals run all over the place and now there's very little of them left. It has been over a decade since I have seen one. Why destroy what is left of them? The little known Burrowing Owls also roam these parts and relies on the ecosystem very heavily; they too are a protected species. The most well-known endangered animal of the desert is none other than the desert tortoise itself. These animals have lived here since anyone can remember and they are not only endangered but also sacred to the Native Indians. An important plant life in this area is the Joshua Tree. The Joshua Tree is an endangered species of plant life/ tree which only grows primarily in the Mojave Desert region and the middle east in the state of Israel.

These reasons and more should be why there shouldn't be an environmentally dangerous project in the desert. Instead use other means of going about it, without destroying the lives of many innocent creatures.

Thank you for your comment, susan Schrader.

The comment tracking number that has been assigned to your comment is SolarD11658.

Comment Date: April 15, 2011 23:57:38PM  
Solar Energy Development PEIS  
Comment ID: SolarD11658

First Name: susan  
Middle Initial:  
Last Name: Schrader  
Organization:  
Address: 1660 bidwell ve  
Address 2:  
Address 3:  
City: chico  
State: CA  
Zip: 95926  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Let's get smart about developing solar energy. It's the way to go - the least polluting to the planet. I think it's stupid to keep talking about nuclear and spending a ton of money on it or oil subsidies.

Thank you for your comment, Jeff Lowry.

The comment tracking number that has been assigned to your comment is SolarD11659.

Comment Date: April 16, 2011 12:46:56PM  
Solar Energy Development PEIS  
Comment ID: SolarD11659

First Name: Jeff  
Middle Initial:  
Last Name: Lowry  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3: [Withheld by requestor]  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Please consider Solar for the good of our future.

Thank you for your comment, Ronald Tipps.

The comment tracking number that has been assigned to your comment is SolarD11660.

Comment Date: April 16, 2011 13:09:46PM  
Solar Energy Development PEIS  
Comment ID: SolarD11660

First Name: Ronald  
Middle Initial: G  
Last Name: Tipps  
Organization: Retired Power Plant Engineer  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Forget about the turtles, tortoises, rattlesnakes, and frogs, etc. Build all the solar power plants possible. We are in an energy crunch, especially clean energy. It is ridiculous to think that a damned tortoise is holding up these projects! Please use some Common Sense and stop acting like bureaucrats. You can do better than this!

Thank you for your comment, Carol Schramke.

The comment tracking number that has been assigned to your comment is SolarD11661.

Comment Date: April 16, 2011 13:32:46PM  
Solar Energy Development PEIS  
Comment ID: SolarD11661

First Name: Carol  
Middle Initial: J  
Last Name: Schramke  
Organization:  
Address: 940 Beech Ave  
Address 2:  
Address 3:  
City: Pittsburgh  
State: PA  
Zip: 15233  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I strongly support amending the Solar Energy Zone alternative in order to concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

I believe these four proposed Solar Energy Zones (SEZ) threaten our national parks.

- 1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Gerard and Ann Findlan.

The comment tracking number that has been assigned to your comment is SolarD11662.

Comment Date: April 16, 2011 13:46:33PM  
Solar Energy Development PEIS  
Comment ID: SolarD11662

First Name: Gerard and Ann  
Middle Initial:  
Last Name: Findlan  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

We feel that four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. At the same park, the Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. As we have visited that park we know it is very fragile.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to consider our thoughts on this subject. Solar energy is a great potential resource, but it should not be developed at the cost of damage to our already stressed National Parks.

Thank you for your comment, Ann Albrecht.

The comment tracking number that has been assigned to your comment is SolarD11663.

Comment Date: April 16, 2011 14:26:24PM  
Solar Energy Development PEIS  
Comment ID: SolarD11663

First Name: Ann  
Middle Initial:  
Last Name: Albrecht  
Organization:  
Address:  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip:  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11664.

Comment Date: April 16, 2011 14:28:33PM  
Solar Energy Development PEIS  
Comment ID: SolarD11664

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2: [Withheld by requestor]  
Address 3: [Withheld by requestor]  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

--I strongly support the Solar Energy Zone alternative,once amended, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to read this message and for giving your attention to this important matter.

Sincerely,  
Susan Kessler

Thank you for your comment, Nichole Ebel-Bailey.

The comment tracking number that has been assigned to your comment is SolarD11665.

Comment Date: April 16, 2011 15:11:27PM  
Solar Energy Development PEIS  
Comment ID: SolarD11665

First Name: Nichole  
Middle Initial: D  
Last Name: Ebel-Bailey  
Organization:  
Address: 1200 River Road Lot #121  
Address 2:  
Address 3:  
City: Sparta  
State: WI  
Zip: 54656  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Develop energy without jeopardizing our environment

Thank you for your comment, Helen Goldenberg.

The comment tracking number that has been assigned to your comment is SolarD11666.

Comment Date: April 16, 2011 15:12:49PM  
Solar Energy Development PEIS  
Comment ID: SolarD11666

First Name: Helen  
Middle Initial: A  
Last Name: Goldenberg  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Don't develop solar energy in environmentally sensitive areas. Thank you.

Thank you for your comment, James Pierson.

The comment tracking number that has been assigned to your comment is SolarD11667.

Comment Date: April 16, 2011 15:22:05PM  
Solar Energy Development PEIS  
Comment ID: SolarD11667

First Name: James  
Middle Initial:  
Last Name: Pierson  
Organization:  
Address: 1079 Yorktown Dr  
Address 2:  
Address 3:  
City: Charleston  
State: SC  
Zip: 29412  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, please support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11668.

Comment Date: April 16, 2011 15:36:36PM  
Solar Energy Development PEIS  
Comment ID: SolarD11668

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

I support the position of the National Parks Conservation Association (NPCA) on the siting of Solar Energy Zones. In addition to the NPCA's comments, reproduced below, I ask you to consider the following.

The deserts of the American West are an extraordinary resource that must be treated with a like amount of care. These deserts are treasured, and increasingly, by visitors from around the world. It is likely that their economic value will continue to grow because of the easy access to these magnificent places from high density population zones. Please consider the current and future value of cordons in the course of mapping development plans.

From the NPCA:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, carolyn massey.

The comment tracking number that has been assigned to your comment is SolarD11669.

Comment Date: April 16, 2011 18:02:51PM  
Solar Energy Development PEIS  
Comment ID: SolarD11669

First Name: carolyn  
Middle Initial: e  
Last Name: massey  
Organization:  
Address: 632 1/2 north 6th  
Address 2:  
Address 3:  
City: quincy  
State: IL  
Zip: 62301  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

carolyn massey

Thank you for your comment, Danny Thorn.

The comment tracking number that has been assigned to your comment is SolarD11670.

Comment Date: April 16, 2011 18:31:17PM  
Solar Energy Development PEIS  
Comment ID: SolarD11670

First Name: Danny  
Middle Initial:  
Last Name: Thorn  
Organization:  
Address: 710 18th Avenue West  
Address 2:  
Address 3:  
City: Kirkland  
State: WA  
Zip: 98033  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11671.

Comment Date: April 16, 2011 19:12:35PM  
Solar Energy Development PEIS  
Comment ID: SolarD11671

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

This is my citizen's comments on the use of national parks for solar energy collection. It is my opinion that only sites that do not adversely affect, now or in the future, the park's mission should be used. The impact of the solar panels on wildlife, on recreation, on night sky, etc. should be taken into consideration, and no solar panel should be introduced that harms the park's traditional mission.



Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11672.

Comment Date: April 16, 2011 19:18:36PM  
Solar Energy Development PEIS  
Comment ID: SolarD11672

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

April 14th, 2011

To Whom It May Concern,

I was technically born in Palm Springs, California, but I have otherwise always lived in Palm Desert. I have also continually felt that there has been an even greater need to protect the natural environment of California, and its surrounding areas, in order to keep its natural beauty preserved. This unappreciated feature has many purposes of a vital need for safety. However, the dire consequences of ignoring these qualities have other effects.

While this plan can benefit the ecosystem, it can also bring unintended harm to it. Zoning issues aside, the solar energy zone cannot be allowed to destroy the land it inhabits and encompasses. In the case of a failure, the resulting damages from it could very well be devastating. Not only does the area need to be secured, but also the people living near it must be reassured that they are not in any sort of danger. Before rushing into energy plans, I request that any and all safety measures and precautions are taken care of.

Thank you for understanding my concerns.

Thank you for your comment, Laura Meek.

The comment tracking number that has been assigned to your comment is SolarD11673.

Comment Date: April 16, 2011 19:25:23PM  
Solar Energy Development PEIS  
Comment ID: SolarD11673

First Name: Laura  
Middle Initial: A  
Last Name: Meek  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. --Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Deborah Burckhardt.

The comment tracking number that has been assigned to your comment is SolarD11674.

Comment Date: April 16, 2011 20:02:57PM  
Solar Energy Development PEIS  
Comment ID: SolarD11674

First Name: Deborah  
Middle Initial:  
Last Name: Burckhardt  
Organization:  
Address: Third St  
Address 2:  
Address 3:  
City: San Rafael  
State: CA  
Zip: 94901  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy is environmentally friendly and this can help save our planet.

Thank you for your comment, Hilary Entley.

The comment tracking number that has been assigned to your comment is SolarD11675.

Comment Date: April 16, 2011 21:05:23PM  
Solar Energy Development PEIS  
Comment ID: SolarD11675

First Name: Hilary  
Middle Initial:  
Last Name: Entley  
Organization:  
Address:  
Address 2:  
Address 3:  
City: erie  
State: PA  
Zip: 16507  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Ruth Brown.

The comment tracking number that has been assigned to your comment is SolarD11676.

Comment Date: April 16, 2011 22:09:22PM  
Solar Energy Development PEIS  
Comment ID: SolarD11676

First Name: Ruth  
Middle Initial:  
Last Name: Brown  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

There are 4 proposed Solar Energy Zones that threaten the National Parks: 1- The Riverside East SEZ which should be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. 2- The Iron Mt. SEZ which must be removed to prevent impacts to Joshua Tree National Park's scenery and wildlife. 3- The Amargosa Valley SEZ which must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. 4- The Red Sands SEZ which threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument

Any proposed solar projects sited within 15 miles of a national park boundary should result in a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. I also believe that it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I support the development of Solar Energy as an alternative fuel, but very strongly desire that this take place in a responsible manner that protects our natural resources, especially the National Park Lands. I hope we can develop Solar Energy without the loss of lands that were put aside for the the joy of the people, now and in the future. Ruth Brown

Thank you for your comment, Dollie Feld.

The comment tracking number that has been assigned to your comment is SolarD11677.

Comment Date: April 16, 2011 22:44:51PM  
Solar Energy Development PEIS  
Comment ID: SolarD11677

First Name: Dollie  
Middle Initial:  
Last Name: Feld  
Organization: CTTC  
Address: 1487 Villa Cardiff Drive  
Address 2:  
Address 3:  
City: cardiiff by the sea  
State: CA  
Zip: 92007  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Please stop the large companies that hide themselves behind the shield of Solar Energy Plants to destroy the natural habitat of the American Desert Tortoise. These wonderful creatures are already endangered and now face another path of extinction from the interruption of their native land and habitat. When does the facade of progress end and the real need of keeping these wonderful animals alive and protected. Please make the right decision by disallowing these companies to obtain public land for Solar use and allowing them only to use public land that is available,

Thank you for making the right moral decision by protecting our Native Desert Tortoise...

Sincerely,  
Dollie Feld

Thank you for your comment, Donna Greathouse Neel.

The comment tracking number that has been assigned to your comment is SolarD11678.

Comment Date: April 16, 2011 22:57:24PM  
Solar Energy Development PEIS  
Comment ID: SolarD11678

First Name: Donna  
Middle Initial:  
Last Name: Greathouse Neel  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: WA  
Zip:  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Leah Mae Macrohon.

The comment tracking number that has been assigned to your comment is SolarD11679.

Comment Date: April 17, 2011 00:30:20AM  
Solar Energy Development PEIS  
Comment ID: SolarD11679

First Name: Leah Mae  
Middle Initial: A  
Last Name: Macrohon  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country: PHL  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I live in a tropical country where solar energy is limitless..They (industries) say and most of us think that solar energy is something developing countries could not afford..But think of how much limitless help this would give my countrymen and other poor nations if we could only harness the power of the sun..



Thank you for your comment, emily liu-elizabeth.

The comment tracking number that has been assigned to your comment is SolarD11680.

Comment Date: April 17, 2011 01:52:58AM  
Solar Energy Development PEIS  
Comment ID: SolarD11680

First Name: emily  
Middle Initial:  
Last Name: liu-elizabeth  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Solar energy is an important piece of our energy strategy, and will help ensure our national security, environmental health, and economic wellbeing.

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Max Forest.

The comment tracking number that has been assigned to your comment is SolarD11681.

Comment Date: April 17, 2011 07:24:30AM  
Solar Energy Development PEIS  
Comment ID: SolarD11681

First Name: Max  
Middle Initial:  
Last Name: Forest  
Organization:  
Address:  
Address 2:  
Address 3:  
City: Albuquerque  
State: NM  
Zip: 87110  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I know of a multi panel photo-voltaic array installed at a government building recently. It supplies much more than the building needs. And there is no battery bank to store the excess for the no sun periods. Nor is there any fair option requiring the local utility to credit the surplus electricity to the building's electric bill. Nor are there any plans to put the excess electricity into electric government vehicles.

Did someone set this up to fail? After some years, one could just look at the balance sheets and say, "much spending, little gain; this didn't work."

Why are there no equivalent subsidies to alternative energies like the enormous ones to corporate efforts in fossil, and nuclear energy, or pharma, or any other industry?

Answer the entrenched marketeers' cries of, "it'll cost you big, and you'll suffer" with "we the people will make it work." Just like we converted to petroleum based technology from individual innovators before there were enormous marketeers to block our desires for cheaper energy.

At one government park building i know of an array of solar water heating panels that are inactive. They once worked and still do not leak. Yet all that appears to prevent their benefits - inspiring visitors and heating water - is a cheap booster pump.

ACTION Put alternative energy into the public eye - especially at oft used park and public buildings.

ACTION Install alternative energy (solar, wind) on all government buildings.

ACTION Preserve energy savings by retro-insulating all government buildings.

ACTION Upgrade antiquated water, gas and electrical consumption. Replace water wasting plumbing, gas wasting furnaces and water heaters, and electricity wasting water and space heaters. Add south facing windows and tromb walls to collect heat in winter. Design walls to shade them from solar heat in summer. Plant shade trees!

ACTION Convert all government vehicles to hybrid and electric power fueled from small local solar-wind power sources at each fleet's parking area.

ACTION Require utilities to buy back excess energy at the same rate they sell it.

ACTION Subsidize research so cheaper photo-voltaic systems reach all consumers. Introduce long lasting and substantial tax breaks and incentives for alternative energy-using households and businesses.

ACTION Subsidize research on electric storage for households and businesses.

ACTION Implement a carbon tax to fund these subsidies.

ACTION Publicly publish the externalities - the real costs of continuing to consume fossil and nuclear fuels.  
Remind us of the huge health degradation of our bodies from the myriad of tested and untested petroleum based products in our food, water, clothing, cars, homes,... everywhere.  
Remind us of the unspoken subsidies to the marketeers:  
super cheap access to the mineral wealth on public lands,  
public funded tax breaks,  
public funded highways, public funded utilities, public funded health care of petroleum and nuclear caused ilth -  
all the things we take for granted that the marketeers get for free from us and then turn around and charge us for when we buy petroleum products or energy and increase their addiction to our common wealth.  
And implement laws that punish those that publish fraudulent or misleading information about energy extraction and use.

Thank you for your comment, Nikki Young.

The comment tracking number that has been assigned to your comment is SolarD11682.

Comment Date: April 17, 2011 09:54:46AM  
Solar Energy Development PEIS  
Comment ID: SolarD11682

First Name: Nikki  
Middle Initial:  
Last Name: Young  
Organization:  
Address: 5530 21st St.  
Address 2:  
Address 3:  
City: Zephyrhills  
State: FL  
Zip: 33542  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As we continue to run out of fossil fuel deposits to tap, we should think about our prior impacts to the environment. In the past we have made abrupt moves to get what we as a nation "needed" without considering the impacts to the future. We now are confronted with a disappearing resource that we desperately need to replace. It is time that we as a nation take time and effort to think about the possible impacts of new power sources when installing them across this great earth. We need to learn balance between nature and technology and preserve what we have for future generations of all plants and animals.

Thank you for your comment, DAVID FURA.

The comment tracking number that has been assigned to your comment is SolarD11683.

Comment Date: April 17, 2011 12:24:55PM  
Solar Energy Development PEIS  
Comment ID: SolarD11683

First Name: DAVID  
Middle Initial:  
Last Name: FURA  
Organization:  
Address: POBOX 81197  
Address 2:  
Address 3:  
City: PHOENIX  
State: AZ  
Zip: 85069  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development

Thank you for your comment, Daedra Smith.

The comment tracking number that has been assigned to your comment is SolarD11684.

Comment Date: April 17, 2011 12:33:06PM  
Solar Energy Development PEIS  
Comment ID: SolarD11684

First Name: Daedra  
Middle Initial: D  
Last Name: Smith  
Organization: NPCA  
Address: 11881 Cresta Verde  
Address 2:  
Address 3:  
City: Saint Louis  
State: MO  
Zip: 63146  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

While America is desiring to progress towards renewable, clean, low-impact energy sources, there is a right way and wrong way to approach its development.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration in this important step towards America's energy future!

Sincerely,

Daedra D. Smith

Thank you for your comment, Steve Hemstreet.

The comment tracking number that has been assigned to your comment is SolarD11685.

Comment Date: April 17, 2011 13:35:46PM  
Solar Energy Development PEIS  
Comment ID: SolarD11685

First Name: Steve  
Middle Initial:  
Last Name: Hemstreet  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Place solar panels on buildings in the city - we don't have to destroy the environment to get solar. We need higher MPG requirements for all vehicles, make use of geothermal and no fracking

Thank you for your comment, Sarah Danner.

The comment tracking number that has been assigned to your comment is SolarD11686.

Comment Date: April 17, 2011 15:48:33PM  
Solar Energy Development PEIS  
Comment ID: SolarD11686

First Name: Sarah  
Middle Initial: C  
Last Name: Danner  
Organization:  
Address: 6661 Fairmont St.  
Address 2:  
Address 3:  
City: Navarre  
State: FL  
Zip: 32566  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

While we do need solar energy development, we need to also protect our National Parks and Monuments by not situating these solar field in them.



Thank you for your comment, John Schumacher.

The comment tracking number that has been assigned to your comment is SolarD11687.

Comment Date: April 17, 2011 15:59:56PM  
Solar Energy Development PEIS  
Comment ID: SolarD11687

First Name: John  
Middle Initial:  
Last Name: Schumacher  
Organization:  
Address: po box 551  
Address 2:  
Address 3:  
City: Clearwater  
State: FL  
Zip: 337570551  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Do the right thing.....

Thank you for your comment, James Gibson.

The comment tracking number that has been assigned to your comment is SolarD11688.

Comment Date: April 17, 2011 16:06:38PM  
Solar Energy Development PEIS  
Comment ID: SolarD11688

First Name: James  
Middle Initial:  
Last Name: Gibson  
Organization:  
Address: 339 Glen Ave  
Address 2:  
Address 3:  
City: Sea Cliff  
State: NY  
Zip: 11579  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I request that the United States government use all available and appropriate lands to develop solar energy but not within the National Park System.

Thank you for your comment, David Beaumont.

The comment tracking number that has been assigned to your comment is SolarD11689.

Comment Date: April 17, 2011 16:13:50PM  
Solar Energy Development PEIS  
Comment ID: SolarD11689

First Name: David  
Middle Initial: M  
Last Name: Beaumont  
Organization: Mojave Trails Group  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

1. Comments Centered Around Addressing The Cumulative Impacts To A Wide Variety Of Human Contact In The Desert Region Of Southern California Resulting From The Incremental Impact Of The Combined Actions Of Various Federal Agencies.

1.A Cumulative Effect Analysis Fails To Study, Consider, And Offer An Alternative Which Achieves A Balance Between Population And Resource Use Which Permits High Standards Of Living And A Wide Sharing Of Life's Amenities In The Southern California Desert Region:

NEPA requires that all related and connected actions be considered for cumulative impact as well as direct and indirect effect. This effort is extended to region wide areas by NEPA and the Council on Environmental Quality. Also, NEPA requires that the significance of an action must be analyzed in several contexts such as society as a whole, including human, and affected interests.

At this time, there are three separate NEPA actions concurrently running in the desert region of southern California which cumulatively impact, in a negative manner, human contact and interaction with nature by incrementally eliminating activities such as driving for sport, back country exploring, rock hounding, hunting, back country camping, access for the disabled, elderly, scientific and educational activities, just to mention a few. The common denominator to all of these interests is the necessity for transportation by the use of motorized vehicles.

Two main renewable energy actions, that which is being addressed in this Solar PEIS, and the Desert Renewable Energy Conservation Plan (DRECP), will eventually directly interact and complement each other. The Solar PEIS aids in creating renewable energy zones on public lands in this one region, the DRECP fast tracks the permitting process for the renewable energy projects which may very well be located inside these renewable energy zones, while also implementing a Natural Community Conservation Plan (NCCP) and Habitat Conservation Plan (HCP) over the entire same region. The existence of both these conservation plans are the direct effect of actions taken by state and federal entities and will exacerbate the cumulative impact being discussed here and need to be analyzed for cumulative impacts also. Both main actions will cause environmental stress for the human community in social, cultural, and economic manners as well as having detrimental effects on physical and emotional health on individuals negatively affected. Both plans will deny the opportunity to "encourage a productive and enjoyable harmony between man and his environment". The solar energy zones will deny human access to the resources closed off by future resulting project areas, and the resulting environmental mitigations lands which will no doubt come with the projects. ( Mitigation lands will be addressed later in this document.) Recent DRECP documentation has made it clear that it's conservation aspects will prevail over motorized access inside it's plan area. A plan area which is essentially the entire Mojave desert region of southern California.

Furthermore, an area commonly known as Johnson Valley is located inside that same desert region and is the largest recreational area of it's type for the same region. Some two-thirds of the area is currently being analyzed for acquisition by the United States Marine Corp.

The obvious direct impact of closing the majority of Johnson Valley will cause direct impacts and effects to the remaining open area in regards to safety, quality of experience due to over-crowding, and increased environmental degradation due to this same over-crowding. As well, indirect effects in other areas of this same region will occur when people begin to leave the Johnson Valley area in search of better recreational opportunities elsewhere. This will cause environmental stress in conservation and social manners in other areas of the same region as well as economic stress to the communities around Johnson Valley which support the current users of the Valley with goods and services.

All three actions create a classic conflict where "doing something beneficial" for one interest causes damage in other regards to other groups of people who are losing their opportunities to benefit from their connection with nature and our physical environment.

Each one of these three process' have their own separate NEPA actions running concurrently.

NEPA, through CEQ documentation further clarifies the subject of being "all inclusive" when considering what some might inadvertently consider to be unrelated multiple projects:

"The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects. Specifically, NEPA requires that all related actions be addressed in the same analysis."

Document quoted from found at: <http://ceq.hss.doe.gov/nepa/ccenepa/sec1.pdf>

In order to properly analyze the cumulative impacts, direct and indirect effects, of all three of these concurrently running programs, each should be combined under ONE NEPA ACTION due to the manner in which they interconnect and affect each other. The situation involving the cumulative impacts, direct and indirect effects, on this one desert region cannot be properly handled by three separate NEPA actions. None of these actions are established in a manner which accommodates the cumulative effect of the others to the same region. NEPA, and policies established by the CEQ, all require the combination of these actions under one NEPA process due to their connected actions, common regional location and combined cumulative impact.

The fact that none of these three plans are not yet finished only compounds this situation and further sets the stage for a failure to properly analyze the combined cumulative impacts of these plans. Part of my responsibility as a citizen commenting on this and other actions which fall under NEPA, is to identify trends, to look at immediate and future effects. To myself and those which I associate with, the combined cumulative effects of these three actions are as clear and present as the sun at noon during a July visit to the deserts whose fate we are deciding here. Yet there is little in black and white that I can actually hold out as direct evidence in present time. This situation calls for careful analysis of which scenarios, and the significance of the impacts of those scenarios, will arise in the foreseeable future as these three actions mature and are implemented.

The DRECP, save for its comment about the priority between conservation and motorized travel, is in it's infancy with many internal plans yet to be developed or finalized.

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While the mix of lead agencies may be different across the three projects, you'll discover with simple examination, that first off and foremost, all these actions involve all the individual components which are brought together under the key word "environment" inside NEPA. To deal with issues such as this is one of the reasons NEPA was created and passed into law. To condone, and maintain, a system of governmental behavior which disregards the fact that multiple actions, by the same or different agencies inside the federal government, which affect one common region with cumulative impacts leading to environmental degradation is a process which in of its self denies the very meaning of, and the ability to apply, the concepts of analyzing cumulative impacts as established under NEPA and the CEQ.

NEPA does not contain an escape clause which allows separate agencies of the federal government to avoid or evade their responsibility to analyze and appropriately mitigate the cumulative effects of actions by multiple agencies, or different actions of the same agency, of the federal government when those agency's individual actions have a cumulative impact on the environment of one region.

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Add these two values together and you'll see that the total burden on land use is actually one-thousand six-hundred (1,600) square miles to supply California with one-third (1/3rd.) of its electrical needs through the types of renewable energy projects being considered.

Then there is the corridors needed to transport the electricity to the consumers which further adds to this issue. All the states involved in this process will be affected in the same manner.

As renewable energy portfolio numbers are pushed higher and higher by political and conservation entities the cumulative impact of this trend will become even worse.

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While mitigation lands may have a positive effect on the viability of certain species, there is a negative cumulative impact to the Nation, citizens, and local economies.

The source of mitigation lands is private lands with willing sellers. The current thinking is to attempt to amass large blocks of lands rather than scattering smaller tracts across a wide area as has been the general practice in the past.

Considering the means by which these lands are established there are certain injustices being done to the citizens of California in regards to the ownership and continued use of these mitigation lands and surrounding public lands.

1.C.1 The renewable energy facilities will have a finite life span of approximately 25 to 30 years. The project sites will be restored at the end of their life cycle. For that brief period of time where the project developer is leasing public lands, for the benefit of the public and the benefit of reduced environmental damage through clean energy production, at the request of the conservation community and federal government, our State's citizens are being forced to trade off these mitigation lands in-perpetuity for the benefit of this federal program and its creators.

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There is also the concern that a form of mitigation for specific projects may involve the elevation of existing public use land

designations into more restrictive classifications where conservation, rather than multiple use, is the priority. This again adds into the cumulative impact of this and other plans under way for this region. And of course, we have to remember the original effects which restrict access for the project specific sites.

## 2. Land Use Patterns Are Being Changed For The Benefit Of One Umbrella Group, Military Efforts, And Renewable Energy Concerns While Discounting Other Needs Of Our Nation And The Human Population As A Whole:

The desert region of southern California already contains vast areas which are set aside and protected in a manner where conservation is the primary directive. The region is also home to vast in holdings by various branches of military organizations. While I personally believe that sound conservation practice, and a prepared military, is essential to the well being of our Nation and life on this planet, it is clear that the past, present, and future incremental effects of these efforts are continuing the process of further restricting access to the natural resources of our public lands by those who utilize motorized transportation.

The conservation movement, as an umbrella group of many individual organizations with their own specific missions, have made tremendous progress to further their overall objectives in this region. I see no indicator which points to the idea that the members of this group, either individually or collectively, are satisfied with their current level of progress in furthering their efforts in this region. The military is obviously not satisfied as well.

As this process evolves, a process which is being enabled by governmental agencies who are failing to work together on the cumulative impacts of their larger strategies and policies, the result is inevitable: the majority of the public lands in this desert region will become a cloistered environment for this one umbrella group, our military, and renewable energy companies. In this process, large blocks of land will be set aside for use by only those in our society who are fortunate enough to be physically fit enough, and have the leisure time, to explore these areas on foot. In this process, humans who do not share this physical ability or the leisure time, who by virtue of necessity by their station in life, or their individual choice of how to use the resources of our public lands, are being excluded from the experience of interactions with the resources of our public lands in this region. I do not see that NEPA, nor any other federal or state laws requires such a design scenario for this region's public lands.

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NEPA requires that the examination of the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures be conducted. As the population of this Nation continues to grow more and more people will spend more time on our public lands. The uses of those lands will be mixed, and will include the necessity for further expansion of opportunities by motorized travel. I do not see this issue addressed inside this or any other NEPA action currently underway for this particular desert region under discussion. Again, more incremental cumulative impact.

## 4. Alternatives For The Solar PEIS, Or By Any Other Currently Active NEPA Action, Do Not Adequately Address The Concerns Submitted By This Commenter Or The Concerns Of The Mojave Trails Group As A Whole:

Either by virtue of the combination of the various NEPA actions mentioned in these collective comments, or by an overriding all inclusive action which is binding on the individual NEPA actions which have been mentioned in these collective comments, the issue of cumulative impacts to all aspects of the human environment need to be addressed for this entire desert region. Alternatives for such cumulative impacts, with appropriate mitigation for the benefit of lost opportunities to the motorized users on public lands, should be formulated and adopted by any and all agencies involved in any and all of the NEPA actions mentioned in these collective comments.

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There are millions of acres of roof tops, open spaces, and previously disturbed lands, which are in or near the major areas of electrical consumption inside the six states impacted by this program. Toward the effort of reducing environmental damage in our desert regions with large scale renewable energy facilities, and the required electrical transmission infrastructure, every effort should be made to avoid desert regions for this effort.

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Simple enough, so far current developers have been gracious enough to allow motorized access around and beyond their facilities by constructing new roads when those facilities block existing roads.

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At a rate of 1/5th. of one cent per kilowatt hour of electricity sold to electrical consumers, each operator or developer of any type of renewable energy facility which is located on public lands shall be required to pay a fee back to the community of motorized desert users for this region of Southern California.

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Details of the distribution of the funds would have to be worked out.

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As applicable and relevant, please apply these comments as a whole, or in part, to the entire list of states affected by the Solar PEIS.

Sincerely,

David M Beaumont  
Founder: Mojave Trails Group  
savecaliforniasdeserts@gmail.com

Thank you for your comment, David Beaumont.

The comment tracking number that has been assigned to your comment is SolarD11690.

Comment Date: April 17, 2011 16:25:37PM  
Solar Energy Development PEIS  
Comment ID: SolarD11690

First Name: David  
Middle Initial: M  
Last Name: Beaumont  
Organization: Mojave Trails Group  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

1. Comments Centered Around Addressing The Cumulative Impacts To A Wide Variety Of Human Contact In The Desert Region Of Southern California Resulting From The Incremental Impact Of The Combined Actions Of Various Federal Agencies.

1.A Cumulative Effect Analysis Fails To Study, Consider, And Offer An Alternative Which Achieves A Balance Between Population And Resource Use Which Permits High Standards Of Living And A Wide Sharing Of Life's Amenities In The Southern California Desert Region:

NEPA requires that all related and connected actions be considered for cumulative impact as well as direct and indirect effect. This effort is extended to region wide areas by NEPA and the Council on Environmental Quality. Also, NEPA requires that the significance of an action must be analyzed in several contexts such as society as a whole, including human, and affected interests.

At this time, there are three separate NEPA actions concurrently running in the desert region of southern California which cumulatively impact, in a negative manner, human contact and interaction with nature by incrementally eliminating activities such as driving for sport, back country exploring, rock hounding, hunting, back country camping, access for the disabled, elderly, scientific and educational activities, just to mention a few. The common denominator to all of these interests is the necessity for transportation by the use of motorized vehicles.

Two main renewable energy actions, that which is being addressed in this Solar PEIS, and the Desert Renewable Energy Conservation Plan (DRECP), will eventually directly interact and complement each other. The Solar PEIS aids in creating renewable energy zones on public lands in this one region, the DRECP fast tracks the permitting process for the renewable energy projects which may very well be located inside these renewable energy zones, while also implementing a Natural Community Conservation Plan (NCCP) and Habitat Conservation Plan (HCP) over the entire same region. The existence of both these conservation plans are the direct effect of actions taken by state and federal entities and will exacerbate the cumulative impact being discussed here and need to be analyzed for cumulative impacts also. Both main actions will cause environmental stress for the human community in social, cultural, and economic manners as well as having detrimental effects on physical and emotional health on individuals negatively affected. Both plans will deny the opportunity to "encourage a productive and enjoyable harmony between man and his environment". The solar energy zones will deny human access to the resources closed off by future resulting project areas, and the resulting environmental mitigations lands which will no doubt come with the projects. ( Mitigation lands will be addressed later in this document.) Recent DRECP documentation has made it clear that it's conservation aspects will prevail over motorized access inside it's plan area. A plan area which is essentially the entire Mojave desert region of southern California.

Furthermore, an area commonly known as Johnson Valley is located inside that same desert region and is the largest recreational area of it's type for the same region. Some two-thirds of the area is currently being analyzed for acquisition by the United States Marine Corp.

The obvious direct impact of closing the majority of Johnson Valley will cause direct impacts and effects to the remaining open area in regards to safety, quality of experience due to over-crowding, and increased environmental degradation due to this same over-crowding. As well, indirect effects in other areas of this same region will occur when people begin to leave the Johnson Valley area in search of better recreational opportunities elsewhere. This will cause environmental stress in conservation and social manners in other areas of the same region as well as economic stress to the communities around Johnson Valley which support the current users of the Valley with goods and services.



All three actions create a classic conflict where "doing something beneficial" for one interest causes damage in other regards to other groups of people who are losing their opportunities to benefit from their connection with nature and our physical environment.

Each one of these three process' have their own separate NEPA actions running concurrently.

NEPA, through CEQ documentation further clarifies the subject of being "all inclusive" when considering what some might inadvertently consider to be unrelated multiple projects:

"The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects. Specifically, NEPA requires that all related actions be addressed in the same analysis."

Document quoted from found at: <http://ceq.hss.doe.gov/nepa/ccenepa/sec1.pdf>

In order to properly analyze the cumulative impacts, direct and indirect effects, of all three of these concurrently running programs, each should be combined under ONE NEPA ACTION due to the manner in which they interconnect and affect each other. The situation involving the cumulative impacts, direct and indirect effects, on this one desert region cannot be properly handled by three separate NEPA actions. None of these actions are established in a manner which accommodates the cumulative effect of the others to the same region. NEPA, and policies established by the CEQ, all require the combination of these actions under one NEPA process due to their connected actions, common regional location and combined cumulative impact.

The fact that none of these three plans are not yet finished only compounds this situation and further sets the stage for a failure to properly analyze the combined cumulative impacts of these plans. Part of my responsibility as a citizen commenting on this and other actions which fall under NEPA, is to identify trends, to look at immediate and future effects. To myself and those which I associate with, the combined cumulative effects of these three actions are as clear and present as the sun at noon during a July visit to the deserts whose fate we are deciding here. Yet there is little in black and white that I can actually hold out as direct evidence in present time. This situation calls for careful analysis of which scenarios, and the significance of the impacts of those scenarios, will arise in the foreseeable future as these three actions mature and are implemented.

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As applicable and relevant, please apply these comments as a whole, or in part, to the entire list of states affected by the Solar PEIS.

Sincerely,

David M Beaumont  
Founder: Mojave Trails Group  
savecaliforniasdeserts@gmail.com

Thank you for your comment, sarah dickinson.

The comment tracking number that has been assigned to your comment is SolarD11691.

Comment Date: April 17, 2011 16:49:47PM  
Solar Energy Development PEIS  
Comment ID: SolarD11691

First Name: sarah  
Middle Initial: B  
Last Name: dickinson  
Organization: LOWV  
Address: 6124 SW 30 Avenue  
Address 2:  
Address 3:  
City: Gainesville  
State: FL  
Zip: 326082120  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Thank you for this opportunity to comment on placement of solar collectors. ALthough this precise effort is on behalf of the spectacular desert lands in the west, it truly applies to all National Parks, Monuments, and Proposed Sites under those designations. While there is no question we have the ability and prudent need to invest in solar energy (and other alternative energy forms), UNTIL we understand that we CANNOT build ourselves out of an energy crunch UNTIL w, as a county, initiate massive and stringent conservation measures and assure a requirement (or incentives) for maximum efficiency in our homes, businesses and manufacturing processes, we will always be far behind and enslaved by a false need. SO the immediate message has to be CONSERVE and BE EFFICIENT.

That said, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. This situation requires close collaboration of any solar proposals with the representatives of National Parks and Monuments to assure the "people's lands" will remain protected from visual, water and air pollution and a trammeling of the lands.

The desert zones are some of the most fragile we have. A friend has studied desert varnish for most of his career and describes how easily the whole is fragmented and destroyed. The Park Service has been trying to protect visitor sites for years by being proactive, and they certainly have a lot of experience that can be brought to bear.

The immediate proposal of Riverside East SEZ, the Amargosa Valley SEZ, the Iron Mountain SEZ, Red Sands SEZ and Mountain SEZ must be removed or reconfigured in collaboration with the National Parks and Monuments folks....for reasons from preserving thousands of years old trees, wildlife corridors and water impacts, among others. Failure to do this would be to trample the protections for these one-of-a-kind areas.

A consideration might be to evaluate the western grasslands under BLM management. These lands are currently notoriously UNMANAGED.....rented out at essentially NO money to the federal government (the cost is so low) with essentially NO management plan to rotate animals in and out of pieces of the lease. The result, highly degraded lands which truly only support sagebrush (no watershed protection there!) and are deeply marred. Solar power in these areas would be a vast improvement and perhaps, land surrounding the installations could recover.

We urge you to go back to the table to protect our heritage. It is unretrievable, once lost. Thank you.

Josh and Sally Dickinson

Thank you for your comment, Marjorie Ann Ottenberg.

The comment tracking number that has been assigned to your comment is SolarD11692.

Comment Date: April 17, 2011 17:26:31PM  
Solar Energy Development PEIS  
Comment ID: SolarD11692

First Name: Marjorie Ann  
Middle Initial:  
Last Name: Ottenberg  
Organization: DeAnzaCollege  
Address: 12881 Foothill Lane  
Address 2:  
Address 3: 12881 Foothill Lane  
City: Saratoga  
State: CA  
Zip: 95070  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I am concerned about suggestions that we cover the California desert(s) with solar panels to produce the needed energy--but many forget that those deserts are HOME to many creatures whose lives would be changed or ended by such construction! Our cities have square miles of flat roofs--ideal locations for solar panels! That space is generally not utilized, and putting solar panels THERE would eliminate the need for miles of cable to connect provider with users!

Thank you for your comment, David Banfield.

The comment tracking number that has been assigned to your comment is SolarD11693.

Comment Date: April 17, 2011 17:49:52PM  
Solar Energy Development PEIS  
Comment ID: SolarD11693

First Name: David  
Middle Initial: A  
Last Name: Banfield  
Organization:  
Address: 4919 Greystone Drive  
Address 2:  
Address 3:  
City: Bettendorf  
State: IA  
Zip: 52722  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michelle Rivers.

The comment tracking number that has been assigned to your comment is SolarD11694.

Comment Date: April 17, 2011 20:00:55PM  
Solar Energy Development PEIS  
Comment ID: SolarD11694

First Name: Michelle  
Middle Initial: O  
Last Name: Rivers  
Organization:  
Address: 8332 Beardsley Dr.  
Address 2:  
Address 3:  
City: Charlotte  
State: NC  
Zip: 282697168  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Michelle O. Rivers



Thank you for your comment, William Crum.

The comment tracking number that has been assigned to your comment is SolarD11695.

Comment Date: April 17, 2011 20:26:55PM  
Solar Energy Development PEIS  
Comment ID: SolarD11695

First Name: William  
Middle Initial: S  
Last Name: Crum  
Organization: N/A  
Address:  
Address 2:  
Address 3:  
City: Surprise  
State: AZ  
Zip: 85374  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I want my Grand Canyon to be let alone. I don't want the foreign country to poison. Especially since they get all the money and we get nothing. Put yourself in my shoes. and twenty-five million people.

Thank you for your comment, LeeAnn Bennett.

The comment tracking number that has been assigned to your comment is SolarD11696.

Comment Date: April 17, 2011 21:18:24PM  
Solar Energy Development PEIS  
Comment ID: SolarD11696

First Name: LeeAnn  
Middle Initial:  
Last Name: Bennett  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which when amended as below, would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for this opportunity to express my opinions.

Thank you for your comment, Jen Smith.

The comment tracking number that has been assigned to your comment is SolarD11697.

Comment Date: April 17, 2011 22:18:36PM  
Solar Energy Development PEIS  
Comment ID: SolarD11697

First Name: Jen  
Middle Initial:  
Last Name: Smith  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Most sincerely,

Jen Smith

Thank you for your comment, Charlene Rush.

The comment tracking number that has been assigned to your comment is SolarD11698.

Comment Date: April 17, 2011 23:30:41PM  
Solar Energy Development PEIS  
Comment ID: SolarD11698

First Name: Charlene  
Middle Initial:  
Last Name: Rush  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State: PA  
Zip: 15101  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

There is one reason, and one reason, only, for solar energy NOT to be actively developed. That reason, of course, is Big Business' power and financing, to prevent it.

Thank you for your comment, Caroline Brown.

The comment tracking number that has been assigned to your comment is SolarD11699.

Comment Date: April 18, 2011 00:17:15AM  
Solar Energy Development PEIS  
Comment ID: SolarD11699

First Name: Caroline  
Middle Initial: B  
Last Name: Brown  
Organization:  
Address: 680 Alta Vista Dr  
Address 2:  
Address 3:  
City: Sierra Madre  
State: CA  
Zip: 91024  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Use parking lots and structures for solar installation, infill in the cities where there are miles and miles of abandoned factories parking areas for this. It is absurd to put solar collectors on the desert, destroying habitat, when there are acres of flat topped industrial buildings in cities such as Los Angeles and many, many others in the southwest.

Thank you for your comment, Carol Taggart.

The comment tracking number that has been assigned to your comment is SolarD11700.

Comment Date: April 18, 2011 01:35:30AM  
Solar Energy Development PEIS  
Comment ID: SolarD11700

First Name: Carol  
Middle Initial:  
Last Name: Taggart  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Develop wind energy but, by all means, not sacrificing our country's migrating birds, who all too often are killed by the whirling blades of windmills. Location of these windmills must be given careful consideration in wildlife corridors.

Thank you for your comment, Barb Mathews.

The comment tracking number that has been assigned to your comment is SolarD11701.

Comment Date: April 18, 2011 05:10:39AM  
Solar Energy Development PEIS  
Comment ID: SolarD11701

First Name: Barb  
Middle Initial:  
Last Name: Mathews  
Organization:  
Address: 2803 Grovewood Ave  
Address 2:  
Address 3:  
City: cleveland  
State: OH  
Zip: 441341911  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, i strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11702.

Comment Date: April 18, 2011 10:58:56AM

Solar Energy Development PEIS

Comment ID: SolarD11702

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Human being can use solar energy so that keep environment that substitute wildlife.



Thank you for your comment, James Kunz.

The comment tracking number that has been assigned to your comment is SolarD11703.

Comment Date: April 18, 2011 11:54:07AM  
Solar Energy Development PEIS  
Comment ID: SolarD11703

First Name: James  
Middle Initial:  
Last Name: Kunz  
Organization:  
Address: 1218 Coral Reef Ct.  
Address 2:  
Address 3:  
City: New Bern  
State: NC  
Zip: 28560  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Please exercise extreme care in establishing solar zones which do not disturb flora or fauna in construction or use and maintenance.  
Roads should be minimized.

Thank you for your comment, Mallika Henry.

The comment tracking number that has been assigned to your comment is SolarD11704.

Comment Date: April 18, 2011 12:35:42PM  
Solar Energy Development PEIS  
Comment ID: SolarD11704

First Name: Mallika  
Middle Initial:  
Last Name: Henry  
Organization:  
Address: 18 Broad St.  
Address 2:  
Address 3:  
City: Cambridge  
State: NY  
Zip: 12816  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. However the following four proposed Solar Energy Zones (SEZ) threaten our national parks.

- \* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- \* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- \* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- \* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Mallika Henry

Thank you for your comment, Janet Moser.

The comment tracking number that has been assigned to your comment is SolarD11710.

Comment Date: April 18, 2011 14:07:34PM  
Solar Energy Development PEIS  
Comment ID: SolarD11710

First Name: Janet  
Middle Initial: L  
Last Name: Moser  
Organization:  
Address: 45 Kildare Road  
Address 2:  
Address 3:  
City: Island Park  
State: NY  
Zip: 11558  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy is a wonderful renewable source of energy that I am glad to see further developed. I do hope and advocate for a sensible approach which protects wildlife, protected lands such as national parks, and other sensitive areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11711.

Comment Date: April 18, 2011 15:26:09PM  
Solar Energy Development PEIS  
Comment ID: SolarD11711

First Name: [Withheld by requestor]  
Middle Initial: [Withheld by requestor]  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

I believe humans are supposed to be the caregivers of all the rest of civilization: including wildlife, the wellbeing of the planet, air and water. Putting solar energy where it doesn't disturb these things is to me the most sensible thing to do. Also, the beauty of the parks refreshes the soul.

Thank you for your comment, leon biggs.

The comment tracking number that has been assigned to your comment is SolarD11712.

Comment Date: April 18, 2011 16:20:31PM

Solar Energy Development PEIS

Comment ID: SolarD11712

First Name: leon

Middle Initial:

Last Name: biggs

Organization:

Address: 9317 w sr 114

Address 2:

Address 3:

City: renssealer

State: IN

Zip: 47978

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Go green!!!!

Thank you for your comment, William McVay.

The comment tracking number that has been assigned to your comment is SolarD11713.

Comment Date: April 18, 2011 16:39:24PM  
Solar Energy Development PEIS  
Comment ID: SolarD11713

First Name: William  
Middle Initial: J  
Last Name: McVay  
Organization:  
Address: 102 Cumberland Dr  
Address 2:  
Address 3:  
City: Hendersonville  
State: NC  
Zip: 28792  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jessica Coy.

The comment tracking number that has been assigned to your comment is SolarD11714.

Comment Date: April 18, 2011 17:09:22PM  
Solar Energy Development PEIS  
Comment ID: SolarD11714

First Name: Jessica  
Middle Initial: L  
Last Name: Coy  
Organization:  
Address: [Withheld by requestor]  
Address 2: [Withheld by requestor]  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Dear conservatives,

Losing any land, especially ancestral land, can be devastating. No one wants to see their home change into something that is unfamiliar to the vegetation and the local animals. This earth is in constant change and growth and the only blame for it goes to the humans. Our mind set has thrown us out of balance with nature. We are still in the 'Manifest Destiny' mode. This mind set is not at all bad if we use it in a positive manner. It sounds bad because we relate it to the Industrial Evolution. We created our lives with fossil fuel. Our resources became abundant with limitless growth which created limitless consumption. Most corporate people in the fuel industry cover up the long term effects of the energy source that they are selling to the consumers for their own pocket. They saying ' money is the root of all evil' goes a long way in the corporate industry. They are not considering their grandchild's future or their great grandchild's child. This environmental crisis is based on selfishness. Humans are the only animal on this planet that can recognize the consequences of our actions today and how they may effect the earth in the future. We only see isolated 'natural disasters' around the world through the media. This doesn't allow us to open up our eyes and see the big picture. If we connected these events and growing amount of damage they are causing we would see that our everyday life is effecting our earth in a negative manner through consumption. In the early 1900's people would say, " Do we want it? Do we need it? ...and can we afford it?" This should be our mind set now. Not necessarily afford as in paper but as in our planet. And the answer is no. We can't afford to buy into Big Oil and ' keep up with the Jones'. The gas prices are at a record high here in Southern California and we must participate in order to commute to work so that we can buy that nice car and big house up on the hill. The American dream has gone too far and we need to do something about it now before it is too late. We have already lost about thirty years in the battle of global warming by just sitting around and discussing whether or not it is a hoax. We need to wake up! It is not a hoax; it's staring us straight in the face. Therefore, solutions to this epidemic is to stay on the futuristic tract, yet use our natural resources to do it, such as wind and sun. Why not put solar panels on the tops every home? This may sound expensive at first but it will pay for itself in the long run. If this land east of the Coachella Valley is not being used why not set up sustainable energy sources. All who knows the Manifest Destiny knows that if we do not create something positive and useful on this land then it will only be used for a negative purpose, like more shopping centers, gas stations, and tract homes. The land is going to be used no matter how much you want to preserve it, so the only question is- how do you like to see this land be utilized?

Jessica Coy

Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11715.

Comment Date: April 18, 2011 17:31:22PM  
Solar Energy Development PEIS  
Comment ID: SolarD11715

First Name: Alex  
Middle Initial:  
Last Name: Daue  
Organization: The Wilderness Society  
Address: 1660 Wynkoop St Suite 850  
Address 2:  
Address 3:  
City: Denver  
State: CO  
Zip: 80202  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: Solar DPEIS Comments - Arizona Final (TWS and partners 4-18-11).pdf

Comment Submitted:



April 18<sup>th</sup>, 2011

*Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).*

Linda Resseguie, BLM Solar PEIS Project Lead  
Solar Energy PEIS  
Argonne National Laboratory  
9700 S. Cass Avenue  
EVS/240  
Argonne, IL 60439

Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Sonoran Institute, Sierra Club – Grand Canyon Chapter, Arizona Wilderness Coalition, Tucson Audubon Society, Friends of Ironwood Forest, Defenders of Wildlife, Sky Island Alliance, Grand Canyon Wildlands Council, Natural Resources Defense Council, Soda Mountain Wilderness Council and Sierra Treks. We appreciate the opportunity to comment.

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## I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address Arizona.

## **II. Alternatives**

### **A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative**

The SEZ Alternative would designate 24 Solar Energy Zones. The DPEIS defines a Solar Energy Zone as ~~an~~ area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

One of the key elements that make a Modified SEZ Alternative preferable both for the environmental community and the developers is the reasonable certainty it provides when siting solar development. This principal enhances both the effectiveness of good development location and encourages development by reducing the risk associated with poor location and high resource conflicts. Similar to municipal zoning, clear direction from the BLM encourages such development and reduces potential impacts, making this alternative the most preferable.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ Alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

## **B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative**

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM's oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency's own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM's solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources –fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

## **C. As part of a modified SEZ Alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate**

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM's solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM's solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

For Arizona specifically, we encourage the BLM to consider the Arizona BLM Office's Restoration Design Energy Project as a possible model to identify such zones.

While it is premature for us to endorse the RDEP (the project has yet to release a draft EIS), we are encouraged by the following project elements that we believe should be part of any process that the BLM agrees to pursue to identify additional zones in Arizona:

- A focus on disturbed lands that may be suitable for renewable energy development (not limited to solar) at various scales (i.e., utility- and community-scale projects).
- A state-wide-level suitability assessment that includes federal (BLM and US Forest Service), state trust, and private lands and sets the stage for renewable energy development that extends across land ownerships and jurisdictions.
- Extensive consultations with cooperating agencies that resulted in a more comprehensive inventory of lands with known sensitive resources that are excluded from development.
- The development of a reasonable (renewable energy) development forecast for the next 20 years (measured in gigawatt hours and acres) tied to the state's renewable energy standard and export potential.
- Consideration of the following key factors in the ultimate selection of lands that may be included in the final alternative:
  - proximity to existing and approved transmission corridors,
  - avoidance of areas identified as essential for wildlife connectivity
  - impacts on water quality and quantity,
  - proximity to load or demand centers, and
  - opportunities for land tenure adjustments that facilitate protection of lands with high conservation values.
- A pro-active stakeholder engagement and consultation process that includes numerous opportunities for input prior to the release of a draft EIS.
- Provision of incentives for developers, including the amendment of all affected Resource Management Plans, to propose projects on lands ultimately identified as potentially suitable.

As a result of the above factors, and having gone through a more detailed and focused assessment process, the RDEP will identify lands that are more likely to be suitable for renewable energy development and therefore provide greater certainty for renewable energy developers than the SEDP Alternative.

We want to emphasize that the lands ultimately identified by the RDEP do not constitute SEZs in themselves. However, the RDEP sets the stage for the BLM to strategically select new SEZs from the lands identified, based on additional environmental and other constraints analyses, and we recommend that the BLM consider incorporating the results of the RDEP in their process for designating additional SEZs in Arizona.

### **III. Overarching Issues for Solar Development on Public Lands in Arizona**

The issues below should be addressed for any solar development on public lands in Arizona, whether inside or outside of a SEZ.

#### **A. Water resources**

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that "water use and water availability are key considerations" when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,<sup>1</sup> to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

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<sup>1</sup> We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. "The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource."

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and concentrating PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within every proposed SEZ in Arizona. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

#### **i. Cumulative impacts to water resources**

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

### **B. Water quality**

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored and or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

### **C. Impacts to groundwater-dependent species and their habitats**

There are a variety of groundwater dependent species that could be impacted by changes in hydrology caused by solar development, particularly groundwater withdrawal. The species impacted are site-specific, and are discussed in comments for each SEZ, below.

### **D. Soil erosion and associated vegetation impacts**

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital



role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZs.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Dust implications for the areas near or in the Phoenix PM10 Nonattainment Area are significant. The area has violated the health-based standards for PM10, has failed to submit an approved plan to reach compliance, and currently an 18-month sanctions clock is ticking that jeopardizes federal highway dollars and could result in requirements for two-to-one offsets of emissions for any new projects with PM10 emissions. Any increases in fugitive dust in this area are significant and every effort should be made to minimize them.

Soil disturbance should be minimized, and any reseeding should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeding mixtures are not polluted with non-native seed. Sahara mustard is already present in some of these areas, so every attempt should be made to limit its spread. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

The vegetation in Brenda SEZ is sparse and contains a fair amount of flat “desert pavement” that should require little or no grading. Other SEZ areas, such as the southern end of Gillespie and many areas of Bullard Wash, would require extensive grading, drainage work, plant salvage, and disturbance of diverse and sensitive areas. The vegetation in portions of the proposed solar development areas is characteristic of the Sonoran Desert, including creosote bush, palo verde, ironwood, white bursage, brittlebush, and a variety of other Sonoran desert plants. Some portions contain Saguaro cacti and Joshua trees. Every effort should be made to minimize impact on these plants and, wherever possible, plants should be relocated. It should be noted that plant salvage activities, although required, has a relatively low success rate for many desert species REF; avoidance of particularly diverse areas is the best way to mitigate impacts. Construction should be shifted away from key washes, which are critical for both desert plants and wildlife.

Most native desert plants are protected by the Arizona Native Plant Law, including all cacti, most of the trees, and many of the smaller plants (ARS § 3-7). The purpose of the Arizona Native Plant Law is to protect these species from theft, vandalism, or unnecessary destruction. Plants should not be removed unless absolutely necessary, in which case authorization must be given by the Department of Agriculture.

While not a threatened or endangered species, each year the Sonoran Desert loses more of its old growth ironwood trees, which appear to live over 800 years. This species is listed on both the “Salvage Assessed” and “Harvest Restricted” lists in the Native Arizona Plant Law due to its high value. Mature ironwood trees appear in both washes and throughout the proposed solar development areas. These trees provide important habitat functions and increase the biological diversity of areas. They act as both “nurse plants” and keystone species that modify habitats and provide benefits to over 500 species including other plants and wildlife. Protecting mature ironwood trees can help limit the impacts to wildlife as well as other plant species. If ironwoods were eliminated from Sonoran Desert habitats, there would be a decrease in the density of associated plants and subsequently in associated local faunal communities. Ironwoods must be protected both to maintain the diversity and lushness of the Sonoran Desert communities they

inhabit and to maintain the regeneration dynamics of rare plant populations that grow under its canopies.<sup>2</sup>

Many plant species, including grasses, are important for a variety of reasons, including soil stability and wildlife forage. Some species, such as globe mallow (*Sphaeralcea ambigua*) and prickly pear (*Opuntia spp.*), offer critical food sources for a variety of wildlife, including birds, rodents, large mammals, and reptiles, such as the desert tortoise. Removal of such species may increase soil erosion and would negatively affect wildlife in the area.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **E. Soil diseases and toxins**

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without

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<sup>2</sup> [http://www.desertmuseum.org/programs/ifnm\\_ironwoodtree.php](http://www.desertmuseum.org/programs/ifnm_ironwoodtree.php) , accessed on February 7, 2011.

biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

### Valley fever

*Coccidioides* species is a fungus residing in the top 8” of some desert soils that causes a serious and potentially fatal disease known as “valley fever”. This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

*Coccidioides* sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.<sup>3</sup>

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.<sup>4</sup>

### Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy and Patriet 2005, McClure et al 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Mormon 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal

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<sup>3</sup> <http://www.mayoclinic.com/health/valley-fever/DS00695> .

<sup>4</sup> Ibid.

lake valleys in southern California and Nevada in which solar developments are being contemplated in this PEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Mormon 2010).

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Mormon 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **F. Habitat connectivity, corridors, and fencing**

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Arizona is among the western states that have brought together leaders from numerous governmental, non-governmental and academic sectors to identify, map model and describe priority wildlife linkages on a statewide basis. While the solar energy zone alternative avoids overlapping the (priority subset of) modeled wildlife linkages, the SEDP Alternative identifies lands with significant overlap and conflict with numerous wildlife linkages identified by experts linkage models. The SEDP Alternative overlaps with 45744 acres, or 4.8% of the subset of the twelve priority wildlife linkages that have been modeled to date. The SEDP Alternative conflicts with approximately half of modeled linkages, including: Gila Bend – Sierra Estrella, Hualapai – Cerbat, Mount Perkins – Warm Springs, Wickenburg – Hassayampa, Rincons – Santa Ritas – Whetstones, Tumacorori – Santa Ritas, Hualapai – Peacock – Kingman and Ironwood – Picacho. Industrial-scale solar development in these linkages could result in their permanent impairment, fragmentation and loss of functionality for certain species.

These wildlife linkages models utilize the best available information and a defensible “least cost corridor” approach that has been developed under the guidance of Dr. Paul Beier at Northern Arizona University.

Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

For public lands affected by the proposed action and alternatives in Arizona, we recommend that the Arizona Wildlife Linkages Assessment and subset of modeled multi-species linkages be utilized to identify areas of avoidance and/or mitigation<sup>5</sup>.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it’s important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

## **G. Playa wetlands**

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<sup>5</sup> Information on the assessment can be found at: [http://www.azdot.gov/inside\\_adot/OES/AZ\\_WildLife\\_Linkages/assessment.asp](http://www.azdot.gov/inside_adot/OES/AZ_WildLife_Linkages/assessment.asp) and spatial data for the modeled multi-species wildlife linkages can be downloaded at: <http://corridordesign.org/linkages/arizona>

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al. 2010).

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al 2008; Liebowitz, Scot 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010; Liebowitz, Scot 2003; Comer et al. 2005). Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO<sub>2</sub>, particularly as the amount of CO<sub>2</sub> in the atmosphere increases. In the case of the *playa* crusts, the net photosynthetic rate of the algae rose by *a factor of two* in going from the ambient CO<sub>2</sub> concentration characteristic of their normal environment (385 ppm) to the

maximum value the scientists investigated (1000 ppm), while in the case of the *dune* crusts, the net photosynthetic rate *tripled* (Brostoff et al. 2002).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **H. Desert tortoise relocation**

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave Population) from Project Sites: Plan Development Guidance” (U.S. Fish and Wildlife Service, August 2010).<sup>6</sup>

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.<sup>7</sup>
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.<sup>8</sup>
- Translocation plans should be finalized before project approvals, and made public for review.

#### **I. Transmission, roads and other associated infrastructure**

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

### **IV. Lands and resources in the SEDP Alternative that are not appropriate for development**

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both

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<sup>6</sup>[http://www.fws.gov/ventura/speciesinfo/protocols\\_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx](http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx)

<sup>7</sup><http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

<sup>8</sup> Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.



recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

#### **A. Recommended screening criteria for utility-scale solar development**

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, attached as Attachment 1. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

#### **B. Specific examples of lands in the SEDP Alternative that are not appropriate for development**

##### **i. Citizens' Proposed Wilderness Lands - Western Arizona**

Citizens' Proposed Wilderness (CPW) lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

The analysis below summarizes significant potential conflicts between the agencies' SEDP Alternative and lands proposed for wilderness protection by citizens and organizations throughout Arizona.

The SEDP Alternative includes roughly 4.49 million acres of BLM lands in Arizona, representing 38% of all surface lands managed by the agency across the state. The BLM's Reasonably Foreseeable Development Scenario anticipates approximately 21,816 acres of solar energy development on its lands over the next 20 years. DPEIS p. ES 2.3.4. A significant discrepancy exists between the scope of foreseeable development and the SEDP Alternative; including this large amount of additional land runs counter to explicit goals of the PEIS such as "Standardizing and streamlining the authorization process for utility-scale solar energy development on BLM-administered lands," and "Facilitating near-term utility-scale solar energy development on public lands." DPEIS p. ES.2.1.

While various datasets were used by the agencies to exclude certain areas from the SEDP Alternative, the Arizona map includes the majority of relatively flat public lands regardless of their juxtaposition with existing or planned energy infrastructure and sensitive areas. Because of the breadth of the SEDP Alternative, potential conflict does occur with areas recommended for wilderness protection.

Since 2000, citizens and volunteers have inventoried Arizona's BLM lands for wilderness characteristics, noting opportunities for solitude, the lack of substantial human development, and other characters defined by the 1964 Wilderness Act (P.L. 88-577). These citizen wilderness proposals cover approximately 2.2 million acres of BLM land in Arizona. The GIS data for these areas is enclosed as Attachment 2. Many of these areas have been identified by the agency as Areas with Wilderness Characteristics in various Resource Management Plans. Under Interior Secretarial Order 3310 (23 Dec 2010), lands with wilderness characteristics, regardless of whether currently adopted in Resource Management Plans, will be inventoried and included in RMP's. Citizen wilderness proposals will be considered by the BLM during this inventory process, and **we request that such areas are excluded from the SEDP Alternative to minimize negative impacts to the wilderness environment in Arizona.**

Currently, potential conflicts do exist between the SEDP Alternative and Arizona's citizen-proposed wilderness areas. Currently, 510,697 acres, or roughly 11.5% of the SEDP Alternative, overlaps with the statewide dataset for citizen proposed wilderness. This conflict is shown in the map enclosed as Attachment 3. In certain areas, particularly those where slope is less than 5%, the potential conflict makes up a significant percentage of the proposed unit. In these areas of overlap, the SEDP Alternative infringes upon unique attributes of solitude, primitiveness, seclusion, and other increasingly rare attributes of the wilderness environment. Below, we highlight two areas where potential conflict occurs between the SEDP Alternative and citizen proposed wilderness areas in southwest Arizona. We have also included a map of each area, enclosed as Attachments 4 and 5.

### **East Clanton Hills**

The East Clanton Hills proposed wilderness area is 47,524 acres in size. The SEDP Alternative overlaps 38,455 acres, or roughly 81% of the area. It is bound by Clanton Well Road on the north, an El Paso Natural Gas line on the east, checkered land tenure on the south, and a dirt road on the west. The low band of desert hills that comprise the unit are punctuated by the 1,300 foot Clanton Hill. Located in remote area of southwestern Arizona, East Clanton Hills is a desert-lovers paradise with ample opportunity for solitude and unconfined recreation, along with unique and threatened ecological attributes that make the area eligible for wilderness protection.

#### ***Naturalness***

The vegetation found in the flats and bajadas of the East Clanton Hills are classified as part of the Creosote bush-White Bursage Series of the Lower Colorado River Valley Subdivision. The steeper canyons and rocky mountain slopes have more representative plant species from the upper Sonoran life zone consisting of palo verde, saguaro, and other mixed cacti. The area—generally appears to have been affected primarily by the forces of nature, with the imprint of

man's work substantially unnoticeable" as outlined in The Wilderness Act of 1964. Unmaintained roads and campsites occur at the fringes of the area, some of which are being reclaimed by the forces of nature.

East Clanton Hills also includes iconic Sonoran Desert wildlife such as desert bighorn sheep, Sonoran desert tortoise, banded Gila monster, and several types of bats. One of the most significant values of the area is the connective habitat it provides for wildlife between the core complexes in the Eagletail, Signal Peak, and Woolsey Peak Wilderness Areas.

The area's rugged terrain is accentuated by extraordinary scenic views from the top of many peaks, including Clanton Hill, Black Mountain and Turtleback Mountain, as well as from various points within the area. Most of the bedrock within the area is composed of volcanic rock, primarily black basalt, however, the southeast portion of the Red Rock Canyon proposed unit has a unique geologic sedimentary stratum which is red in coloration.

### ***Opportunities for Solitude***

Importance is placed on factors affecting solitude that occur inside the wilderness area and not that of outside factors, such as cities and highways. The BLM's Wilderness Inventory and Study Procedures manual H-6310-1.22 section (b)(1) gives direction on the assessment of solitude in inventory units. Below are the five features for evaluating solitude:

- Size and configuration: The proposed East Clanton Hills wilderness unit meets the 5,000-acre size criteria, is not long and narrow and does not have irregular extensions or cherry-stems.
- Topographic screening: There are many hills, ridges, and desert swales where the topography provides outstanding isolation and solitude from other visitors, whom are rare to begin with.
- Vegetative screening: In bajadas below the many rugged mountains of the proposed units, vegetative screening is exceptional with a diversity of vegetation ranging from stands of saguaro and palo verde to wide expanses of creosote and bursage. As in any Sonoran desert landscape, the excellent vegetative screening of the washes provides exceptional opportunities for solitude from other visitors.
- Ability of user to find a secluded spot: With the desert canyons and swales of the hills, visitors can easily find seclusion within this unit due to its remoteness from significant developments. In many areas, visitors can wander across vast expanses of wide-open creosote plains and feel the true solitude of the desert.
- Presence of outside sights and sounds: Congress has clarified (e.g. H.R. 95-540), as has the BLM (e.g. Handbook H- 6310-1) that sights and sounds visible or audible outside of a potential wilderness should not affect – or may even enhance – the need to protect the area. Aside from distant roads and limited agricultural lands, visual intrusions from outside the area are minimal.

### ***Primitive and Unconfined Recreation***

The proposed East Clanton Hills wilderness unit allows for a variety of primitive and unconfined recreational activities as addressed in section 2(c)(2) of the Wilderness Act of 1964 and in the BLM's *Wilderness Inventory and Study Procedures* manual H-6310-1 section .22(A)1(b)2. The proposed unit offers various levels of hiking, from flat walking in the bajadas, to rock scrambling on the many peaks and ridges. Backpacking, hunting, horseback riding, photography, bird watching, and sightseeing for archeological and geological features are all possible primitive and unconfined recreational opportunities within the proposed unit.

### **Red Rock Canyon**

The Red Rock Canyon proposed wilderness area is 23,298 acres in size. The SEDP Alternative overlaps 10,412 acres, or roughly 45% of the area. It is bound by private land on the east, Gila Bend Indian Reservation on the South, and public lands on the west and north. Red Rock Canyon rises 1,200 feet above the Gila River and contains unique geologic sedimentary strata and significant archeological evidence. The proposed wilderness area adjoins the existing Woolsey Peak Wilderness and protects important lands between that wilderness area and the nearby Gila River.

#### ***Naturalness***

The proposed Red Rock Canyon wilderness unit has retained substantial wilderness characteristics despite the proximity to the Greater Phoenix Area. The proposed unit possesses both outstanding opportunities for solitude and primitive and unconfined recreation.

The proposed Red Rock Canyon wilderness unit –generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable" as outlined in The Wilderness Act of 1964. The human impacts that do exist within the area come in the form of established roads and campsites as well as other unmaintained routes.

The proposed units also includes iconic Sonoran Desert wildlife such as desert bighorn sheep, Sonoran desert tortoise, banded Gila monster, lowland leopard frog, and several types of bats. One of the most significant values of this area is the contiguous habitat that it provides for wildlife. This area is critical to maintaining viable wildlife populations and linkages between Woolsey Peak, Signal Mountain, and Eagletail Mountains Wildernesses in the west to the Gila River and the North Maricopa Mountains Wilderness and Sonoran Desert National Monument to the east.

The area's rugged terrain is accentuated by extraordinary scenic views throughout the unit. Most of the bedrock within the area is composed of volcanic rock, primarily black basalt, however, the southeast portion of the Red Rock Canyon proposed unit has a unique geologic sedimentary stratum which is red in coloration.

#### ***Opportunities for Solitude***

Importance is placed on factors affecting solitude that occur inside the wilderness area and not that of outside factors, such as cities and highways. The BLM's *Wilderness Inventory and Study Procedures* manual H-6310-1.22 section (b)(1) gives direction on the assessment of solitude in inventory units. Below are the five features for evaluating solitude:

- Size and configuration: The proposed Red Rock Canyon wilderness unit meets the 5,000-acre size criteria, is not long and narrow and does not have irregular extensions or cherry-stems.
- Topographic screening: There are many ridges, basins, and bajadas, and ridge tops where the topography provides outstanding isolation and solitude from other visitors.
- Vegetative screening: Within the proposed units, vegetative screening is exceptional with a diversity of vegetation ranging from stands of saguaro and palo verde to wide expanses of creosote and bursage. As in any Sonoran desert landscape, the excellent vegetative screening of the washes provides exceptional opportunities for solitude from other visitors.
- Ability of user to find a secluded spot: Seclusion in the many washes and canyons throughout the proposed units is not difficult. There are basins, ridgelines, and even mountaintops that provide outstanding opportunities for solitude. In many areas, visitors can wander across vast expanses of wide-open creosote plains and feel the true solitude of the desert.
- Presence of outside sights and sounds: Congress has clarified (e.g. H.R. 95-540), as has the BLM (e.g. Handbook H- 6310-1) that sights and sounds visible or audible outside of a potential wilderness should not affect – or may even enhance – the need to protect the area. While limited historic mining claims, as well as agricultural and residential development are visible from this unit, these factors should not disqualify the area from consideration.

### ***Primitive and Unconfined Recreation***

The proposed unit offers various levels of hiking, from flat walking in the bajadas, to rock scrambling on the many peaks and ridges. Backpacking, hunting, horseback riding, photography, bird watching, and sightseeing for archeological and geological features are all possible primitive and unconfined recreational opportunities within the proposed unit.

### **ii. House Rock Valley**

*House Rock Valley*, approximately 150,000 acres of desert grass- and shrublands, lies south of Vermilion Cliffs National Monument, west of Grand Canyon National Park, and east of the North Kaibab national forest. The unique values of House Rock Valley make it an area that is not appropriate for utility-scale solar development, especially when considered in the context of the broader landscape of the region, detailed here and in Section IV. B. iii. below. Diverse native wildlife species inhabit the valley, and include pronghorn antelope, California condors, badgers, and the House Rock Valley chisel-toothed kangaroo rat. The latter, a Category 2 federal candidate under the Endangered Species Act, is found only in House Rock Valley (USWFS 1991). Early explorers described the valley's extensive grasslands, although these soon became damaged through overgrazing (Rasmussen 1941:267). Its vegetation today consists of a mosaic of plant communities best described as belonging to the Great Basin desertscrub biome (Turner 1982; see O'Farrell 1995:4). Individual plant communities contain elements of the Mohave Desert, at the lowest elevations, and Great Basin Desert over the middle and higher elevations (Phillips et al. 1987; see O'Farrell 1995:4). The Nature Conservancy classifies most of the area

as “at-risk” grasslands with less than five percent perennial native grass cover and/or severe soil erosion (Schussman and Gori 2004:21). House Rock Valley has the potential to be restored back to functioning grassland communities if grazing pressure is removed (Schussman and Gori 2004:45).

### ***Pronghorn***

Historically, pronghorn ranged over a larger portion of Arizona but were extirpated from many areas (Nelson 1925). Surveys found only 700 pronghorn in Arizona in 1924, but these populations were primarily due to transplants from neighboring states. This number increased to over 10,000 by the mid 1980's (Bright 1999:1). Despite recent increases in state-wide numbers, northern Arizona herds appear to have experienced a recent decline (Ockenfels, 1994).

Researchers reported that pronghorn antelope were once common in the grassland adjoining the plateau (Rasmussen 1941:238). Early inhabitants exploited this significant food resource. Paiutes would patiently wait in concealed pits until the antelope approached near enough to be shot by bow and arrow, a practice that apparently did not threaten the population's long-term viability (Rasmussen 1941:267). Pronghorn extermination occurred shortly after the arrival of white settlers (Rasmussen 1941:238). Current populations consist of stock derived from reintroduced animals.

Pronghorn are known to occur mainly in grasslands but also use drier shrub-grass plains, steppes and deserts. They are opportunistic and selective, taking the most palatable and succulent forage available at all seasons (see Bright 1999:3). Pronghorn typically inhabit open grasslands, shrub-grasslands, steppes and deserts that provide adequate forage supplies, shelter, and hiding cover for fawns (see Bright 1999:53). Researchers found that pronghorn prefer vegetation less than 60 cm high (see Bright 1999:53).

### ***House Rock Valley Chisel-Toothed Kangaroo Rat***

The chisel-toothed kangaroo rat (*Dipodomys microps*) occupies the Great Basin Desert of Nevada with more limited distribution in adjoining states (Hayssen 1991). Of the 13 subspecies currently recognized, two (*Dipodomys microps ordii* and *Dipodomys microps leucotis*) occur in the extreme northwestern portion of Arizona designated as the Arizona Strip (O'Farrell 1995:1). *Dipodomys microps leucotis*, the House Rock Valley chisel-toothed kangaroo rat, is found only in House Rock Valley and is currently recognized as a candidate species in Arizona (AZGF 1998) and a Category 2 federal candidate under the Endangered Species Act (USWFS 1991). The candidate status of *D. m. leucotis* mandates that the jurisdictional agencies address potential impacts to the species (O'Farrell 1995).

Chisel-toothed kangaroo rats occur in a variety of habitats but tend to be most abundant in saltbush or shadscale associations, or in higher elevation transitional communities dominated by blackbrush. *D. m. leucotis* appears to prefer coarse loamy soils containing a gravelly component in saltbush and blackbrush habitat types. *D. m. ordii*, appears more prevalent in sandy, mixed shrub and grassy habitats. Big sagebrush is characterized as a peripheral community delineating the southern extent of *D. m. leucotis* (O'Farrell 1995:6). The House Rock Valley is surrounded by physical and vegetation barriers, including the Grand Canyon, Vermilion Cliffs and the Kaibab Plateau, that have isolated *D. m. leucotis* (O'Farrell 1995:1). Within the 150,000-acre

House Rock valley, researchers have identified an estimated total of 73,624 acres of occupied habitat and delineated an additional 4,100 acres of potentially suitable habitat (O'Farrell 1995:ii).

The richness of rodent species within House Rock Valley is relatively high and includes ten species reflecting the valley's diversity of habitat types. These important wildlife include three species of pocket mice and the two kangaroo rats (O'Farrell 1995:9). Although the overall abundance of kangaroo rats is considered low, the two species of kangaroo rat are relatively the most abundant nocturnal small mammals found throughout most of the valley. The diurnal antelope ground squirrel (*Ammospermophilus leucurus*) may be the third most common species. Other habitat generalists such as the little pocket mouse (*Perognathus longimembris*) and deer mouse (*Peromyscus maniculatus*) are apparently uncommon (O'Farrell 1995:9).

### ***Threats***

House Rock Valley Wildlife lies adjacent to the approximately 658,000-acre Grand Canyon National Wildlife Preserve. From the Preserve's inception in 1906 to the present, wildlife protection remains, in theory, the Forest Service's *raison d'être* on the Kaibab Plateau. The 1908 Executive Order creating the Kaibab National Forest reiterated presidential commitment to the original Grand Canyon Game Preserve's purpose (Miller 1996:6). In 1992, the Office of the General Counsel for the Department of Agriculture reaffirmed that the Forest Service is bound by the law creating the Grand Canyon National Game Preserve, and that "the activities on the preserve cannot be in conflict with its stated purpose which is the protection of game animals within its boundaries" (see Miller 1996:17). The Game Preserve establishes special values that are dependent on protection of wildlife habitat and connectivity within House Rock Valley.

We believe that, in order to achieve the purposes of the Grand Canyon National Game Preserve as envisioned by President Theodore Roosevelt, the BLM should protect and restore the House Rock Valley Grassland in concert with the Forest Service as an interagency imperative.

### **iii. Kaibab-Paunsagunt Wildlife Corridor**

The *Kaibab-Paunsagunt Wildlife Corridor* comprises a crucial wildlife linkage between the Arizona's Kaibab National Forest and Vermilion Cliffs National Monument to Utah's Grand Staircase-Escalante National Monument and the Paunsagunt Plateau (Bryce Canyon National Park region). The area's corridor function is well documented by Arizona and Utah state wildlife agencies (Carrel et al. 1999).

Conservationists have long recognized the wildlife and other natural values of this area. As early as 1906, Theodore Roosevelt established the Grand Canyon National Game Preserve to protect the region's native wildlife. The so-called "Preserve" today includes approximately 30,000 acres of BLM lands. Two decades after Roosevelt's gesture, "Ding" Darling, the head of the U.S. Biological Survey, proposed creating a vast wildlife area on the Arizona Strip. At least one rancher, Preston Nutter, expressed enthusiasm for the idea (Price and Darby 1964).

Mule deer are an important wildlife and prey species. Both Kaibab and Paunsagunt mule deer herds are renowned for their "trophy" bucks (Carrel et al. 1999). Arizona winter range is important to a significant number of Utah's Paunsagunt mule deer herd that share the Buckskin

Mountain winter range with the Arizona herd. Researchers believe genetic interchange likely occurs between the two herds, and is vital for population viability. This is an important long-term function of the corridor that should be protected. (Carrel et al. 1999).

The corridor function of the proposed ACEC for this area is well established (Carrel et al. 1999). As winter approaches, Utah's mule deer migrate off the high Paunsagunt Plateau south to lower elevation winter range. Deer migration is a learned survival strategy behavior. Does lead fawns from their summer range to winter range in autumn, passing on specific movement behavior to the next generation (Nelson 1979; see Carrel et al. 1999). Winter range includes the Wygaret Terrace east of Kanab, and the Buckskin Mountain of Utah and Arizona. In the spring, the deer return to the higher, cooler summer range of the Paunsagunt Plateau (Carrel et al. 1999). While the Grand Staircase-Escalante National Monument protects much of this important winter habitat, a significant portion lies within Arizona.

Because the Arizona and "interstate" mule deer winter range overlaps on BLM lands (Game Management Unit 12B), researchers and conservationists consider the area is important candidate for habitat protection. This area is particularly susceptible to habitat damage because: 1) a greater number of mule deer are likely to concentrate in this area since it receives mule deer from two herds derived from different summer ranges; 2) the mule deer occupy this area longer due to differences in migration timing; and 3) cattle compete with mule deer for winter range forage (Carrel et al. 1999).

The Kaibab-Paunsagunt wildlife corridor includes the existing 2,400-acre Johnson Spring ACEC, established to protect the rare Siler pincushion cactus (*Pediocactus sileri*). Our recommendations for key indicator species include Siler pincushion cactus, Kaibab pincushion cactus, mule deer, mountain lion, and raptors, including: golden eagles, rough-legged hawks, ferruginous hawks, California condor and the northern harrier. A map of the area is enclosed as Attachment 6.

#### **iv. Species-specific biological conflicts with the SEDP Alternative**

Detailed below are species-specific resources that would be damaged by utility-scale solar projects and should be protected from this level of development.

- **Pygmy-owl Proposed Critical Habitat (2002)**

The Cactus ferruginous pygmy owl (*Glaucidium ridgwayi cactorum*) (CFPO) is an imperiled species that researchers believe is on the decline in northern Sonora and southern Arizona due to a host of threats. Between 2000 and 2007, the abundance of pygmy-owls within 75 km of Arizona has declined by an average of  $4.0 \pm 1.2\%$  per year ( $P = 0.001$ ; 95% confidence interval = 1.6-6.4%) or 28% over eight years. Similarly between 2002 and 2007, territory occupancy within 110 km of Arizona has declined by an average of  $3.4 \pm 0.9\%$  per year ( $P < 0.001$ ; 95% confidence interval = 1.6-5.2%) or 17% over six years. (Flesch 2007). Flesch's findings correlated this decline with ongoing drought conditions in the region and a commensurate decline in prey abundance. The pygmy owl has been demonstrated to avoid long flights across large openings or clearings (Flesch and Steidl 2000, Flesch et al. 2009). Industrial-scale solar



development could easily create new expansive areas of cleared vegetation, eliminating existing suitable habitat and dispersal linkages. Thus, moderate to high potential pygmy owl habitat or areas targeted for restoration should be removed from further consideration. A map of the habitat is enclosed as Attachment 7.

In 2002, the Fish and Wildlife Service released a draft proposal for the designation of critical habitat for the CFPO. The ESA defines critical habitat as "the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed that are determined by the Secretary to be essential for the conservation of the species." Due to litigation, these areas were never officially designated and the species was instead delisted. However, the areas identified in the proposed critical habitat still contain important habitat elements crucial for the future recovery of this imperiled bird, and should be removed from further consideration for industrial-scale solar development.

In response to a petition for relisting the CFPO as endangered, the US Fish and Wildlife Service conducted a status review and found that there was sufficient new information to indicate the species may be indeed warranted. The final determination by the service is still pending.

- Area of CFPO proposed critical habitat affected by the SEDP Alternative = 110,742 acres
  - Total area of CFPO proposed critical habitat = 1,209,745 acres
  - Percentage of total proposed critical habitat would be affected by the SEDP Alternative = 9.1
- 
- **Sonoran desert tortoise**

The Sonoran desert tortoise (*Gopherus agassizii*) is a species that many researchers believe is on the decline due to a host of compounding threats. A recent analysis shows that the Sonoran population of the desert tortoise has experienced statistically significant declines of 3.5% per year between 1987 and 2006. According to the 2008 listing petition for the species, this equates to an estimated 51% reduction in the number of adults and subadults on study plots between 1987 and 2006.<sup>9</sup> Industrial-scale solar development is the newest and possibly most expansive threat to the conservation and recovery of the desert tortoise.

In response to the 2008 petition for listing as an endangered species, the US Fish and Wildlife Service found this Sonoran subspecies of desert tortoise “warranted but precluded” from listing. This means that the species’ status is such that the service believes it is deserving of protection under the Endangered Species Act, but is precluded from listing because the agency must direct limited resources and attention to species of greater conservation concern.

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<sup>9</sup> <http://www.westernwatersheds.org/species/desert-tortoise/sonoran/sonoran-tortoise-petition.pdf>

It is clear by comparing BLM-mapped Sonoran desert tortoise habitat with the SEDP Alternative, that there is a high level of conflict with known habitat of this already-declining and reclusive reptile. Potential future solar development in these areas under the SEDP Alternative could encircle, fragment and thus isolate desert tortoise populations – further contributing to their decline. We recommend removing habitat classified by BLM habitat suitability models as essential (38,103 acres) or “may be essential” (520,462 acres) from further consideration for solar development in order to avert accelerating their decline, and to also remove modeled or otherwise documented tortoise linkages that serve to maintain a connected metapopulation.

- Total area of desert tortoise mapped habitat in Arizona = 7,450,292 acres
- BLM modeled desert tortoise habitat in AZ classified as “essential” or “may be essential” that would be affected by BLM SEDP Alternative = 558,565 acres
- Percentage of above habitat that would be open to development under the BLM SEDP Alternative = 7.5%

#### **v. Impacts to the San Pedro River**

The San Pedro River is a vitally important national and international resource. Anything that threatens the integrity of the ecosystem functions of the San Pedro is of international concern, especially in light of the river’s ability to provide for ecoregion resilience and flexibility in the face of climate change.

The Lower San Pedro River *Important Bird Area* was identified by state and national Audubon IBA science committees for providing essential habitat supporting a suite of riparian species listed by various agencies (i.e., Arizona Game and & Fish Department, U.S. Fish and Wildlife Service, National Audubon, International Union for the Conservation of Nature) as species of high conservation concern under their programs, and that occur with significant populations within this reach of river. The “Global IBA” designation in 2008 upgraded the “Arizona IBA” designation (2007) for the globally significant population of Bell’s Vireo within this river reach.

The San Pedro River is also the last major undammed river in the American Southwest, and exhibits a remarkably intact riparian system, including extensive stands of Fremont cottonwood, Goodding's willow gallery forest, and large mesquite bosques.

According to the American Bird Conservancy, southwestern riparian habitat is the fifth most threatened habitat type in the nation. The San Pedro River serves as a corridor between the Sky Islands of the Madrean Archipelago in northern Sonora and southern Arizona in its southernmost reaches and, in the north, Arizona's Central Highlands. The river is not only a major corridor between varied habitat types and ecoregions; it represents a ribbon of water and riparian vegetation in an otherwise arid environment. The river thus exhibits a remarkably high biodiversity, both in resident and migratory species.

More than 100 species of breeding birds, including 36 species of raptors, and approximately 250 species of migrant and wintering birds, occur in the area, representing roughly half the number of known breeding species in North America. The San Pedro River serves as a migratory corridor for an estimated 4 million migrating birds each year.

The abundance of mammals, reptiles, and amphibians is also high; more than 80 species of the former and more than 40 species of the latter. While fourteen species of native fish formerly occurred in the San Pedro River, only two persist today. The high importance of the Lower San Pedro River for the recovery of the endangered Southwestern Willow Flycatcher contributed to its designation as critical habitat for the species.

Aravaipa Creek, a major tributary to the Lower San Pedro River, contains an intact native fish assemblage, including the currently threatened and proposed endangered spikedace and loach minnow. The presence of a robust population of these fishes in a tributary stream and the largely unregulated hydrology of both waters led to the designation of a 13-mile reach of the Lower San Pedro River as spikedace critical habitat.

The San Pedro River flows south to north through Cochise, Pima, and Pinal Counties. The SEDP Alternative would allow roughly 15,000 acres of land in the San Pedro River watershed to be available for solar development. We strongly recommend that these acres be removed from further consideration for solar development.

#### **vi. Alignment with local open space plans**

- **Pinal County Open Space and Trails Master Plan**

A concern we have with the SEDP Alternative involves potential conflicts with local open space plans developed at the county or municipal level. A case in point is Pinal County's Open Space and Trails Master Plan<sup>10</sup>, which was adopted by the county in 2007. As the enclosed map, Attachment 8, indicates, there is considerable overlap between BLM lands that the county seeks to preserve as open space or trails and BLM lands the agency has identified under SEDP Alternative as potentially suitable for solar development.

Pinal County began development of its open space and trails master plan in 2006. As its impetus, the county referred to the 2003 Arizona Statewide Comprehensive Outdoor Recreation Plan, which established the need for more park space in Pinal County. In developing its plan, the county involved a diverse stakeholder advisory group and collected data from multiple sources, including federal, state, and local agencies and non-profit organizations. After extensive public participation and input, the Pinal County Board of Supervisors approved the Pinal County Open Space and Trails Master Plan on October 31, 2007, identifying 3,437,517 acres within Pinal County as existing or planned public or restricted use open space and regional parks.

While the county acknowledged that its plan's designation of BLM lands as open space has no regulatory impact, the county also noted that management of lands as open space falls squarely within the agency's mission. Moreover, the designation of these lands as open space puts the agency on notice that should these lands become candidates for disposal, the county would like seek to acquire these under the Recreation and Public Purposes Act.

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<sup>10</sup> <http://pinalcountyz.gov/Departments/DevelopmentServices/Documents/Downloads/FINAL%20Open%20Space%20and%20Trails%20Master%20Plan.pdf>

In reviewing the data layers provide as part of the draft Solar PEIS, which we have included in Attachment 9, we note that nearly all of the areas identified as potentially suitable for solar development in the SEDP Alternative are located in areas with “high habitat value” in Pinal County’s plan. Moreover, it would appear that the SEDP Alternative includes areas that may overlap with or are located in close proximity with areas identified in the Pinal County plan as designated habitat for the Southwest Willow Flycatcher or as proposed designated critical habitat for the Spikedace.

What the Pinal County example underscores is a lack of rigor employed by the BLM in its identification of lands that are potentially suitable for solar development in its SEDP Alternative. The potential conflicts that may ensue, either associated with local open space planning efforts or species habitat protection efforts, would not facilitate solar development as envisioned in the SEDP Alternative. A more deliberate approach that involves more detailed, on-the-ground analysis, similar to that employed in identifying the Solar Energy Zones, would likely identify these potential areas of conflict and thereby facilitate the selection of areas that would have minimal issues of conflict and accelerate solar development on BLM lands that are truly suitable.

A map of the plan’s open space designations is found on page 42 of the plan. A map of biological resources and critical habitat is found on page 10 of the plan.

- **Pima County Open Space Plan**

Pima County, located south of Pinal County, is home of the nationally-recognized Sonoran Desert Conservation Plan<sup>11</sup> (SDCP), a regional conservation plan created in 1998 whose primary goal is to “ensure the long-term survival of the full spectrum of plants and animals that are indigenous to Pima County through maintaining or improving the habitat conditions and ecosystem functions necessary for their survival.” The SDCP is a guiding force not just for Pima County, but also for local jurisdictions such as the City of Tucson, Town of Oro Valley, and Town of Marana. As part of SDCP implementation, the Conservation Lands System (CLS) was created through a rigorous, scientifically-driven process using the most current tenets of conservation biology and biological reserve design. It was adopted into Pima County’s Comprehensive Land Use Plan in 2001 and has been in use ever since. The CLS consists of seven biologically-sensitive land use categories, and an associated map, with specific guidelines for each category. These land categories include Important Riparian Areas, Biological Core Areas, Multiple Use Management Areas, Special Species Management Areas, Critical Landscape Linkages, Scientific Resource Areas, and Agricultural In-Holdings. CLS guidelines are used by the Pima County Board of Supervisors when they are tasked with discretionary actions such as re-zonings.

The SEDP Alternative has identified extensive acreage for solar development that would, if developed, adversely impact and potentially jeopardize the integrity of the CLS and the goals set forth by the Sonoran Desert Conservation Plan to maintain native biological diversity and areas of cultural significance. Outlined below are more detailed descriptions of the CLS land use categories and an analysis of the significant impacts the SEDP Alternative could have on these biologically-sensitive lands. (Note: Only four of the seven CLS categories have associated open

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<sup>11</sup> <http://www.pima.gov/cmo/sdcp/index.html>

space set-aside guidelines.) Two maps showing these conflicts are enclosed as Attachments 9 and 10.

**Important Riparian Areas (IRA):** The CLS guidelines call for **95% Open Space set aside** in these areas. These areas are designated for their high water availability, vegetation density, and biological productivity. Not all washes are designated as IRAs. These areas are shown as blue on the CLS map. The SEDP Alternative overlaps IRAs by **57,211 acres**. In addition to the potential for habitat destruction and fragmentation, extensive water use for solar energy production in and adjacent to IRAs is inappropriate and could lead to degradation and impairment of these riparian systems. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

**Biological Core Areas:** The CLS guidelines call for **80% Open Space set aside** in the Biological Core areas. These lands fulfill the five tenets mentioned above and are designated for their potential to support high value habitat for five or more [priority vulnerable species](#) identified under the SDCP and provide greater biological diversity than Multiple Use Management Areas. These areas are shown as dark green on the CLS map.

The SEDP Alternative overlaps Biological Core lands by **85,167 acres**. Direct and indirect impacts to these ecologically sensitive lands, which contain habitat for five or more priority vulnerable species, is inappropriate and could lead to loss and degradation of key habitats for threatened, endangered or otherwise imperiled species. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

**Special Species Management Areas:** The CLS guidelines call for **80% Open Space set aside** in these areas. These areas are defined as crucial for the conservation of specific native floral & faunal species of special concern of Pima County. Management of these areas will focus on conservation, restoration, and enhancement of habitat for these species. Much of this designation overlaps with Multiple Use Management Areas, but will retain the 80% set aside percentage. These areas are shown as hash marks over other CLS designations on the CLS map.

The SEDP Alternative overlaps Special Species Management Areas by **123,694 acres**. Direct and indirect impacts to these ecologically sensitive lands, which are crucial for the conservation of specific species of special conservation concern, is inappropriate and could lead to loss and degradation of key habitats for threatened, endangered or otherwise imperiled species. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

**Multiple Use Management Areas:** The CLS guidelines call for **66 and 2/3% Open Space set aside** in these areas. These lands fulfill the five tenets mentioned above, but are not as biologically rich as those areas designated as Biological Core. These areas are primarily distinguished from other lands within the CLS by their potential to support high value habitat for 3-4 priority vulnerable species identified under the SDCP. Any overlap of the Special Species Management Areas over Multiple Use Management Areas will use the 80% set aside percentage. These areas are shown as light green on the CLS map.

The SEDP Alternative overlaps Multiple Use Management areas by **1,418,536 acres**. Direct and indirect impacts to these ecologically sensitive lands are inappropriate and could lead to loss and degradation of key habitats for threatened, endangered or otherwise imperiled species. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

Another implementation tool of the SDCP is Pima County's extensive open space preserve system. With monies generated through two open space bonds - \$25 million approved in 1997 and \$174 million approved in 2004 – Pima County has purchased over 71,000 acres of private land and over 127,000 acres of State Trust Land leases. These lands will be used for mitigation in Pima County's Multiple-Species Conservation Plan, part of the County's recently submitted application for an Incidental Take Permit from the U.S. Fish and Wildlife Service. The SEDP Alternative could impact approximately 2,264 acres of this open space preserve system, ~1,819 acres of Rancho Seco and ~445 acres of the Diamond Bell Ranch. We recommend these ecologically sensitive lands be removed from further consideration for solar development.

In summary, Pima County, local jurisdictions, and a wide variety of community stakeholders have invested considerable time, energy, and money into the implementation of the SDCP over the last 13 years. We strongly recommend that ecologically sensitive lands identified in the SEDP Alternative that conflict with Pima County's Conservation Lands System and open space preserve system be removed from further consideration for solar development.

#### **vii. Cultural resources**

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- **Ironwood Forest National Monument:** The BLM should exclude a small "b"-shaped parcel located adjacent to and immediately south and west of Ironwood Forest National Monument and northeast of the Tohono O'Odham Reservation, less than 20 miles west of I-10 between Tucson and Casa Grande. Any solar energy development on this extremely small parcel would undoubtedly have significant visual impacts on both the national monument and the reservation, and potentially on traditional cultural properties. The same is true of the two parcels identified near the northern aspect of the monument: one parcel northwest of the very most northwestern part of the Monument boundary in the Sawtooth Mountains and another parcel north of the "middle" of the monument, surrounded by state land. All three of these parcels can be seen in the Friends of Ironwood Forest's membership brochure and are important aspects of the experience and visual integrity of the Monument. The nearby Juan Bautista de Anza National Historic Trail Corridor and Auto Route may also be adversely impacted by development of parcels identified in this region.
- **Santa Rosa Wash:** The BLM should exclude solar development south of I-8 around Santa Rosa Wash, because of the area's many large pre-classic period Hohokam villages.
- **Area Southwest of the West Silver Bell Mountains:** The BLM should exclude the southern portion of the area southwest of the Silver Bell Mountains, near the Aguirre Wash, around the old Spanish mission site, Santa Ana del Chiquiburitac, from solar

energy development. The mission/visita was the last mission constructed in Primeria Alta in the late 1700's by Tohono O'Odham laborers for Spanish Franciscan friars. Very few Spanish mission sites are known from Arizona so this one is undoubtedly nationally and regionally significant.

- **Poston Butte:** The BLM should exclude the area around Poston Butte, northwest of Florence, from solar energy development because of its extensive, intact cultural landscape associated with major habitation sites and a prehistoric canal system. While most of the archaeological sites are located on private land that adjoins BLM land, the BLM land includes associated archaeological features.

## **V. Solar Energy Zones in Arizona**

The proposed SEZs in Arizona include one area with good potential to be an appropriate SEZ (Brenda SEZ), one area that contains some land that may be appropriate for inclusion as a SEZ (Gillespie SEZ), and one area that may be inappropriate for designation as a SEZ (Bullard Wash). Please see the detailed comments below for more information, including details on our potential support for these SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, and there are in fact significant concerns about a few of the SEZs, we strongly caution against interpreting the detailed nature of these comments to imply opposition to the SEZs across the board. Rather, we underscore the importance of focusing on the SEZs rather than the additional 21 million acres included in the SEDP Alternative. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development within them. The SEDP Alternatives have not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

### **A. Brenda SEZ**

#### **i. Overview**

Brenda SEZ is 2 miles east of the town of Brenda in La Paz County, western central Arizona. Located 32 miles east of the California border, 230 miles west of Los Angeles, 100 miles west of Phoenix. 45 miles southwest of Bullard Wash SEZ, and 61 miles northwest of Gillespie SEZ, Brenda is in the Ranegras Plain groundwater basin, situated in a valley with the Granite Wash and Little Harquahala Mountains to the east and the Plomosa Mountains and Bear Hills to the west. US Highway 60 runs adjacent to the southeast border, providing outstanding access to the site. The closest railroad stop is 11 miles away, and the railroad is 4 miles to the northeast at its closest approach. The area is characterized by low relief bajadas and desert plains, and supports a sparse vegetation community dominated by creosote bush, triangle bursage, ironwood, and buckhorn cholla, with occasional saguaros and ocotillo more diagnostic of higher elevation plant communities. No perennial streams, water bodies, or springs have been identified in the area of direct or indirect effects. In the Date Creek Basin that contains the SEZ, 80% of groundwater use is agricultural, 12% is domestic, and 6% is industrial. As with most of the desert southwest, limited availability of water resources may make low water use technologies most appropriate for this area.

The nearest existing transmission are two 500 kV and one 230 kV lines 12 miles south of the SEZ.<sup>12</sup> There is an active solar development application 6 miles southeast of Brenda and others roughly 14 miles to the northwest, west, northeast, and southwest. There are also several closed applications closer to the SEZ. This relatively high level of application activity indicates strong interest in the area. The open applications to the southeast are in the same groundwater basin, which raises concerns about cumulative development effects on groundwater. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

## ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The Ranegras Plain basin had average annual groundwater withdrawals of 28,800 acre-feet per year (afy) between 2000-2005. Most of this water was used for irrigation; only 400 afy was used for municipal purposes. These withdrawals are far in excess of the estimated recharge rate of the basin, which has been estimated to be from less than 1,000 afy to over 6,000 afy (an additional 2,000 -3,000 afy of inflow is possible thorough seepage from the CAP canal). Most groundwater declines within the basin are attributed to agricultural uses in the eastern part of the SEZ, where groundwater levels have declined more dramatically and subsidence has occurred. Sustainable yield has not been assessed for the Ranegras Plain Basin.

Given that the recharge rate for the Ranegras Plain basin is relatively low, sustainability in water use is a major concern, particularly in relation to the special status aquatic species mentioned below. We concur with the BLM's conclusion in the DPEIS that wet-cooling would likely not

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<sup>12</sup> Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies



be feasible for a full buildout of the SEZ (80% buildout of the SEZ), and that dry-cooled or non-cooled PV and dish-engine projects are most feasible for the area. DPEIS p. 8.1-64.

Regardless of which technology is used for projects in this area, the BLM should ensure that any water use for solar development follows the design features and recommendations in Section III above.

- **Vegetation removal, site grading, and native plant salvage**

The plant communities in Brenda are relatively low in density and diversity. Arizona native plant laws specify that cactus species, palo verde, and ocotillo be salvaged and replanted. The SEZ supports a relatively low density of these species, so salvage requirements for development of large solar projects in many areas of the SEZ should be relatively low.

Brenda has relatively low relief and few drainages that would require grading and soil disturbance. The soils in Brenda are rated moderate in terms of their wind erodibility, but they are also covered with a mosaic of desert rocks and nitrogen fixing bacteria, known as Desert Pavement, that serves to protect soil integrity and prevent wind erosion when left intact. Leaving these soils and desert pavement in place is recommended, as discussed below.

- iii. **Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

The northwestern and northeastern corners of Bullard Wash both contain washes that should be avoided when siting and developing projects. These areas support a greater diversity of plant and animal species, and are also important for surface hydrology and groundwater recharge. Tyson Wash on the western side of the SEZ is west of Avenue 42, which creates a clear border for development that should be used as the western boundary; development west of this road is unlikely since the area is small and has more relief and greater plant diversity, is cut off from the rest of the SEZ by the road right-of-way, and is adjacent to Plomosa SRMA. Bouse wash on the northeastern corner has a more diverse plant community dominated by cactus and palo verde; development or disturbance of this small corner of the SEZ would require intensive plant salvage and grading, and would likely disturb special status species. These areas would be easy to exclude from the SEZ as they only have limited overlap along the northern corners. We have enclosed a map detailing these recommended changes as Attachment 11.

- iv. **Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species**

Impact to all special status species known to occur in the SEZ are predicted to be small since the amount of habitat affected by solar development would be small proportional to habitat that exists within the SEZ region. Avoidance of wash or riparian habitats and low groundwater use would mitigate impacts on most special status species. The text states that compensatory mitigation may be required for Sonoran Desert Tortoise, but according to AZGFD's Sonoran desert tortoise specialist, Brenda does not contain tortoise habitat, nor is it an area that they migrate through. As a result, it's unlikely that Sonoran desert tortoise would be affected by development with Brenda.

In general, species that occur within this SEZ are widespread, and mitigation for impacts is difficult due to the scattering of suitable habitat through the affected area and/or the general habitat preferences of the species concerned. Surveys for special status species and avoidance of occupied habitats should be performed, however, whenever feasible.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring water use to improve groundwater status**

The Ranegras Plain Basin has a long history of agricultural overuse of water. BLM has a great opportunity to explore creative ways to promote solar development that actually improves the water situation in this over-allocated basins; by retiring existing uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating erosion and dust issues through minimizing soil and vegetation loss**

In areas like Bullard Wash that have low relief and are covered with a durable layer of desert pavement, approaches to solar development that minimize soil and vegetation modification can be explored that minimize disturbance of the top soil layers and take advantage of existing conditions to maximize cost-effectiveness while minimizing impacts. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the vegetation and soil. In particular, the DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to sparse vegetation that his unlikely to ever carry a fire. Land disturbance through road and transmission line development should also be minimized.

#### **vi. Corrections**

According to the PEIS, the nearest existing transmission is a 161 kV line 19 miles west of the SEZ, but the closest lines are actually the two 500 kV and one 230 kV lines 12 miles south of the SEZ.

## **B. Bullard Wash SEZ**

### **i. Overview**

Bullard Wash SEZ is located in Yavapai County in western central Arizona 70 miles northwest of Phoenix, 45 miles northeast of Brenda SEZ, and 55 miles north of Gillespie SEZ. Situated in the Date Creek basin, the SEZ is in a valley with the Black Mountains to the north, the Harcuvar Mountains to the Southwest, and the Date Creek Mountains to the northeast. The nearest major road is State Route 71, 5 miles to the southeast, and the nearest railroad stop is 17 miles from the SEZ to the east (railroad is 9 miles to the south at its closest approach). This area supports a diverse assemblage of plants characteristic of both the Sonoran and Mojave deserts, with creosotebush-white bursage plant communities interspersed with large areas of palo verde cactus shrub and saguaro cactus communities. No perennial streams, water bodies, or springs have been identified in the area of direct or indirect effects, but Tres Alamos Spring 5 miles to the north and Yerba Mansa Spring 15 miles to the northwest could potentially be affected by groundwater withdrawals for solar development within the SEZ. Also, three NWI defined wetlands occur in the SEZ, but these are thought to be stock ponds with low habitat value other than as water sources. In the Date Creek Basin that contains the SEZ, 80% of groundwater use is agricultural, 12% is domestic, and 6% is industrial. As with most of the desert southwest, limited availability of water resources may make low water use technologies most appropriate for this area.

There are 17 solar development applications within 50 miles, 8 of these located roughly 12-22 miles to the southwest, south, and southeast of Bullard Wash; none of these are within the same basin as Bullard Wash, but cumulative groundwater impacts from multiple projects in the area are still possible. The closest existing transmission lines are a 500 kV line and a 345 kV line, both five miles east of the SEZ. **Overall, concerns about the diverse plant and wildlife community present in Bullard Wash (verified during 2010 and 2011 site visits) as well as potential effects on special status species in the area from solar development make unlikely that environmentally responsible development is possible in this area. For these reasons, we recommend that the BLM should not designate Bullard Wash as a SEZ.**

### **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

During scoping, USFWS commented that groundwater withdrawals for solar development in Bullard Wash SEZ could affect Gila topminnow habitat in Yerba Mansa spring, located outside the SEZ but inside the affected area, as well as the Tres Alamos spring system outside the affected area which supports introduced federally endangered desert pupfish. Other species for which cumulative affects through groundwater withdrawals and resulting decreased surface water availability include snowy egret and southwestern willow flycatcher.

Sustainable yield has not been assessed for Bullard Wash SEZ. The PEIS does state, however, that the water required for the highest level of projected water use for wet cooling at full buildout of the SEZ (80% buildout) would exceed current withdrawal by a factor of one to four times, equivalent to 29%-170% of the annual recharge rate. Given that the recharge rate for the Date Creek basin is relatively low (10,000 afy), sustainability in water use is a major concern, particularly in relation to the special status aquatic species mentioned below, and we concur with the BLM's conclusion that wet cooling is likely not feasible for full buildout of the SEZ, and that dry-cooled or non-cooled PV or dish-engine projects may be most feasible for this area. DPEIS p. 8.2-64.

Regardless of which technology is used for projects in this area, the BLM should ensure that any water use for solar development follows the design features and recommendations in Section III above.

- **Vegetation removal, site grading, and native plant salvage**

The high quality, diverse plant community in Bullard Wash is indicative of an ecotone that supports species characteristic of both Sonoran and Mojave deserts. Arizona native plant laws specify that Joshua tree, cactus species, palo verde, and ocotillo be salvaged and replanted. The SEZ supports a relatively high density of these species, so salvage requirements for development of large solar projects in many areas of the SEZ could be extensive. Transplant success is often low for many salvaged species; many desert plants are sensitive to patchy distribution of particular soils and other resources; the best way to preserve them is to leave them where they are established. Any development of Bullard Wash would only be viable in areas towards the southern end of the SEZ where low density plant communities dominated by creosote occur.

Related to this, Bullard Wash has higher relief and is more dissected by drainages and bajadas than most of the other SEZs. These areas support several special status habitat specialists, as discussed below. Development in these areas would require extensive grading and drainage work to prepare areas for solar projects and maintain existing offsite hydrological flow patterns. Cryptogamic soil crusts also exist within the SEZ that should be avoided. These considerations increase the potential for permanent degradation of development areas and would dramatically increase development costs, good reasons to develop Bullard Wash only if sufficient areas of low diversity creosote communities are available to support development.

Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occur. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. Shrub and dune communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZ, Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it's unclear what density of soil crusts would be sufficient to put an area off limits. Chapter 5

contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

### **iii. Recommended boundary adjustments**

The sensitive natural resources detailed below and throughout these comments make this area inappropriate for SEZ designation. Unfortunately the level of conflicts does not allow for boundary adjustments that could accommodate an acceptable SEZ, so the BLM should remove the SEZ from consideration.

Bullard Wash supports a diverse creosotebush-white bursage plant community with large areas of palo verde cactus shrub and saguaro cactus communities. Dominant species primarily include creosotebush, white bursage, and all-scale , with big galleta, Palmer alkali heath, brittlebush, and western honey mesquite dominant in some areas. Drainages and washes support western honey mesquite, ironwood, blue palo verde, smoketree, cat-claw acacia, burrobrush, Anderson thornbush, and desert broom. Sonoran Paloverde-Mixed Cacti Desert Scrub and Mojave desert scrub communities (containing Joshua trees) also exist since the area is located in an ecotone that includes both Sonoran and Mojave desert vegetation types. The diversity of plants that exists here is exceptional, and should be excluded from development.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species**

Listed ESA species with potential habitat in Bullard Wash affected area are Gila topminnow (endangered), Arizona cliff rose (endangered), desert pupfish (endangered), the Sonoran population of the bald eagle (threatened), and southwestern willow flycatcher (endangered—

observed during site surveys). The Gila topminnow and desert pupfish occurred historically in the Tres Alamos spring system five miles north. Sonoran desert tortoise have high-quality suitable habitat immediately north and south of the SEZ, and are present in the USGS 7.5' quads that contain Bullard Wash as well as adjacent quads in the affected area according to AZGFD HDMS data.

BLM sensitive species within quads that intersect Bullard Wash are Aravaipa wood fern, Arizona giant sedge, Hohokam agave, Parish's phacelia, Pima Indian mallow, lowland leopard frog, desert rosy boa, desert tortoise, American peregrine falcon, ferruginous hawk, snowy egret, Swainson's hawk, western burrowing owl, California leaf-nosed bat, Townsend's big-eared bat, western red bat, and western yellow bat. Of these, quad-level AZGFD HDMS occurrences of lowland leopard frog, desert tortoise, and California leaf-nosed bat intersect the affected area of the Bullard Wash SEZ. Avoidance of wash or riparian habitats and low groundwater use would mitigate impacts on many of the special status species listed above.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring water use to improve groundwater status**

BLM has a great opportunity here to explore creative ways to promote solar development that actually improves the water situation in over-allocated basins; by retiring existing uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating erosion and dust issues through minimizing soil and vegetation loss**

In areas like Bullard Wash that have diverse vegetation and soil crusts, approaches to solar development that minimize soil and vegetation modification can be explored that would expand the range of areas where solar can be deployed. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the vegetation and soil. In particular, the DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to dominant vegetation type. Mitigation measures outside facility footprints such as protecting areas to preserve native vegetation and soil crusts is another approach that might be used provided that soil loss, fugitive dust, and invasive weed problems could be controlled within cleared areas.

#### **vi. Corrections**

None noted.

### **C. Gillespie SEZ**

## **i. Overview**

The Gillespie SEZ is approximately 2,618 acres and is located in western Maricopa County, southeast of the Harquahala Basin, between the Gila Bend Mountains to the southwest and Centennial Wash to the northeast. Land within the SEZ is undeveloped and characterized by creosote bush-white bursage plant communities and contains areas of saguaro cactus and various other cacti that are characteristic of an arid desert valley.

Gillespie SEZ is within the Lower Hassayampa groundwater basin and is in the Phoenix Active Management Area, where there are some limitations on groundwater pumping. Most of the recharge in the area occurs along the Gila River, Hassayampa River and Centennial Wash. There has been some land subsidence within this area due to significant groundwater pumping, as well as water quality concerns.

There are numerous existing transmission lines north and east of the SEZ, including five 500 kV lines 0.6 to 0.9 miles away and a 345 kV line 0.5 miles away.

There are currently no right-of-way applications for solar projects within the SEZ; however, there are applications in the general vicinity, as well as several projects on private lands both east and south of the SEZ, including the Solana Generating Station, a 280-megawatt concentrating solar power plant that has been approved west of Gila Bend and north of I-8 on agricultural lands. This facility is scheduled to begin operation in 2013. There are also several other approved solar thermal projects, most of which are on private agricultural lands.

There are several sensitive wildlife species within the project area and plants that come within the purview of the Arizona Native Plant Law, including the iconic saguaro cactus.

**Overall, the area does not have major conflicts on the northern portion of the SEZ. If the southern boundary is adjusted north of the Agua Caliente Road and the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

## **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

There is currently no access to treated wastewater for cooling, which is what is utilized by the Palo Verde Nuclear Generating Station. In addition, this area is in the Phoenix Active Management Area, so there are special restrictions on groundwater use. Given all this, obtaining groundwater for solar development in this SEZ would be a challenge, and we concur with the BLM's conclusion in the DPEIS that wet-cooling would likely not be feasible for a full buildout of the SEZ (80% buildout of the SEZ), and that dry-cooled or non-cooled PV and dish-engine projects are most feasible for the area. DPEIS p. 8.3-63.

Regardless of which technology is used for projects in this area, the BLM should ensure that any water use for solar development follows the design features and recommendations in Section III above.

- **Special status species**

There are several species in the SEZ region that are listed under the federal Endangered Species Act, including the southwestern willow flycatcher, Sonoran bald eagle, and Yuma clapper rail. Groundwater pumping associated with projects in this area could have indirect effects on riparian habitat that supports several of these species. The Sonoran population of the desert tortoise occurs in the site area, and petition for listing this species as threatened is currently under consideration. Changes in construction and siting might be warranted to mitigate impacts. Several more species are listed as special status species by the Arizona Game and Fish Department or Bureau of Land Management. Additionally, most bird species are afforded some protection by the Migratory Bird Treaty Act, although only some those in Table 8.3.11.2-1 –“Representative Bird Species” are listed as having such protections. Careful consideration should be given to all special status species and those protected by the Migratory Bird Treaty Act during design and construction, and changes should be made as necessary.

- **Air quality**

The prevailing southwest winds would blow any fugitive dust toward the Phoenix area, which is a nonattainment area for PM10 and is currently working to develop a new plan before sanctions kick in over the next 18 months. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

### **iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below. We have enclosed a map detailing these recommended changes as Attachment 12.

- **The boundary for the SEZ should be moved north of Agua Caliente Scenic Road**

The area south of the Agua Caliente Road should be removed from the SEZ. Extensive grading would be required to develop the southern portion of Gillespie, and developing the area would present significant challenges with special status species. Any development farther south within the current SEZ boundaries would also have much more significant hydrological impacts. In addition, Agua Caliente Road is being considered for scenic road designation as part of the Sonoran Desert National Monument Resource Management Plan, yet another reason to shift the southern boundary north of Agua Caliente Road and limit development to the northern portion of the SEZ.

### **iv. Sensitive natural resources and recommended additional impacts analysis**



The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Woolsey Peak and Signal Mountain Wilderness Areas**

Two wilderness areas are located within close proximity to the Gillespie SEZ, including Woolsey Peak at about 2 miles and Signal Mountain at approximately 3.5 miles. The BLM should analyze potential impacts of any proposed projects to these adjacent areas.

**v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring water use to improve groundwater status**

Riparian habitat and various endangered and sensitive species are sustained by groundwater, so any pumping should be minimized. Major groundwater pumping could negatively affect this area and those species.

- **Limiting the spread of invasive weeds**

The site is generally free of invasive weeds, so every effort should be made to limit ground disturbance and minimize opportunities for introduction of invasive plants.

- **Taking advantage of nearby transmission**

There are numerous high-voltage transmission lines within close proximity to the site, so disturbance related to new transmission could be minimized if capacity is available on the existing lines.

**vi. Corrections**

- Most of the bird species listed in Table 8.3.11.2-1 are afforded some protection by the Migratory Bird Treaty Act, but only some of these are listed as having such protections. This table should be updated to accurately reflect those species protected by the act.
- Table 8.3.12.1-1 does not accurately represent all special status species. For example, the spotted bat is listed as Wildlife of Special Concern by the Arizona Game and Fish Department and as an Arizona Bureau of Land Management Sensitive Species, and Le Conte's thrasher is listed as a BLM Sensitive Species. This table should be updated to accurately reflect all special status species, and possible impacts as well as appropriate mitigation efforts should be discussed.

Thank you for your thorough consideration of these comments.

Sincerely,

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## **Attachments**

- Attachment 1 – Desert Siting Criteria
- Attachment 2 – AWC GIS Data for CPW Units
- Attachment 3 – Map of SEDP Alternative Overlap with CPW Lands
- Attachment 4 - Map of SEDP Alternative Overlap with East Clanton Hills CPW Unit
- Attachment 5 - Map of SEDP Alternative Overlap with Red Rock Canyon CPW Unit
- Attachment 6 - Proposed North Kaibab National Monument
- Attachment 7 - Map of SEDP Overlap with Pygmy Owl Habitat
- Attachment 8 - Map of SEDP Overlap with Pinal County Open Space Plan
- Attachment 9 - Map of SEDP Overlap with Pima County Open Space Plan
- Attachment 10 - Map of SEDP Overlap with Pima County Open Space Plan – West
- Attachment 11 - Map of Recommended Boundary Adjustments for Brenda SEZ
- Attachment 12 - Map of Recommended Boundary Adjustments for Gillespie SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11716.

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Comment Submitted:



April 18<sup>th</sup>, 2011

*Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).*

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Center for Native Ecosystems, Biodiversity Conservation Alliance, Rocky Mountain Recreation Initiative, Colorado Wild, Wild Connections, High Country Citizens' Alliance, Colorado Environmental Coalition, Audubon Colorado, Natural Resources Defense Council, Sierra Club, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

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## I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an

environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address Colorado.

## **II. Alternatives**

### **A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative**

The SEZ Alternative would designate four Solar Energy Zones (SEZ) in Colorado. The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

### **B. The BLM should not adopt the Solar Development Program (SEDP) Alternative**

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM’s oil and gas program – projects spread scattershot across the

West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency’s own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM’s solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

**C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate**

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM’s solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM’s solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

We encourage the BLM to consider the results of the EPA’s RE-Powering America’s Lands initiative, a developing, multi-state program that identifies current and formerly contaminated land and mine sites with high renewable energy potential. This analysis exemplifies the

approach to screening lands that should be pursued, and while it is premature for us to fully endorse this initiative (the project is currently in the draft comment period), we are encouraged by the following project elements. We believe these criteria should be part of any process that the BLM agrees to pursue to identify additional zones in Colorado:

- A focus on disturbed lands that may be suitable for renewable energy development (not limited to solar) at various scales (i.e., utility- and community-scale projects).
- A suitability assessment that includes federal (BLM and US Forest Service), state trust, and private lands and sets the stage for renewable energy development that extends across land ownerships and jurisdictions.
- Extensive consultations with cooperating agencies and stakeholders to produce a comprehensive set of criteria to screen lands for high resource potential and potential conflicts.
- Coordination and collaboration among Federal Agencies, working with the Federal Facilities Restoration and Reuse Office (FFRRO) and Office of Solid Waste and Emergency Response (OSWER) Center for Program Analysis (CPA) to establish a workgroup to share efforts and reduce duplication.
- The development of a reasonable (renewable energy) development forecast for the next 20 years (measured in gigawatt hours and acres) tied to the state's renewable energy standard and export potential.
- Consideration of the following key factors in the ultimate selection of lands that may be included in the final alternative:
  - proximity to existing and approved transmission corridors,
  - avoidance of areas identified as essential for wildlife connectivity
  - impacts on water quality and quantity,
  - proximity to load or demand centers, and
  - opportunities for land tenure adjustments that facilitate protection of lands with high conservation values.
- Incentives and technical assistance provided to encourage siting on contaminated land, integration of these activities with renewable portfolio standards and renewable energy credit programs.

As a result of the above factors, the RE-powering America's Lands initiative will identify lands that are more likely to be suitable for renewable energy development and therefore provide greater certainty for renewable energy developers than the SEDP alternative. We want to emphasize that these lands ultimately identified by the RE-powering America's Lands initiative do not constitute SEZs in themselves. However, this initiative sets the stage for the BLM to strategically select new SEZs from the lands identified, based on additional environmental and other constraints analyses, and we recommend that the BLM consider incorporating the results of the RE-Powering America's Lands initiative in their process for designating additional SEZs in Colorado.

### **III. Overarching Issues for Solar Development on Public Lands in Colorado**

The issues below should be addressed for any solar development on public lands in Colorado, whether inside or outside of a SEZ.

## A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, *A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation* (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that "water use and water availability are key considerations" when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,<sup>1</sup> to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. See DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and concentrating PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar

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<sup>1</sup> We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. "The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource."

development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within three of the four Colorado SEZs (DeTilla Gulch is the exception). In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

#### **i. Cumulative impacts to water resources**

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

## **B. Water quality**

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

## **C. Soil erosion and associated vegetation impacts**

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occur. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZs.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many



areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states "...exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility."

The DPEIS also states that "In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts." Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Sahara mustard is already present in some of these areas, so every attempt should be made to limit its spread. Impacts of loss of native vegetation should be evaluated.

The FEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

“Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”<sup>2</sup>

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **D. Dust effects on air quality and snowmelt**

Solar development will require extensive clearing and leveling of terrain. Such actions destroy soil structures such as biological soil crusts and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001). In many areas of the six Southwestern States covered by the PEIS, soil-borne diseases and toxins in dust generated by wind erosion can be transported considerable distances from the disturbed site. In the central Rocky Mountain states of Colorado and Utah, acceleration of snowmelt due to dust accumulation on snowpack has also been identified as a strong influence on water availability throughout the growing season.

#### **E. Mineral aerosols and air quality**

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<sup>2</sup> Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure et al 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in this PEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, (Reheis et al. 2003, Morman 2010).

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

#### **F. Snowmelt and dust**

Recent research has indicated that dust generation has regional effects on snow chemistry and subsequent melting in the Central Rocky Mountain region (Rhoades et al. 2010). The accelerated snowmelt from dust deposition changes surface water flow pattern and timing, groundwater recharge, and water availability during the driest parts of the year, and is strongly influenced by destabilization of desert soils (Painter et al. 2010).

These issues are clearly tied to those mentioned previously related to soil disturbance, and the biological importance of these related issues make it imperative that BLM enforce concrete guidelines for minimizing soil disturbance and dust generation from solar development.

#### **G. Habitat connectivity, corridors, and fencing**

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. The Colorado Division of Wildlife (CDOW) maintains GIS layers of linear migration patterns for selected big game species. While the SEZ Alternative avoids overlapping these migration corridors, the SEDP alternative identifies lands that overlap significantly with these corridors. Industrial-scale solar development in these linkages could result in their permanent impairment, fragmentation and

loss of functionality for certain species. CDOW migration corridor layers for mule deer and pronghorn indicate that several areas included in the northeastern parts of the BLM SEDP Alternative contain and in fact provide the critical public lands connectivity to enable pronghorn migration through the Poncha Pass area south of Poncha Springs to Mineral Hot Springs. These migration corridors run north to south through areas identified as open for solar development in the SEDP Alternative, skirting private lands relatively fragmented by roads, fences, and other infrastructure. Similarly, the Southern Rockies Wildlands Network Vision defines a pronghorn migration corridor to the south of the towns of Saguache and Moffat. This corridor runs east to west across the San Luis Valley through a mosaic of public and private land. BLM lands in this area that are identified as open for development under the SEDP Alternative likely provide critical foraging opportunities and refugia during migration, and removal of these “stepping stone” habitats could have long-term effects on local pronghorn population viability. The enclosed map, Attachment 1, shows these corridors in relation to the SEDP Alternative.

Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the draft PEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the BLM SEDP alternative, however a different standard for fencing is set forth. Specifically, on line 36, page 128 of Volume 2 it states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project

- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it's important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

## **H. Preservation of sagebrush ecosystems and associated species**

According to a comprehensive sagebrush assessment funded by the Colorado Division of Wildlife (Boyle and Reeder 2005), approximately 41% of sagebrush habitats in Colorado occur on BLM lands; management of this declining sagebrush habitat and the species that require it should be a top priority for BLM in the state. The primary threats to Colorado sagebrush are encroachment by pinyon-juniper and invasive herbaceous plants (e.g. cheatgrass), followed by energy development.

According to the study, sagebrush in the north and southwest areas of Colorado are predicted to be at moderate or high risk, and in this context it is important to minimize disturbance in more intact sagebrush areas elsewhere in the state. These latter areas could be put at higher risk if the BLM's SEDP alternative were adopted. At least 4000 acres of sagebrush habitat could be impacted by solar development, mostly Inter-Mountain Basins Big Sagebrush Shrubland, a high-quality sagebrush cover type characterized by dense concentrations of larger sagebrush species accompanied by an herbaceous understory. Within BLM SEDP lands, this cover type supports a wide range of wildlife species including the special status species Gunnison's prairie dog, Ferruginous Hawk, Colorado Larkspur, and Gunnison sage-grouse.

Sage species establish slowly, and success rates of restoration and maintenance vary widely. As a result, restoration of sagebrush habitats is costly and time-consuming. In particular, understories that have been invaded by invasive herbaceous plants, particularly cheatgrass, often have an altered fire regime that puts restoration at risk. The best approach to preserve sagebrush ecosystems is to avoid disturbance and associated effects entirely rather than try to rehabilitate these areas after disturbance has occurred. High quality sagebrush habitats or those that have good restoration potential should not be developed for solar energy, particularly in areas where ESA listed or candidate species and other Special Status Species or rare species occur. This applies in particular to Gunnison sage-grouse and Gunnison's prairie dog, candidate species that may have critical habitat designations with listing (see Appendix A for details).

## **I. Transmission, roads and other associated infrastructure**

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any

associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructures will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

#### **IV. Lands in SEDP Alternative that are inappropriate for development**

A significant portion of the area identified as open for solar development in the SEDP Alternative is inappropriate for solar development and should be excluded from development. Beyond the need to exclude these areas from development under any alternative, the presence of these types of land in the SEDP Alternative further underscores the need to select the SEZ Alternative and create a process for designating new zones as appropriate. We have included here a number of examples of areas within the SEDP Alternative that are inappropriate for development. Appendix B details these conflict areas.

##### **A. Citizens' Wilderness Proposal Lands and Other Sensitive Lands Proposed for Protection**

Citizens' Wilderness Proposal (CWP) lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

The analysis below summarizes significant potential conflicts between the agencies' Solar Development Alternative and lands proposed for wilderness protection by citizens and organizations throughout Colorado.

The SEDP Alternative includes 148,000 acres of BLM lands in Colorado, representing 0.2% of all surface lands managed by the agency across the state. The BLM's Reasonably Foreseeable Development Scenario anticipates approximately 19,746 acres of solar energy development on its lands over the next 20 years (PEIS ES 2.3.4).

The Colorado Wilderness Network has conducted a comprehensive inventory of wilderness-quality BLM lands throughout the state. Citizens and volunteers have inventoried Colorado's BLM lands for wilderness characteristics, noting opportunities for solitude, the lack of substantial human development, and other characters defined by the 1964 Wilderness Act (P.L. 88-577). These citizen wilderness proposals cover approximately 1.18 million acres of BLM land in Colorado. Many of these areas have been identified by the agency as Areas with Wilderness Characteristics in various Resource Management Plans. Under Interior Secretarial Order 3310 (23 Dec 2010), lands with wilderness characteristics, regardless of whether currently adopted in Resource Management Plans, will be inventoried and included in RMP's. Citizen wilderness proposals will be considered by the BLM during this inventory process, and we request that such areas are excluded from the Solar Development Alternative to minimize

negative impacts to the wilderness environment in Colorado. We have included a CD-ROM with GIS data for the CWP lands in Colorado as Attachment 2.

The Solar Development Alternative has 2,515 acres of overlap with the Rio Grande citizen-proposed wilderness area. This represents roughly 1.7% of the SEDP in Colorado. Although the overlap is not large, the SEDP infringes upon unique attributes of solitude, primitiveness, seclusion, and other increasingly rare attributes of the wilderness environment. Below, we highlight two areas where potential conflict occurs between the SEDP and citizen proposed wilderness areas in Colorado.

The Rio Grande proposed wilderness area contains 10,150 acres of BLM lands. The Solar Development Alternative overlaps 2,537 acres, or roughly 25% of the area. The wilderness boundary is defined by the Punche Valley Road and small tracts of private land on the west side, Kiowa Hill Road on the north side, and the Rio Grande on the east side. Located on the Rio Grande river corridor, this outstanding canyon area has been studied by BLM for inclusion in the National Wild and Scenic Rivers system due to its remarkable raptor population and outstanding recreational opportunities.

### ***Naturalness***

The river cuts a canyon with steep cliffs and lush riparian vegetation. These cliffs and the adjacent food source from the river draws raptors by the hundreds including hawks, falcons, and eagles. The bald eagle, for example, is a common winter resident of the area, and as many as 300 have been sighted during a single winter.

Wildlife biologists have counted more than 40 occupied raptor nests, including at least 11 prairie falcon and four golden eagle aeries. This short stretch of canyon creates a miniature replica of the world famous Birds-of-Prey area along Idaho's Snake River.

The combination of rare plants, raptor nests, and wild river values led BLM to designate the river corridor as an Area of Critical Environmental Concern in 1991.

This designation carries some restrictions on vehicles and other uses but lacks the over-arching permanence of wilderness protection.

### ***Opportunities for Solitude***

Importance is placed on factors affecting solitude that occur inside the wilderness area and not that of outside factors, such as cities and highways. The BLM's Wilderness Inventory and Study Procedures manual H-6310-1.22 section (b)(1) gives direction on the assessment of solitude in inventory units. Below are the five features for evaluating solitude:

- Size and configuration: The proposed Rio Grande wilderness unit meets the 5,000-acre size criteria, is not long and narrow and does not have irregular extensions or cherry-stems.
- Topographic screening: The rugged topography that dominates this area provides isolation and solitude from other visitors.
- Vegetative screening: Lush vegetation in riparian areas provides vegetative screening.

- Ability of user to find a secluded spot: Visitors can easily find seclusion within the step cliffs unit due to its remoteness from significant developments.
- Presence of outside sights and sounds: Congress has clarified (e.g. H.R. 95-540), as has the BLM (e.g. Handbook H- 6310-1) that sights and sounds visible or audible outside of a potential wilderness should not affect – or may even enhance – the need to protect the area. Aside from floatboating and fishing activity within the river itself, intrusions from outside the area are minimal.

### ***Primitive and Unconfined Recreation***

The proposed Rio Grande wilderness unit allows for a variety of primitive and unconfined recreational activities as addressed in section 2(c)(2) of the Wilderness Act of 1964 and in the BLM's *Wilderness Inventory and Study Procedures* manual H-6310-1 section .22(A)1(b)2. The proposed unit offers various levels of hiking, from flat walking in the bajadas, to rock scrambling on the many peaks and ridges. Backpacking, fishing, photography, bird watching, floatboating, and sightseeing for archeological and geological features are all possible primitive and unconfined recreational opportunities within the proposed unit.

### **B. Other important conservation areas**

The BLM SEDP alternative intersects large areas with high biodiversity and/or protected status. Areas of overlap and descriptions of each are below:

- 90,297 acres of lands included in the Nature Conservancy's 2001 Ecoregional Portfolio.
- 13,382 acres (over 10 areas) designated by the Colorado Natural Heritage Program (CNHP) as areas of high biodiversity significance.
- 13,301 acres identified by SWReGAP as riparian land.
- 28,017 acres of CNHP Potential Conservation Areas.
- 12,562 acres of the CNHP San Luis Valley Playa Lake network of conservation areas, which includes several playa lake Potential Conservation Areas.
- 33,357 acres of Southern Rockies Ecosystem Project (SREP)/Center for Native Ecosystems (CNE) Wildland Network Design high use areas and 46,965 acres of low use areas.
- 9,376 acres of SREP/CNE Wildlands Network Design Core Conservation Areas.
- 6,024 acres of the Colorado Natural Areas Program (CNAP) Medano-Zapata Natural Area.
- 561 acres of the CDOW/BLM Hot Creek State Wildlife Area.

### **C. Species-specific biological conflicts**

The BLM SEDP alternative also intersects crucial habitat areas for a number of special status or game species, as detailed below:



- ***Gunnison’s prairie dog:*** 4,956 acres of CDOW active colonies, 626 acres overlap with inactive colonies, 30,467 acres overlap with colonies of unknown status.
- ***Gunnison sage-grouse:*** 4,140 acres of overlap with CDOW production areas, 52 acres of overlap with lek sites as defined by the Natural Diversity Information Source (NDIS) for the Colorado Oil and Gas Conservation Commission,
- ***Bald Eagle:*** 1,604 acres of overlap with CDOW roost sites, as well as 6,343 acres of overlap with CDOW winter concentration areas.
- ***Elk:*** 10,633 acres of SREP/CNE habitat linkages, 636 acres of CDOW migration corridors, 5,483 acres of CDOW production areas, 72,117 acres of CDOW severe winter range, 12,625 acres of CDOW winter concentration area, and 2530 acres of resident population area.
- ***Mule Deer:*** 1,368 acres of SREP/CNE habitat linkages, 416 acres of CDOW migration corridors, 36,274 acres of CDOW severe winter range, 4596 acres of CDOW critical winter range, 3,915 acres of CDOW winter concentration area, and 13,386 acres of CDOW resident population area.
- ***Pronghorn:*** 246 acres of CDOW migration corridors, 24,733 acres of CDOW severe winter range, 26,342 acres of winter concentration area, 5,471 acres of CDOW concentration area, and 1,703 acres of CDOW resident population area.
- ***Bighorn Sheep:*** 441 acres of CDOW winter range and 277 acres of severe winter range.
- ***Mountain Plover:*** 2743 acres of CNHP high precision element occurrence overlap.
- ***Black-footed Ferret:*** 354 acres of CNHP high precision element occurrence overlap.
- ***Colorado River Cutthroat Trout:*** 3,123 acres of watershed area, 3,307 acres of buffered stream segments designated by CDOW for the Colorado Oil and Gas Conservation Commission as critical habitat.
- ***Greenback Cutthroat Trout:*** 1,093 acres of watershed area.
- ***Rio Grande Cutthroat Trout:*** 48,407 acres of Rio Grande cutthroat watershed.
- ***Roundtail Chub:*** 118 acres of CNHP high precision element occurrence overlap.
- ***Little Penstemon:*** 336 acres of CNHP high precision element occurrence overlap.
- ***Dwarf Milkweed:*** 94 acres of CNHP high precision element occurrence overlap

## V. Solar Energy Zones in Colorado

The Solar Energy Zones proposed in Colorado are largely appropriate from a wildlife habitat impact perspective. There are sensitive wildlife species considerations in all four SEZs, but the majority of these can be adequately addressed at the SEZ and project level. These considerations are detailed in Appendix C. **Provided the appropriate modifications are made, including possible boundary adjustment in limited cases, surface occupancy limitations in others, offsite mitigation if warranted, and the appropriate stipulations added to permits at subsequent stages, we support the designation of these areas as a Solar Energy Zones.**

### A. DeTilla Gulch SEZ

#### i. Overview

The De Tilla Gulch proposed Solar Energy Zone is a 1,522-acre zone in Saguache County, Colorado, 50 miles north of Alamosa. The proposed zone lies in the northwestern San Luis Valley in south-central Colorado. It is 10-30 miles northwest of the Baca National Wildlife Refuge and Great Sand Dunes National Park. The SEZ is accessible by U.S. 285 and the SLRG Railroad. Three transmission lines intersect the site (230 kv, 115-kV, and 69 kV), which should be able to provide transmission access for development in the zone.<sup>3</sup> There are currently no solar ROW applications within the zone.

The De Tilla Gulch proposed SEZ covers flat, undeveloped land in the San Luis Basin that is currently used for grazing. There is no standing surface water (though there are dry streambeds); however, several aquifers harbor large groundwater reserves. Located within the San Luis Shrublands and Hills Level IV ecoregion, the dominant species within the SEZ are winterfat, Greene's rabbitbrush, and rubber rabbitbrush, with bottlebrush squirreltail, green muhly, blue grama, big sagebrush, chenopodium, needle-and-thread, prairie sagewort, prickly pear, broom snakeweed, and globemallow co-dominant in some areas.

This SEZ has the highest level of natural resource conflicts of any in Colorado. Although the configuration of wildlife habitat and other constraints on development makes this area more problematic, with careful design and meaningful mitigation to offset impacts to Gunnison's prairie dog, a project could be placed within this SEZ to generate clean solar power. It is important to note that this is the only SEZ in Colorado where BLM has determined sufficient water is available to use currently developed wet-cooling technology; this provides the potential to develop projects with relatively smaller footprints that generate the same amount of power as larger dry-cooled projects. The additional siting flexibility this could provide may allow the developers to avoid the potential resource conflicts mentioned below. There is one pending solar ROW application that is almost entirely within the SEZ, overlapping 808 acres.

**While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.**

## ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Gunnison's Prairie Dog Colonies Surround the SEZ on Three Sides**

Populations of Gunnison's prairie dog within the San Luis Valley have been determined to be warranted for listing but precluded by pending actions for species with higher listing priority. The species currently has candidate status and a fairly high Listing Priority Number of 3 (the highest possible ranking for this species is 2<sup>4</sup>). The potential for listing will increase if the

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<sup>3</sup> Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

<sup>4</sup> <http://www.fws.gov/mountain-prairie/pressrel/08-09.htm>

species continues to decline. Accordingly, active colonies in their most recent CDOW dataset (2007) should be completely avoided. In addition, clearance surveys should be performed in and around colonies classified by CDOW as inactive or unknown, and these areas should be left undeveloped if possible. Preserving habitat linkages between occupied areas is also important; the fencing and siting Best Management Practices BLM has committed to in the solar PEIS emphasize preventing population level habitat connectivity issues for large game species, but these BMPs must extend to Gunnison's prairie dog as well. Assessments of Gunnison's prairie dog movements between colonies and avoidance of migration corridors for this species are critical prior to development. Although CDOW does not typically recommend "no surface occupancy" (NSO) buffers associated with Gunnison's prairie dog colonies, this has been recommended in the past by groups contributing to these comments.

Areas to be developed should be assessed to determine their importance for viability of local prairie dog populations. Development of important habitat only makes sense if extremely meaningful mitigation could be performed as a prerequisite. In addition to the complex immediately east of DeTilla Gulch SEZ, there is also a large complex of active and inactive colonies west of Los Mogotes East SEZ that could be a good priority area for mitigation. Any offsite mitigation should be based on a sound evaluation of population status and the implicit assumption that this is only an option when the net effect to the species is an improvement of population viability. Even if mitigation is performed, active colonies on and adjacent to DeTilla Gulch SEZ must be protected from development or surface disturbance.

According to the most recent CDOW data, there is an active Gunnison's prairie dog colony of 207 acres on the northern edge of the SEZ, and another active 161 acre colony 0.3 miles to the west. A 1518 acre inactive colony surrounds the western active colony, and a 12,797 acre inactive colony or colony complex is immediately to the east. The entire SEZ is historic habitat for Gunnison's prairie dog. The juxtaposition of active and inactive colonies, as well as the species' tendency to re-colonize previously occupied habitat, make it likely that if this area was left undeveloped the species would eventually occupy habitat within the SEZ.

### **iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that may not be appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below and shown on the enclosed map, Attachment 3.

- The active prairie dog colony that overlaps the northern edge of the SEZ should be removed.
- As mentioned below, if surveys performed within the intersection area of the SEZ and Mineral Hot Springs PCA indicate that there is significant activity by special status small mammals within the SEZ, boundary adjustments should be considered to eliminate the PCA area.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of High Conservation and Management Concern**

### **Gunnison Sage-Grouse**

The entire DeTilla Gulch SEZ is historical habitat for the Gunnison sage-grouse. Gunnison sage-grouse is a Candidate for listing under the Endangered Species Act. The conservation context of this species and high likelihood of listing is detailed in Appendix A. It would be unprecedented for USWFS to declare critical habitat for this species so far from currently occupied habitat, but it cannot be totally ruled out under an ambitious recovery program.

### **Big Game Winter Habitat Use**

The DeTilla Gulch SEZ contains several hundred acres of severe winter range for elk and winter concentration habitat for pronghorn. As with the Antonito Southeast site, disturbance during the winter season should be avoided or minimized in these areas.

- **Sensitive habitats**

### **Mineral Hot Springs Potential Conservation Area**

The portion of this SEZ containing the Gunnison's prairie dog colonies has also been identified by the Colorado Natural Heritage Program as a Potential Conservation Area (PCA) for its high biodiversity value. The PCA, known as the Mineral Hot Springs PCA, "encompasses most of the expanse of shortgrass prairie in Saguache County" (CNHP PCA report, at 2), and the SEZ overlaps with 1027 acres of this. The PCA was identified primarily for the diversity of small mammals found there, including the Gunnison's prairie dog, the globally vulnerable thirteen-lined ground squirrel, and the globally vulnerable silky pocketmouse. The intersection with the SEZ occurs at the south end of the PCA, however, an area mentioned in the official summary<sup>5</sup> as being dominated by greasewood and rabbitbrush. Given that all of the above species feed predominantly on grasses, forbs, sedges, and occasional insects, this habitat at the southern edge of the PCA is likely less suitable than areas further north. Small mammal and vegetation surveys should be performed prior to siting; if these surveys indicate that habitat is suitable and occupied, boundary adjustments may be needed to exclude parts of this PCA from the SEZ.

- **Riparian Areas**

The SEZ contains riparian habitat within a watershed that sustains a population of Rio Grande cutthroat trout, a BLM Sensitive Species. Avoidance of riparian habitat As with the Antonito Southeast site, direct impacts to riparian zones and aquatic habitat is likely easy to avoid, but only if the appropriate measures are taken in subsequent stages of the siting, permitting, and development process.

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<sup>5</sup> [http://www.cnhp.colostate.edu/download/documents/pca/L4\\_PCA-Mineral%20Hot%20Springs\\_7-23-2010.pdf](http://www.cnhp.colostate.edu/download/documents/pca/L4_PCA-Mineral%20Hot%20Springs_7-23-2010.pdf)

- **Cultural Resources**

The SEZ is located 0.25 miles from the Old Spanish NHT, and the BLM should include analysis of potential impacts associated with development in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- v. **Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.
- As mentioned above, creative and well-considered offsite mitigation for impacts to Gunnison's prairie dog could be used to enable development in the SEZ and make a positive contribution to this species' status.

- vi. **Corrections**

The PEIS states that there is a 115 kV line that is accessible to the site, but fails to mention the 230 kV and 69 kV lines that also intersect the SEZ.

- B. Antonito Southeast SEZ**

- i. **Overview**

Antonito Southeast SEZ is located in southeastern Conejos County, on the border between Colorado and New Mexico, immediately adjacent to U.S. 285, which provides outstanding site access. The SEZ is 105 miles southwest of Pueblo, 7.4 miles southeast of Los Mogotes SEZ, and 1.5 miles southeast of the town of Antonito, which provides the closest railroad and access. Los Mogotes has a total area of 9,279 acres, and is in the Rio Grande Basin of the San Luis Valley. Groundwater use in Conejos County is primarily used for aquaculture, irrigation, and public water supplies. Groundwater is overallocated in the Rio Grande Basin; any groundwater use would require an augmentation certificate from the Colorado Division of Water Resources or purchase of existing groundwater rights. The area is characterized by shrublands and grasslands at low elevations, dominated by winterfat, big sagebrush, rubber rabbitbrush, western wheatgrass, green needlegrass, and needle and thread. There are three perennial streams in the area of indirect effects (Conejos River, the Rio de los Pinos, and the Rio San Antonio). (several special status species considerations associated with this SEZ, as well as habitat for game species where seasonal disturbance may need to be eliminated and migration movements preserved.

The closest transmission (69 kV) is located 1.4 miles to the north of the SEZ. There are no existing solar applications nearby, however there are projects on private land in the north end of the valley and interest in projects on public land.

**Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

**ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- This area is an SREP/CNE Wildland Network Design high use area, and could provide habitat for a range of species besides those mentioned below. These species are not as sensitive to ground disturbing activities as some game species mentioned below, but nonetheless can be impacted by industrial facilities and associated infrastructure. It is likely that issues could be addressed by intelligent project siting and fencing that allows free movement of large game and other mammals.

**iii. Recommended boundary adjustments**

We have insufficient information to recommend any boundary adjustments at this time, but would like to highlight the potential for boundary adjustments, if warranted, based on Gunnison's prairie dog activity in the northwest portion of the SEZ.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of High Conservation and Management Concern**

**Gunnison's Prairie Dog**

General information about the conservation status of this species and the importance of maintaining habitat connectivity is given in the DeTilla Gulch SEZ account above. The same recommendations also apply; avoidance of active colonies, clearance surveys within any area defined by CDOW as having colonies of inactive or unknown status, potential offsite mitigation within areas of high species viability, if warranted, and project siting that avoids blocking migration corridors used by the species to migrate between colonies.

Based on official CDOW data, the SEZ is flanked on its northwest edge by a small active prairie dog colony as well as two larger inactive colonies. Unofficial information from CDOW also indicates that the species may have expanded into the SEZ, and a subsequent site visit by The Wilderness Society staff confirmed that there were burrows within the SEZ. However, there was

no indication of activity in the area; no prairie dogs were sighted and there was no scat visible near burrow openings, which were often blocked by debris. Given the information above, it is not possible to confirm that the species is currently present within the SEZ, and this warrants further investigation. It should be emphasized, though, that for this declining, habitat limited species, currently unoccupied habitat is especially important. Gunnison's prairie dog are known to reoccupy abandoned sites following local population declines from plague or other factors, so areas that are suitable but currently unoccupied are important, particularly if there is evidence of use by the species in the past.

### **Gunnison Sage-Grouse**

The entire Antonito Southeast SEZ is historical habitat for the Gunnison sage-grouse. Gunnison sage-grouse is a Candidate for listing under the Endangered Species Act. The conservation context of this species and high likelihood of listing is detailed in Appendix A. It would be unprecedented for USWFS to declare critical habitat for this species so far from currently occupied habitat, but it cannot be totally ruled out under an ambitious recovery program.

### **Elk**

Antonito Southeast SEZ has 55% overlap (5430 acres) with CDOW elk severe winter range, which extends to the west in a north-south band 13 miles wide. While the SEZ does not supply irreplaceable winter habitat for the species as a whole, it is important for local populations that wintering herds be protected from extensive disturbance during this precarious part of their life cycle. BLM should consider adding provisions to limit activity outside of project fencing during severe winters when elk are using these areas.

### **Pronghorn**

Similarly, the entire SEZ is within pronghorn winter range, but this is fairly well distributed throughout the area, and there are no severe winter range or winter concentration areas within the SEZ. As with elk, it's not likely that the SEZ provides essential habitat, but it does provide some quality habitat as well as likely movement corridors through the SEZ that should be safeguarded in areas outside project footprints.

- **Cultural Resources**

The SEZ is located immediately west of the Old Spanish NHT, and the BLM should include analysis of potential impacts associated with development in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- As indicated above, preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.

#### vi. Corrections

The PEIS states that the nearest transmission line is 4 miles north of the SEZ, but current transmission data indicate that there is a 69 kV transmission line and associated substation approximately 1.5 miles north of the SEZ.

### C. Fourmile East SEZ

#### i. Overview

The Fourmile East proposed Solar Energy Zone is a 3,882-acre zone in south-central Colorado's San Luis Valley. The SEZ is 13 miles east of Alamosa, and 9 miles south of Great Sand Dunes National Park. The area is adjacent to U.S. 160 and CO 150, and is accessible by the SLRG Railroad. There is currently a 69-kV transmission line 2.25 miles south of the SEZ. There are currently no solar ROW applications within Fourmile East.

The part of the San Luis Basin where the Fourmile East proposed SEZ is located is flat, undeveloped land that is used for grazing. There is no standing surface water, but several aquifers harbor large groundwater reserves. Fourmile East SEZ is in the Salt Flats Level IV ecoregion, and supports sparse shrublands dominated by Greene's rabbitbrush and bottlebrush squirreltail, as well as shrub-dominated communities with sparse grasses and areas where prickly pear is abundant.

The Fourmile East SEZ, like the Antonito Southeast and DeTilla Gulch sites, contains a Gunnison's prairie dog colony of unknown status. In addition, the SEZ contains winter range for pronghorn as well as overall range for elk, mule deer, black bear, and mountain lion.

Appropriate measures should be taken to avoid unnecessary and significant impacts to these valuable wildlife species. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

#### ii. Overarching issues for this SEZ

None noted.

#### iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas may not be appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below and shown on the enclosed map, Attachment 4.



- The eastern edge of the Fourmile East SEZ in Colorado comes within one mile of the Old Spanish NHT. Additionally, the SEZ overlays Los Caminos Antiguos Scenic Byway. The PEIS acknowledges that at least 12 miles of the NHT would be adversely affected by solar development. Furthermore, the PEIS recommends that solar development on the east side of the byway (in this area, State Highway [SH] 150) not be approved, in order to reduce adverse impacts to the byway’s eastern viewshed and to the NHT. PEIS at 10.3-28. Accordingly, we recommend that the eastern boundary of the SEZ be moved 0.25 miles west of SH 150.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Wildlife Habitat**

**Gunnison’s Prairie Dog**

General information about the conservation status of this species and the importance of maintaining habitat connectivity is given in the DeTilla Gulch SEZ account above. The same recommendations also apply; avoidance of active colonies, clearance surveys within any area defined by CDOW as having colonies of inactive or unknown status, potential offsite mitigation within areas of high species viability, if warranted, and project siting that avoids blocking migration corridors used by the species to migrate between colonies.

According to official CDOW data, the southern tip of the SEZ intersects a large colony or colony complex of unknown status. This may be less of a concern for this SEZ compared to others since the SEZ is not surrounded by active colonies, but surveys for the species and avoidance of movement corridors between colonies is needed.

**v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- As indicated above, preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.

**vi. Corrections**

None noted.

**D. Los Mogotes East SEZ**

### **i. Overview**

The Los Mogotes East proposed Solar Energy Zone is a 5,918-acre zone in the southwestern San Luis Valley, 12 miles north of New Mexico. The SEZ is 22 miles southwest of Alamosa, and about 10 miles north of the Antonito Southeast proposed SEZ. The SEZ is accessible by U.S. 285 and the SLRG Railroad, but an additional road corridor would be required for development in the zone. An existing 69-kV transmission line runs 2.6 miles east of the SEZ, which could provide transmission access for solar development within the zone. There is one pending solar ROW application overlapping most of the SEZ (total overlap is 5,423 acres).

The Los Mogotes proposed SEZ is located on flat, undeveloped land that is used for grazing. There are no surface water features except a shallow drainage system that discharges into an agricultural irrigation ditch. Several aquifers underlying the SEZ harbor large groundwater reserves. The ground cover is mostly scrubland vegetation. **There are some potential species conflicts with the Los Mogotes proposed SEZ, and we support this zone presuming those conflicts can be remedied.**

### **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Gunnison's Prairie Dog Colonies Surround the SEZ on All Sides**

According to the most recent CDOW data, there is a 59,300 acre Gunnison's prairie dog colony complex of unknown status that intersects the northwest corner of the SEZ. This colony complex contains 8 active colonies inside it, and is flanked by additional colonies (active and unknown status) to the east that also surround the SEZ. Given this configuration, it seems likely that migrating individuals could move through the SEZ, and that areas within the SEZ could even be colonized in the future (the entire SEZ is historic habitat for the species). A candidate species that has been considered not warranted for listing for the past several years, this species has a fairly high Listing Priority Number of 3; the potential for listing will increase if the species continues to decline. Development of active colony areas would only make sense if extremely meaningful mitigation could be performed as a prerequisite. This could occur in areas immediately adjacent to this SEZ or in the complex immediately east of DeTilla Gulch SEZ. Any offsite mitigation should be based on a sound evaluation of population status and the implicit assumption that this is only an option when the net effect to the species is an improvement of population viability. Even if mitigation is performed, active colonies on and adjacent to Los Mogotes East SEZ must be protected from development or surface disturbance, as should any movement corridors associated with these colonies.

### **iii. Recommended boundary adjustments**

Given the size and configuration of adjacent prairie dog colonies discussed above, clearance surveys for the species must be performed in this SEZ. However, given that the colony that

intersects the northwest corner of the SEZ is inactive, there is no basis for any boundary adjustments at this time.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Other Wildlife Habitat**

**Rio Grande Cutthroat Trout**

The SEZ is within a Rio Grande cutthroat trout watershed; any watershed or hydrological impacts from development should be avoided.

**Large Game Wintering Areas**

Los Mogotes East SEZ is also within winter range, severe winter range, and winter concentration areas for pronghorn, severe winter range and winter range for elk, and winter range for mule deer. The area is also a SREP/CNE Wildland Network low use area. Previously stated concerns about blocking mammal movements due to project configuration and fencing also apply here.

- **Cultural Resources**

The SEZ is located immediately west of the Old Spanish NHT, and the BLM should include analysis of potential impacts associated with development in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

**v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- As indicated above, preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.

**vi. Corrections**

Although the PEIS states that an existing 69-kV transmission line on the east of the SEZ ends just inside the SEZ boundary, this line is actually 2.6 miles to the east at its closest approach according to current transmission line data.

Thank you for your thorough consideration of these comments.

Sincerely,

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#### **Attachments and appendices**

- Appendix A – Additional Gunnison Sage Grouse Information
- Appendix B – Detailed Analysis of SEDP Alternative Conflicts
- Appendix C – Detailed Analysis of Natural Resources in SEZs
- Attachment 1 – Map of Wildlife Migration Corridors Overlap with SEDP Alternative
- Attachment 2 – GIS Data for Colorado CWP Units
- Attachment 3 – Map of Recommended Boundary Adjustments for DeTilla Gulch SEZ
- Attachment 4 – Map of Recommended Boundary Adjustments for Fourmile East SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11717.

Comment Date: April 18, 2011 17:37:20PM  
Solar Energy Development PEIS  
Comment ID: SolarD11717

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Comment Submitted:

April 18, 2011

Delivered via electronic submission to the BLM Solar PEIS website (<http://solareis.anl.gov>) and U.S. mail (with attachments).

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Center for Biological Diversity, Defenders of Wildlife, Sierra Club – Toiyabe Chapter, National Parks Conservation Association, Natural Resources Defense Council, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

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## I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste; moderate demand through energy efficiency, conservation, and demand-side management practices; and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and

minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that the long-term, environmentally responsible success of the Bureau of Land Management's (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The DPEIS offers just such an opportunity, and we look forward to working with the BLM to ensure that the agency: 1) identified and designates suitable Solar Energy Zones (SEZ); 2) guides solar projects to those zones; 3) develops a process for identifying and designating new zones, as appropriate; and 4) develops additional policy needed to support an environmentally responsible solar energy development program on our public lands.

These comments are focused on the elements of the DPEIS that address Nevada.

## **II. Alternatives**

### **A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative**

The SEZ Alternative would designate seven Solar Energy Zones in Nevada. The DPEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine the SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs in Nevada and identify and complete additional analysis that will enable efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM's solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS. Though the acreage of the SEZs should change through refinements in

the PEIS process, a modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ Alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

### **B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative**

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM's oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to energy development – this is over 100 times more land than what the agency's own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places in Nevada that are particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM's solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources –fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

### **C. As part of a modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate**

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS and, even with expected refinements, can provide a solid foundation on which to build the BLM's solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM's solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some

states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

### **III. Overarching Issues for Solar Development on Public Lands in Nevada**

BLM should address the issues below when considering siting or permitting any solar development on public lands in Nevada, whether inside or outside of a SEZ.

#### **A. Water resources**

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. *See* EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that —water use and water availability are key considerations” when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,<sup>1</sup> to injury to other water rights holders, to injury to federal trust resources, or to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. *See* DPEIS A-54, A-57. That said, we recommend BLM include a similar prohibition on project water use that affects federal trust resources such

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<sup>1</sup> We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. —The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry-cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

#### **i. Cumulative impacts to water resources**

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and

mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

For example, there is no analysis within each SEZ of the cumulative impacts of water use on fish and wildlife and their habitats. Despite having the data necessary to estimate the cumulative impacts of water use on groundwater-dependent species, BLM claims that the “[i]mpacts of groundwater depletion from solar energy development in the Amargosa Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ.” DPEIS 11.1-194. BLM has estimated low and high water demands for construction and operation within the SEZ (see DPEIS Tables 11.1.9.2-1 and 11.1.9.2-2) and is capable of estimating water demands of nearby projects (see Table 11.1.22.2-2) – BLM simply needs to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but has failed to do so in the DPEIS. Compare BLM, Amargosa Farm Road Solar Energy Project Final EIS (2010) at Chapter 4.4, Appendix B (utilizing Death Valley Regional Flow System Model to evaluate effects of pumping 400 acre-feet per year (afy) on groundwater dependent species at Devil’s Hole and Ash Meadows). Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.1-194. *See also* DPEIS 11.2-185 (Delamar Valley SEZ); 11.3-178 (Dry Lake SEZ).

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin’s unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

## **B. Water quality**

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or

groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

### **C. Impacts to groundwater-dependent species and their habitats**

The impacts of groundwater withdrawals on spring, riparian and aquatic species located both near and far, within the Death Valley, White River, Virgin River Valley and Meadow Valley Wash Regional Flow Systems are of grave concern, particularly considering competing demands for the same water. Dominant hydrologic features of the White River and Death Valley flow systems are the large groundwater discharges from numerous carbonate springs scattered throughout the area; e.g., springs in Pahrnagat Valley and the Muddy Rivers Springs Area, and the Ash Meadows area, respectively. Groundwater withdrawal may lower aquifer levels and spring discharge, adversely affecting the nearby and down-gradient Pahrnagat, Moapa Valley and Ash Meadows National Wildlife Refuges, and springs and wetlands connected to the White River Carbonate Flow system, including the Hiko, Crystal, Ash, Moapa, Warm, Rogers and Blue Springs. The FPEIS should include analysis of potential impacts to these sensitive resources and include measures to avoid or minimize those impacts.

### **D. Soil erosion and associated vegetation impacts**

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to

invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1, Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it does not define the density of soil crusts that would be sufficient to put an area off limits. In many areas soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it is not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states ~~exposed~~ soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that ~~In~~ areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeding should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeding mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.



Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al. (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **E. Soil diseases and toxins**

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

#### Valley fever

*Coccidioides* species is a fungus residing in the top 8 inches of some desert soils that causes a serious and potentially fatal disease known as “valley fever.” This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

*Coccidioides* sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.<sup>2</sup>

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.<sup>3</sup>

### Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Morman 2010).

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<sup>2</sup> <http://www.mayoclinic.com/health/valley-fever/DS00695>.

<sup>3</sup> Ibid.

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **F. Habitat connectivity, wildlife movement corridors, and fencing**

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to

avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it is important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

### **G. Playa wetlands**

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al 2010).

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al. 2008; Liebowitz 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010; Liebowitz, Scot 2003; Comer et al. 2005). Rare and endemic plants such as Parish's phacelia, iodinebush, black greasewood, spiny hopsage, saltgrass, Lemon's alkali grass, and *Amargosa nitrophila* are found on the playa or in the surrounding ecotone with the uplands (Randall et al 2010; Crist 2010).

Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010). Birds using playas for habitat include snowy plover, black-necked stilt, American avocet, Western sandpiper, least sandpiper, long-billed dowitcher, Wilson's phalarope, marbled godwit and cinnamon teal (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).<sup>4</sup>

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO<sub>2</sub>, particularly as the amount of CO<sub>2</sub> in the atmosphere increases. In the case of the *playa* crusts, the net photosynthetic rate of the algae rose by *a factor of two* in going from the ambient CO<sub>2</sub> concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the *dune* crusts, the net photosynthetic rate *tripled* (Brostoff et al. 2002).

Unfortunately, several of the proposed SEZs, such as Delamar, Dry Lake North and Dry Lake (Apex) in Nevada, overlay and would destroy playas and their ecological functions. It is imperative that the BLM adjust the boundaries of SEZs that impact playas to exclude development on the dry lake bed as well as on the surrounding greasewood flats and other associated ecosystems.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

## **H. Desert tortoise relocation**

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave population) from Project Sites: Plan Development Guidance” (U.S. Fish and Wildlife Service, August 2010).<sup>5</sup>

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.<sup>6</sup>
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.<sup>7</sup>

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<sup>4</sup> Clarke, Chris. 2010. The playa isn't lifeless. Available at: [http://faultline.org/index.php/site/item/the\\_playa\\_isnt\\_lifeless](http://faultline.org/index.php/site/item/the_playa_isnt_lifeless) .

<sup>5</sup>[http://www.fws.gov/ventura/speciesinfo/protocols\\_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx](http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx)

<sup>6</sup> <http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

<sup>7</sup> Testimony of Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

- Translocation plans should be finalized before project approvals, and made public for review.

### **I. Transmission, roads and other associated infrastructure**

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

## **IV. Lands in SEDP Alternative that are not appropriate for development**

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

In addition, our comments regarding water resources, soil erosion, playa wetlands, habitat connectivity and other overarching issues should also inform the designation of future SEZs.

### **A. Recommended screening criteria for utility-scale solar development**

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, enclosed as Attachment 1. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

### **B. Specific examples of lands in the SEDP Alternative in Nevada that are not appropriate for development**

Below is a table listing the results of analyses on impacts to wildlife and their habitats for the SEDP Alternative. Values are either total acres where solar development will be permitted within

a specific wildlife habitat or movement corridor or are counts of records found within the developable lands. Of particular note is the sage-grouse core breeding habitat completed by the BLM in December, 2010. This example underscores a disconnect between the potential listing of the sage-grouse and the associated impacts to future activities on public lands, including the development of renewable energy and transmission infrastructure.

Another important type of conflict with the SEDP Alternative lands is with Citizen Inventoried Lands with Wilderness Characteristics. These are lands have been inventoried by various citizens groups, conservationists, and agencies and found to have “wilderness characteristics,” including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical and solar energy development inappropriate for these lands. We have also included GIS data of these lands, enclosed as Attachment 2.

<b>Wildlife Criteria</b>	<b>Amount Impacted</b>
Bighorn Movement Corridors – acres	128,786
Bighorn Occupied habitat – acres	108,928
Citizen Inventoried Lands with Wilderness Characteristics – acres	143,936
Elk Movement Corridors – acres	92,202
Heritage Program individuals globally ranked imperiled or critically imperiled	160
Heritage Program individuals state ranked imperiled or critically imperiled	236
Heritage Program Species globally ranked imperiled or critically imperiled	30
Heritage Program Species state ranked imperiled or critically imperiled	58
Mule Deer Corridor – acres	777,183
Mule Deer Crucial Winter Habitat – acres	184,958

<b>Wildlife Criteria</b>	<b>Amount Impacted</b>
NDOW records: –species of conservation concern”	28,016
NDOW records: endangered species	16
NDOW records: threatened species	126
Number of citizen inventoried lands with wilderness characteristics	28
Number with >1000 Acres	22
Pronghorn Corridor – acres	370,733
Pronghorn Crucial Winter Habitat – acres	19,086
Raptor Nests	282
Sage-grouse Core Breeding Habitat (100%) – acres	1,099,207
Sage-grouse Core Breeding Habitat (50%) –acres	101,552

- **Cultural resources**

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- *Area West of Delamar Valley SEZ:* The BLM should exclude areas to the west and south of the Delamar Valley SEZ from solar energy development because of their significant concentrations of petroglyphs.
- *“Double Negative” Art Installation:* Located south of Interstate 15 near the town of Overton, the area surrounding this 1969 geological art installation should be excluded from solar energy development to protect it from physical and visual impacts.

## **V. Solar Energy Zones**



We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, recommended mitigation measures, and corrections. We would welcome the opportunity to meet with the BLM in person to discuss our recommendations in detail. We would be happy to bring maps detailing resource issues and provide additional information as is helpful.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, and there are in fact significant concerns about a few of the SEZs, we strongly caution against interpreting the detailed nature of these comments to imply opposition to the SEZs across the board. Rather, we underscore the importance of focusing on the SEZs rather than the additional 9,084,050 acres included in the SEDP Alternative in Nevada. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternative has not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on many of the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

## **A. Amargosa SEZ**

### **i. Overview**

The Amargosa Valley SEZ lies towards the northern end of the Amargosa Valley and is effectively located along the ephemeral Amargosa River between the Bare and Funeral Mountain Ranges. Amargosa Valley and Highway 95 are portals to Death Valley National Park. The SEZ is in the Amargosa Desert Groundwater Basin which is a part of the regional-scale Death Valley Regional Groundwater Flow System. Groundwater from the Amargosa Desert Basin terminates at the multiple springs in and around the Ash Meadows National Wildlife Refuge and Devil's Hole component of the Death Valley National Park. The area is desert tortoise habitat, nearing the current upper elevation limits for that species.

There are four other solar projects in the Valley or immediate area that have been approved or that are in various stages of NEPA analysis:

- Amargosa Farm Road – 4350 acres, parabolic trough
- Lathrop Wells – 1920 acres, photovoltaic and trough
- Amargosa North – 7500 acres, photovoltaic

- Solar Demonstration Project on the Nevada National Security Site – 300 acres, to be determined.

In addition, there are approximately 110,000 acres of other renewable energy projects with pending rights-of-way applications within 50 miles of the proposed SEZ. A 138 kV transmission line cuts through the northeast corner of the SEZ.<sup>8</sup>

**While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.**

## **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Impedance to desert tortoise adaptations to a warming and drying climate.**

As noted in the DPEIS, prediction on future climate for this area consistently point to a warmer and drier regime. As Mojave Desert conditions migrate northward and upslope, it is quite likely that the desert tortoise will follow them, perhaps being at risk of extinction if they do not.

The location of the SEZ as currently located at a “pinchpoint” that effectively blocks this northward migration of tortoises in the Eastern Mojave Recovery Unit. A cleared and industrialized site between the Funeral and Bare Mountains, exacerbated by the Highway 95 and utility corridors would leave no opportunity for tortoises from south of the SEZ to get past and into the evolving desert beyond.

The Desert tortoise populations of the Amargosa Valley and Pahrump Valley have been found to be genetically isolated and may have evolutionarily important genetic uniqueness. It is suggested that parts of this population could qualify as an Evolutionarily Significant Units (ESU). These would require special management. Delineation of Desert Wildlife Management Areas was based on both ecological and genetic considerations and their locations and boundaries have not been finalized (Britten et al. 1997). The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Cumulative impacts**

The DPEIS fails to adequately analyze cumulative impacts because it merely notes the possible types of on-going and reasonably foreseeable projects and their sizes, but not their impacts on actual resources. Consider two examples:

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<sup>8</sup> Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

Desert tortoise and other special status species – The SEZ lies in the proposed Eastern Mojave Recovery Area for desert tortoise and contains suitable current desert tortoise habitat as modeled in the proposed recovery plan (USFWS 2008). As previously outlined, there are 14,070 acres encompassed in projects that have already been approved or that are in active NEPA analysis in the cumulative impacts analysis area for the Amargosa Valley SEZ. The SEZ estimates that it would add another 25,300 acres of development over a 20 year analysis horizon. Many if not all of these acres are within suitable desert tortoise habitat. Yet, nowhere in the DPEIS does the BLM analyze or disclose the potential impacts and effects of over 39,000 acres of habitat being destroyed with regards to the desert tortoise and other special status species associated with the habitat types in the affected area.

Groundwater withdrawals and special status species and their habitats — Despite having the data necessary to estimate the cumulative impacts of water use on groundwater-dependent species, BLM claims that “[i]mpacts of groundwater depletion from solar energy development in the Amargosa Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ.” DPEIS 11.1-194. BLM has estimated low and high water demands for construction and operation within the SEZ (*see* DPEIS Tables 11.1.9.2-1 and 11.1.9.2-2) and is capable of estimating water demands of nearby projects (*see* Table 11.1.22.2-2) – BLM simply needed to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but failed to do so. *Compare* BLM, Amargosa Farm Road Solar Energy Project Final EIS (2010) at Chapter 4.4, Appendix B (utilizing Death Valley Regional Flow System Model to evaluate effects of pumping 400 afy on groundwater dependent species at Devil’s Hole and Ash Meadows). Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.1-194.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

### **iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

The Amargosa River and its 100-year flood channel should be left undisturbed and buffered for wildlife and plant habitat, flood control and the preservation of hydrologic function. The same is true of the secondary wash that is tributary to the Amargosa River. In addition, these two exclusions would provide valuable wildlife movement corridors and a possible route for desert tortoise adaptation to climate change. An area to the north of the proposed SEZ and between the Amargosa River and Highway 95 could be considered as an addition to the SEZ.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Public Trust Resources.**

The DPEIS has not discussed the potential impacts of groundwater withdrawals on public lands and resources, particularly Ash Meadows National Wildlife Refuge, Devil's Hole, Amargosa Mesquite Trees ACEC and other protected and sensitive areas. Groundwater withdrawals may lower aquifer levels and spring discharge, adversely affecting the nearby wildlife refuges and their aquatic and riparian habitats. These refuges and surrounding lands and waters are habitat for several listed species and hundreds of migratory birds. The use of water as proposed under the alternative may interfere with water rights held by the Fish and Wildlife Service and the BLM specifically to protect these waters and water-related resources. BLM must evaluate the potential impacts to these public lands, their missions and their fish and wildlife.

- **Groundwater availability to support development.**

As correctly noted in the DPEIS, the Amargosa Desert Groundwater Basin is over appropriated, and water management is guided by a U.S. Supreme Court decision and several State Engineer Orders to protect the rare and imperiled species found at Ash Meadows and Devil's Hole. DPEIS p. 11.1-60. Under these rulings, the only groundwater option available to potential developers is to secure existing water rights and change the type of use and point of diversion. It is noteworthy that the DPEIS discloses the fact that the water level at Devil's Hole has been declining in the period of 1988-2004, presumably due to regional-scale groundwater withdrawals. DPEIS 11.1-332.

Given that the Amargosa Basin is over-appropriated (by 18,335 afy) and overdrafted (by 9,380 afy), it seems likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need 2,000 to 7,660 afy at 80% buildout of the SEZ, and non-cooled technologies requiring 144 to 1,438 afy at 80% buildout of the SEZ.

The BLM similarly glosses over the large amount of water needed during construction – up to 70% of the “available” perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project.

The BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above. Groundwater withdrawal impacts should be measured, such as requiring piezometers in test wells, and measuring phreatophyte die-off for the Amargosa Valley.

- **Amargosa River hydrology**

The Amargosa River runs through the central portion of this SEZ. The river originates in the mountains surrounding Beatty, NV, and after leaving the Oasis Valley the river flows only underground, except during floods, much of the way to its terminus at Bad Water in Death Valley National Park. A 17 mile stretch in California is again surface flow and has been designated as a Wild and Scenic River, and portions of its course have also been designated as BLM Areas of Critical Environmental Concern. This river is a major ecological and hydrological feature. Where flows are perennial, the river provides lush riparian and wetland habitats that support endemic and sensitive species such as the endangered Amargosa vole and the sensitive Amargosa toad. In the dry wash portions, the river provides habitat for endemic plants and animals, including the desert tortoise which frequently burrows into the wash's banks and caliche caves.

There is another major intermittent surface flow feature that runs inside the proposed SEZ's western and southern boundaries. This wash drains into the Amargosa River near the eastern SEZ boundary. Disruption of the above- and below-ground flows of this river system have the potential to negatively impact off-site features of concern.

- **Desert tortoise**

Project-specific surveys must be conducted, with full avoidance of tortoise habitat and travel corridors, fencing to protect tortoises from mortality, as well as on-site and off-site mitigation as needed. Translocation of individuals has proven to have limited success, and any translocation should follow the recommendations found in Section III, above.

- **Endemic dune beetles**

Special surveys should be undertaken by qualified entomologists for sand insect faunas across the SEZ, as some dune beetles are found on very small islands of sand and sand flats to the north and east of Big Dune, so potentially could be on the SEZ (Derham Giuliani, personal comm. 2010).

- **Sand transport corridor**

The Amargosa Valley SEZ has the potential to block winds that feed Big Dune sand from the Amargosa River source areas, as well as from other sources. A study should be included in the FPEIS to determine the nature and extent of sand transport corridors in Amargosa Valley, and what mitigation measures will be needed if a large fenced area will be places in such corridors.

Tall wind fences may be necessary to shield solar projects from blowing wind and sand. These should be modeled in visualizations and their visual impacts to recreationists in Death Valley National Park analyzed.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Through site specific design, there may be an opportunity to allocate a desert tortoise/wildlife movement corridor through the SEZ, at least partially eliminating the genetic and adaptation bottleneck that would exist if the entire area was made inhospitable or inaccessible to wildlife.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

#### **vi. Corrections**

The PDEIS fails to list Lathrop Wells and the Solar Demonstration Project on the Nevada National Security Site as “reasonably foreseeable future action” in Table 11.1.22.2-1, and treat them as such in its analysis.

### **B. Delamar Valley SEZ**

#### **i. Overview**

The Delamar Valley SEZ is located southeastern Nevada in Lincoln County about 21 miles south of the proposed Dry Lake Valley North SEZ. The SEZ has a total area of 16,552 acres. Delamar Valley SEZ is isolated and undeveloped. The SEZ is located in Delamar Valley, a north trending closed basin within the Basin and Range physiographic province immediately south of Dry Lake Valley and lying between the South Pahroc Range to the west and the Delamar Mountains to the east and southeast. Land within the SEZ is undeveloped scrubland characteristic of a high-elevation, semiarid basin. The southern portion of this SEZ is a dry lakebed; it is unclear if the likelihood of blowing sands and seasonal flooding associated with the dry lakebed are compatible with some solar technologies.

The site is within the Delamar Valley groundwater basin which is geologically connected to Dry Lake Valley and other basins in the White River Carbonate Flow system. Flows from this system feed Pahrnagat National Wildlife Refuge and numerous springs along its course including Hiko, Crystal, Ash, Moapa Warm, Rogers and Blue Springs, all habitat for listed, candidate or sensitive desert fish, springsnails and other aquatic/riparian life.

The largest nearby town is Alamo, Nevada, about 11 miles to the west. The town of Caliente is 22 miles to the northeast and Panaca is located about 11 miles further north. Las Vegas lies about 90 miles to the south. The nearest major road access to the SEZ is via U.S. 93, which runs north-south, approximately 8 to 14 miles to the west of the Delamar Valley SEZ and also east-west, approximately 8 miles to the north of the SEZ. State Route 317 passes from the north to the south approximately 16 to 21 miles east of the SEZ. The nearest railroad stop is in Caliente and the Lincoln County Airport is located in Panaca. Future transmission needs can potentially be met with the Southwest Intertie/On Line/One Nevada transmission line that was approved in 2010 as a fast-track project. The SEZ has a 69 kV AC transmission line running north-south through it.

As of March 2010, there were two ROW applications for solar projects and one application for a wind project that would be located within 50 miles of the SEZ.

**Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

**ii. Overarching issues for this SEZ**

None noted.

**iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend that the BLM remove the southern end of the SEZ (from where Jumbo Wash enters the playa and south of there). As described in detail in Section III. G., the sensitive resources in this playa lake make it inappropriate for utility-scale solar development. The remaining more northern section of the SEZ can be retained and possibly expanded into the area immediately to the northeast, where fewer natural resource conflicts exist.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Public trust resources.**

The DPEIS has not discussed the potential impacts on public lands and resources, particularly Pahranaagat and Moapa Valley National Wildlife Refuges. Groundwater withdrawals may lower aquifer levels and spring discharge, adversely affecting the nearby wildlife refuges and their aquatic and riparian habitats. These refuges and surrounding lands and waters are habitat for several listed species and hundreds of migratory birds. The use of water as proposed under the alternative may interfere with water rights held by the Fish and Wildlife Service specifically to protect these waters and water-related resources. BLM must evaluate the potential impacts to these public lands, their missions and their fish and wildlife.

- **Species of concern.**

There are 49 special status species that could potentially be impacted by development within the SEZ, although very little habitat exists within the SEZ itself. Much of the SEZ is on a dry lakebed. It should be noted that bighorn migration corridors to the south between the Desert Refuge and the Delamar and Meadow Valley Ranges may be negatively affected by future transmission development associated with this site. We would like to work with the Nevada

Division Of Wildlife, USFWS, the BLM and other appropriate agencies to ensure landscape permeability for bighorn sheep as transmission development proceeds.

Because of the possible groundwater impacts within the White River Carbonate Flow System, several spring, riparian and aquatic species are of concern. The Hiko White River springfish, White River springfish, Pahrnagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher are all potentially impacted and currently protected under the ESA.

In addition, the Moapa pebblesnail, grated tryonia, Pahrnagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail are all species that have been petitioned for listing and awaiting a determination by the Fish and Wildlife Service.

The Pahrnagat Valley montane vole, Pahrnagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker are additional species of concern potentially impacted by groundwater withdrawals. The BLM should include in the FPEIS analysis of these potential impacts and measures to minimize or mitigate any such impacts.

- **Groundwater availability to support development.**

The Delamar groundwater basin is fully appropriated. Until the BLM performs an analysis of water use requirements using the correct figures for perennial yield and existing and permitted use, neither the BLM nor the reader can make an informed decision regarding the appropriate level of development of the feasibility of solar technologies in this SEZ.

Using, for example, the BLM's assumptions regarding water availability in Delamar Valley, the limited and almost completely allocated perennial yield for this basin (2,550 afy, 50 afy unallocated), makes it likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant advances to cooling technologies and associated water requirements occur and assuming water could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need between 1,046 to 4,009 afy at 80% buildout of the SEZ and non-cooled technologies requiring 76 to 752 afy at 80% buildout of the SEZ.

The BLM also fails to look critically at the water needs at each stage of solar development. While we agree that PV is the preferred technology in this valley the assumed perennial yield will not support the peak construction year water needs for PV for concurrent construction of multiple projects. *See* DPEIS Table 11.2.9.2-1 (requiring 2,743 afy versus 2,550 afy yield). In fact, the assumed perennial yield is not sufficient to supply *any* technology during the peak construction year, except for parabolic trough, but the DPEIS fails to recognize this. *Compare* DPEIS 11.2-63 (“The availability of groundwater and the potential impacts of groundwater withdrawal would need to be assessed during the site characterization phase.”). The FPEIS should include analysis of whether there is enough water to support construction during peak construction year, and to support construction and operations simultaneously.



Using the DPEIS's more generous assumptions regarding perennial yield (with which we disagree, see below), regardless of the technology employed a developer would have to negotiate with SNWA and NDWR; even if only PV systems are constructed in the SEZ there still is not enough water within the unallocated perennial yield for just their operation. Compare DPEIS Table 11.2.9.2-2 (requiring 76 afy versus 50 afy unallocated yield). Moreover, while BLM may conclude – despite failing to perform the analysis above – that PV is the preferred technology for this SEZ, there is nothing in the General or SEZ-specific design features committing to this preference. BLM must revise its analysis to reflect the proper baseline, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above.

- **BLM's unreasoned assumptions regarding groundwater availability in Delamar Valley.**

BLM must revise its assumptions and resultant analysis regarding water use and water rights management, *see, e.g.*, DPEIS 11.2-60—61, 11.2-65, 11.2-67, 11.2-336, to clarify that Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA are also vacated. As a result, the DPEIS baseline analysis should reflect that the basin is already fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Delamar basin] had already been fully appropriated”).<sup>9</sup> BLM also assumes, without justification, that even if these water rights were valid, that developers would be able to secure a significant portion of those rights for solar energy development.

- **DPEIS fails to consider impacts to all potentially affected groundwater-dependent species and groundwater-supported habitats.**

In its scoping comments regarding the proposed Delamar Valley SEZ, FWS expressed concern that groundwater withdrawals may reduce the regional groundwater supply that supports spring-fed aquatic habitats in the SEZ region, including habitats in the White River, Pahrnagat, and Moapa Valleys. BLM relies on discussion in Section 11.2.9.2 to omit consideration of impacts to special status species in the Moapa Valley – i.e., Moapa pebblesnail, Moapa Valley springsnail, Moapa Warm Spring riffle beetle, Big Spring spinedace, Moapa dace, Moapa speckled dace, Moapa White River springfish, Pahrump poolfish, Railroad Valley springfish, and White River spinedace). DPEIS 11.2-138 (claiming section 11.2.9.2 demonstrates that groundwater in the Delamar Valley is not a major contributor to the far northern or far southern extents of the White River Valley regional groundwater system). BLM has not responded to the valid concerns of its sister agency – section 11.2.9.2 makes no such analysis.

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<sup>9</sup> Two separate challenges were brought to Ruling 5875, and the district court vacated and remanded the ruling back to the NSE. *See Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009); Ruling 5875 (vacated Oct. 19, 2009), available at <http://images.water.nv.gov/images/rulings/5875r.pdf>. The Nevada Supreme Court dismissed appeals as rendered moot by *GBWN v. Taylor. SNWA et al. v. Carter-Griffin*, No. 54986 (Sept. 13, 2010). In *GBWN v. Taylor*, 234 P.2d 912 (Nev. 2010), the Nevada Supreme Court reversed the order of the district court and directed the State Engineer to re-notice the applications in Cave, Dry Lake and Delamar Valleys and re-open the protest period.

In fact, in protesting the very SNWA applications again pending before the State Engineer, BLM was concerned that pumping in Dry Lake Valley would impact (via flow reduction) Delamar Valley. The loss of interbasin flow would impact special status species in Pahrnagat Valley and ultimately in the Muddy River Springs Area. —An adverse impact on the stream, lakes and contributing springs in Pahrnagat Valley, as well as the Muddy River Springs Area could result in a reduction of associated riparian vegetation which, in turn, may impact those endangered and candidate species previously discussed.” See, e.g., In the Matter of Application Number 53989, available at

[http://water.nv.gov/hearings/Dry\\_Cave\\_Delamar%20hearings/SNWA/Volume\\_1/211/211\\_U.S.%20Department%20of%20the%20Interior.pdf](http://water.nv.gov/hearings/Dry_Cave_Delamar%20hearings/SNWA/Volume_1/211/211_U.S.%20Department%20of%20the%20Interior.pdf). The BLM should analyze potential impacts to all potentially affected groundwater-dependent species and groundwater-supported habitats in the FPEIS, and include measures to avoid or minimize those impacts.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Avoidance of the southern end of Delamar Dry Lake, Jumbo Wash and other intermittent water courses would minimize impacts to wildlife and sensitive plants. The Joshua tree habitat along the north portion of the SEZ should be avoided.
- The SWIP Transmission line corridor, oriented in an approximate north-south direction, is situated in the approximate middle of the SEZ. The SWIP is currently under construction and will dramatically add transmission capacity along its route. Although the SWIP will add cumulative impacts to the area, it is likely that the construction of the SWIP will make other new transmission construction unnecessary to support this SEZ designation. The Valley Electric Association owns the existing 138-kV transmission that runs parallel to U.S. 95 adjacent to the SEZ.
- The proximity of US 95 and a wide graded dirt road for transmission Right-of-way provides access to the SEZ. The graded road is maintained regularly by Lincoln County.
- Given the very limited water resources available in this area, and pending a revised baseline analysis by BLM, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the standards set out in Section III.

#### **vi. Corrections**

Although there is an existing 69-kV transmission line passing through the SEZ, the SWIP line, now under construction will add capacity to 500 kV in its first phase of development.

The BLM will be issuing a Notice of Intent for Wilson/Table Mountain Wind project before the FPEIS is complete. This project, if completed, is within 50 miles of the Delamar Valley and should be added to the cumulative effects table of other renewable energy projects.

The DPEIS fails to list as Special Status Species in the SEZ region the following: Moapa dace, Virgin River chub, woundfin, Moapa pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail, Pahrangat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker.

### **C. Dry Lake SEZ**

#### **i. Overview**

The proposed Dry Lake SEZ is located in Clark County in southern Nevada. The SEZ has a total area of 15,649 acres. The proposed Dry Lake SEZ is in an undeveloped rural area that has seen impacts from the nearby city of Las Vegas. The SEZ is located in Dry Lake Valley and is bounded on the west by the Arrow Canyon Range and on the southeast by the Dry Lake Range. The Las Vegas Valley is located approximately 10 miles south. The towns of Moapa and Overton are as close as 18 miles northeast and 23 miles east of the SEZ, respectively. The Nellis Air Force Base is located approximately 13 miles southwest of the SEZ. The nearest major roads accessing the proposed Dry Lake SEZ are I-15, which passes through the southeastern portion of the SEZ, and U.S. 93, which runs from northwest to southeast along part of the southwest border of the SEZ. Three designated transmission corridors that are heavily developed with numerous natural gas, petroleum products, and electric transmission lines (including a 500-kV transmission line) pass through the proposed SEZ. It is assumed that the existing 500-kV transmission line, or any of the other existing transmission lines, could potentially provide access from the SEZ to the transmission grid.

The SEZ lies within the Northeastern Recovery Unit for the desert tortoise and partially covers occupied habitat.

There are four foreseeable and sixteen pending solar development applications and one foreseeable and nine pending wind site testing applications within a 50-mile radius of the proposed Dry Lake SEZ. Five of the 16 pending solar applications are either within or adjacent to the SEZ, as is one of the wind site testing applications.

**While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.**

#### **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- Cumulative impacts**

Due to the number of cumulative effects from renewable energy projects, transmission, and the Apex Industrial area to the south, there are significant cumulative impacts in the region.

However, given the proximity of a large urban area and existing transportation and transmission infrastructure, we believe that with some boundary adjustments, this is a good location for a SEZ.

### **iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend moving the boundaries to fully exclude the ecological boundaries of the Dry Lake playa, which are readily observable through soil and vegetation changes on-the ground. Further, the series of rugged and jumbled washes flowing southwest to northeast into the playa, near the SEZ's north boundary, should be excluded for wildlife concerns such as providing animal movement corridors and for hydrological concerns such as retaining this component of the playas natural processes. We also feel that the original SEZ boundary errs in containing an area that is heavily developed with existing transmission lines and a mineral plant along the Interstate in the SEZ's southeast corner. This area is also important for animal movement and is also primarily a wash important to the playa's ecological health. Further, as currently drawn, the SEZ could impact a National Register-listed site associated with the Old Spanish NHT, and the SEZ comes close to the trail itself. In addition to the boundary adjustments recommended above, we recommend removing the portion of the SEZ that is southeast of Interstate 15 to avoid impacts to these sites. If desired, the SEZ boundary may be able to be extended in the northeastern corner towards the existing substation.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

Potentially suitable habitat for 62 special status species occurs in the affected area of the Dry Lake SEZ. For all of these special status species, less than 1% of the potentially suitable habitat in the region occurs in the area of direct effects. There are 13 groundwater dependent species that occur outside of the areas of direct and indirect effects. Potential impacts on these species could range from small to large depending on the solar energy technology deployed, the scale of development within the SEZ, and the cumulative rate of groundwater withdrawals.

More than 25 reptile species occur within the area that encompasses the proposed Dry Lake SEZ. The desert tortoise is a federal and state listed threatened species. This SEZ has desert tortoise and rosy two-tone beardtongue from the NNHP data. Several intersections occur with NDOW mapped movement corridors for desert bighorn sheep, but wildlife corridors are supposed to be excluded in SEZ designation. Adjustments should be made to exclude those corridors. The NDOW data shows the presence of the banded Gila monster, common chuckwalla, desert horned lizard, desert night lizard, LeConte's thrasher, longnosed leopard lizard, sage sparrow and western banded gecko. The proximity to Las Vegas and existing transmission development in the

area make this one of the more heavily inventoried SEZs in Nevada; it also makes this an area that has seen impacts from exurban activities that are damaging to the quality of wildlife habitats (an example of cumulative impacts). Because rocky outcrops are high-quality habitat for many of the lizard species of conservation concern and because solar energy construction may require the removal these large boulders, we recommend the BLM explicitly exclude rock outcrops from the SEZ. The area also shows high biodiversity potential, typical of much of the Mojave Desert. Our proposed boundary change addresses these species concerns in the southern portion of this SEZ and will minimize impacts to wildlife habitat.

- **Groundwater availability to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Garnet groundwater basin underlying this SEZ. The perennial yield for this basin is estimated at 400 afy; both permitted water rights (approximately 3,400 afy) and current use (797 to 1,558 afy) exceed the perennial yield. In 2002, the State Engineer issued Order 1169 stating that new applications for water in the carbonate-rock aquifer systems within Garnet Valley (and surrounding basins) would be suspended to allow further study of the system. The water needs for existing cooling technologies exceed the perennial yield – we agree that currently wet and dry-cooled technologies are not feasible in this basin. Unless and until cooling technologies and associated water use requirements change, it appears that only non-cooled technologies requiring 71 to 711 afy would likely be feasible.<sup>10</sup>

BLM’s feasibility analysis, however, glosses over the large amount of water needed during construction – up to six to eight times the perennial yield – in a peak construction year. *See* DPEIS 11.3-59 (“The availability of groundwater, groundwater rights, and the impacts of groundwater withdrawal would need to be assessed during the site characterization phase of a solar development project.”). The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. BLM must revise its analysis, scale back the peak construction year and full build out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the recommendations in Section III above.

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<sup>10</sup> The BLM and the FPEIS should consider the implications of the Nevada State Engineer’s permitting of water use for dry-cooled power plants rather than wet-cooled plants, because the plants were to use “water efficient, air-cooled technology” for “realistic power generation projects.” State Engineer Ruling No. 5008 (March 20, 2001) at p.24-25, 40, available at <http://images.water.nv.gov/images/rulings/5008r.pdf>. A year later, in a neighboring basin, the Nevada State Engineer considered water rights applications for which a potential use was a water-cooled power plant. However, as the State Engineer recognized, “Technology is available, which can produce significant amounts of electricity using air-cooled systems. This technology uses significantly less quantities of water. . . . The State Engineer . . . does not believe it is prudent to use substantial quantities of newly appropriated ground water for water-cooled power plants in one of the driest places in the nation, particularly with the uncertainty as to what quantity of water is available from the resource, if any.” State Engineer Ruling No. 5115 (April 18, 2002) at p.25, available at <http://images.water.nv.gov/images/rulings/5115r.pdf>.

In the FPEIS, the BLM should conduct a critical analysis of the water availability situation in the Garnet Valley basin and disclose it to decision makers, developers and the interested public. Groundwater withdrawal impacts should be measured, such as requiring piezometers in test wells, and measuring phreatophyte die-off for the Dry Lake Valley.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- With a boundary adjustment discussed below, avoidance of Bighorn sheep and reptiles species can be accomplished.
- Avoidance of the playa wetlands of Dry Lake will limit impacts to species there.
- Proximity to transmission, transportation and a large metropolitan area decrease disturbance and transmission costs.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations set out in Section III.

#### **vi. Corrections**

The DPEIS fails to mention or include in its effects analysis the K Road Moapa proposed solar project. This project is located on tribal lands of the Moapa Band of Paiute Indians, and is immediately north of the Dry Lake SEZ. It is envisioned to be a photovoltaic field 2,000 acres in size and would provide up to 350 MW of energy. Some of the concerns that should be addressed are cumulative impacts to desert tortoise and other species, groundwater availability and coordination of projects to minimize impacts.

### **D. Dry Lake Valley North SEZ**

#### **i. Overview**

The Dry Lake Valley North SEZ is located in Lincoln County in southeastern Nevada. The SEZ has a total area of 76,874 acres. The SEZ is located in the Dry Lake Valley, Lincoln County and is bounded by mountain ranges on the east and west. The North Pahroc Range is situated about 6 miles west of the SEZ, and the West Range, Bristol Range, Highland Range, Ely Springs Range, Black Canyon Range, and Burnt Springs Range occur east of the SEZ. No permanent surface water sources occur in the proposed SEZ. Vegetation is generally sparse, with large areas of low grasses and low-height scrubland. The closest population centers to the SEZ are Pioche, located about 15 miles to the east, and Caliente, located about 15 miles to the southeast; both communities have populations of about 1,000. The smaller communities of Caselton and Prince are located about 13 miles to the east of the SEZ. Las Vegas is located about 110 miles to the south. The nearest major road to the Dry Lake Valley North SEZ is State Route 318, which is about 7 miles to the west of the SEZ, while U.S. 93 is about 8 miles to the south. Access to the interior of the SEZ is by dirt roads. The nearest railroad access is approximately 25 miles away, while nearby airports include Lincoln County Airport in Panaca and Alamo Landing Field in

Alamo, which are located about 13 miles south–southeast of and 35 miles southwest of the SEZ, respectively.

The site is within the Dry Lake Valley groundwater basin which is geologically connected to Delamar Valley and other basins in the White River Carbonate Flow system. Flows from this system feed Pahrangat National Wildlife Refuge and numerous springs along its course including Hiko, Crystal, Ash, Moapa Warm, Rogers and Blue springs, all habitat for listed, candidate or sensitive desert fish, springsnails and other aquatic/riparian life.

There is an existing 69 kV transmission line that intersects the southeast corner of the sEZ. Currently there is one pending solar application and eight wind applications in various stages of approval on public lands within 50 miles of the SEZ, which represent additional potential developments. In addition, several new electric transmission projects and a groundwater transfer pipeline project represent foreseeable developments that would pass through or near the proposed SEZ.

**While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.**

**ii. Overarching issues for this SEZ**

None noted.

**iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend moving the boundaries to avoid important wildlife habitat and other sensitive natural resources, including habitat for Desert Kangaroo mouse, desert horned lizard and burrowing owl, as well as Eastwood milkweed. The enclosed map, Attachment 3 shows a consensus zone in blue that was used in legislation introduced in 2010 in the American Solar Energy Pilot Leasing Act by Senator Harry Reid and Congressman Dean Heller. We support this area as a Dry Lake Valley North Solar Energy Zone.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The Dry Lake Valley Basin is fully appropriated. Until the BLM performs an analysis of water use requirements using the correct figures for perennial yield and existing and permitted use,

neither BLM nor the reader can make an informed decision regarding the appropriate level of development of the feasibility of solar technologies in this SEZ.

Using, for example, BLM's assumptions regarding water availability in Dry Lake Valley, the limited and almost completely allocated perennial yield for this basin (12,700 afy, 50 afy unallocated), makes it likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming the bulk of any water used could be acquired from existing water rights holders. Wet-cooling technologies are deemed infeasible in the DPEIS, but dry-cooled technologies are not, needing 4,858 to 18,616 afy for 80% buildout of the SEZ. Non-cooled or scaled back dry-cooled projects appear most realistic.

The BLM fails to look critically at the water needs at each stage of solar development. The DPEIS does not take a hard look at whether there is enough water to support construction and operation simultaneously.

Though the ratio of operational water requirements for dry-cooled technologies to assumed perennial yield is similar to that of the Delamar Valley SEZ – commanding from 33% to 150% of perennial yield – the DPEIS does not express the same preference for technologies that do not require water for cooling. BLM must revise its analysis to reflect the proper baseline, scale back the peak construction year and full build out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above.

- **BLM's unreasoned assumptions regarding groundwater availability in Dry Lake Valley**

BLM must revise its assumptions and resultant analysis regarding water use and water rights management, *see, e.g.*, DPEIS 11.4-63, 11.4-67, to clarify that Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA are also vacated. As a result, the DPEIS baseline analysis should reflect that the basin is already fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Dry Lake Valley basin] had already been fully appropriated”).<sup>11</sup>

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<sup>11</sup> Two separate challenges were brought to Ruling 5875, and the district court vacated and remanded the ruling back to the NSE. See *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009); Ruling 5875 (vacated Oct. 19, 2009), available at <http://images.water.nv.gov/images/rulings/5875r.pdf>. The Nevada Supreme Court dismissed appeals as rendered moot by *GBWN v. Taylor*. *SNWA et al. v. Carter-Griffin*, No. 54986 (Sept. 13, 2010). In *GBWN v. Taylor*, 234 P.2d 912 (Nev. 2010), the Nevada Supreme Court reversed the order of the district court and directed the State Engineer to re-notice the applications in Cave, Dry Lake and Delamar Valleys and re-open the protest period. Moreover, any agreement by SNWA to “commit 1,500 ac-ft/yr (1.9 million m<sup>3</sup>/yr) of those water rights to Lincoln County for use,” DPEIS 11.4-63, has been called into question by the state engineer through his finding that the place of use for SNWA's applications was restricted to Clark County. See Ruling 5875 (vacated on other grounds, Oct. 19, 2009), at 7-8.



- **Species of concern**

Because of the possible groundwater impacts within the White River Carbonate Flow System, several spring, riparian and aquatic species are of concern. The Hiko White River springfish, White River springfish, Pahrnagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher are all potentially impacted and currently protected under the ESA.

In addition, the Moapa pebblesnail, grated tryonia, Pahrnagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail are all species that have been petitioned for listing and awaiting a determination by the Fish and Wildlife Service.

The Pahrnagat Valley montane vole, Pahrnagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker are additional species of concern potentially impacted by groundwater withdrawals. The BLM should include in the FPEIS analysis of these potential impacts and measures to minimize or mitigate any such impacts.

Twenty-two special status animal species could be affected by solar energy development on the SEZ. A total of 21 BLM-designated sensitive species may occur in the affected area of the Dry Lake Valley North SEZ or may be affected by solar energy development on the SEZ. Eastwood milkweed appears in the NNHP dataset for the area and should be avoided. The Desert Valley kangaroo mouse, desert horned lizard and burrowing owl are present based on the NDOW data. Burrowing owl colonies and Desert Valley kangaroo mice areas should also be avoided.

The Desert Valley kangaroo mouse has been well-studied by mammalogist John Hafner of Occidental College. His collections and genetic analysis have shown that this is a biological species with limited distribution in only several valleys in eastern Nevada and western Utah. A manuscript is currently under scientific peer-review to provide support for this species designation. Because of their limited distribution, this species and its habitats need to be avoided. Our recommended boundary avoids these habitats to minimize impacts to the species.

We are happy to provide map data to the BLM under separate cover. Overall, this site has numerous roads and a relatively high incidence of annual grass invasion along the east based on modeling of annual grasses for Nevada by NNHP. The prevalence of several rare or important species warrants careful monitoring of impacts from development and significant adjustments to the proposed zone, as recommended above.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- With a boundary adjustment discussed above, impacts to unique wildlife species can be minimized or avoided.
- Proximity to transmission and transportation decrease disturbance and transmission costs.

- It would appear that existing roads or transmission access and maintenance roads could be utilized instead of the proposed new road shown on Figure 11.4.1.1-1 to avoid unnecessary disturbance, fragmentation and destruction of native wildlands.
- Given the very limited water resources available in this area, and pending a revised baseline analysis by BLM, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the standards set out in Section III.

#### **vi. Corrections**

Although there is an existing 69-kV transmission line passing through the SEZ, the SWIP line, now under construction will add capacity to 500 kV in its first phase of development.

The BLM will be issuing a Notice of Intent for Wilson/Table Mountain Wild project before the Final Solar EIS is complete. This project if completed is within 50 miles of the Delamar Valley and should be added to the cumulative effects table of other renewable energy projects.

The DPEIS fails to list as Special Status Species within the 50 mile SEZ region the following: Hiko White River springfish, White River springfish, Pahranaagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher, Moapa pebblesnail, grated tryonia, Pahranaagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail, Pahranaagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker.

### **E. East Mormon Mountain SEZ**

#### **i. Overview**

The East Mormon Mountain SEZ straddles Toquop Wash just to the east of East Mormon Mountain; it is just north of the Clark and Lincoln County border. The SEZ borders the Mormon Mountain Wilderness Area. The locale is currently pristine and remote with poor access. No other renewable energy projects are in immediate proximity to this site. The area was previously identified as a site for a coal-fired power plant. The SEZ is located in the Tule Desert groundwater basin of the Lower Virgin River basin, the flows from which terminate at the Virgin River and at major regional carbonate springs in Lake Mead National Recreation Area. Soil wind erosion potential is moderate. The SEZ immediately borders both the Mormon Mesa and Beaver Dam Slope desert tortoise critical habitat areas, and itself is of high habitat suitability. There are three existing transmission lines within 0.5 miles of the southeastern corner of the SEZ, a 345 kV AC line, a 500 kV AC line, and a DC line.

**Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

#### **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

It is likely that the SEZ, due to its unburned status, provides better habitat for desert tortoise than adjacent burned areas that are currently designated as critical habitat. Consultation with the U.S. Fish and Wildlife Service for desert tortoise should include consideration of whether it would confer more protection to the species to shift the location of the SEZ to this nearby burned area, re-designating the current proposed SEZ site as replacement critical habitat.

### **iii. Recommended boundary adjustments**

None noted.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Lower Virgin River Valley groundwater basin underlying this SEZ. The perennial yield for this basin is estimated at 3,600 afy; both permitted water rights (approximately 12,348 afy) and current use (7,460 afy) exceed the perennial yield. The area is also closed to new appropriations of surface water. The Tule Desert Hydrographic Basin is even more restricted, with State Engineer Order 5181 setting the perennial yield at 2,100 afy pending further study. Also with respect to groundwater availability, it must be noted that there are already applications filed for 185,000 afy by other interests.

Given that the basin is over-appropriated and overused, it seems likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, DPEIS 11.5-61, the DPEIS leaves the door open for dry-cooled technologies which would need 567 to 2,172 afy for 80% buildout and non-cooled technologies requiring 41 to 408 afy for 80% buildout would seem to be likely feasible.

BLM similarly glosses over the large amount of water needed during construction – almost half of the perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. In the FPEIS, the BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Impacts on desert tortoise**

The East Mormon Mountain SEZ lies in the Northeastern Mojave Recovery Unit and directly borders both the Mormon Mesa and Beaver Dam Slopes critical habitat units (USFWS 2008).

These units were severely impacted by wildfires in 2005 and, where burned, offer only marginal quality habitat. The location of the SEZ is unburned and considered highly suited for tortoises. If developed, the SEZ would no longer provide tortoise habitat.

Aside from the direct impacts of the SEZ on tortoise habitat, the proposed access road is also of concern. This road, leading north from I-15, bisects high quality desert tortoise habitat in the Mormon Mesa critical habitat unit, destroying and fragmenting habitat and increasing the risk of injury or death to tortoises from direct and indirect mortality. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Impacts on rare desert plants**

The gypsum-rich soils found along Toquop Wash provide specialized habitats for rare desert plants. The Las Vegas buckwheat and three-cornered milkvetch are two which are included in Table 11.5.12.1-1 that lists plants that may be found in the vicinity of the SEZ. A third that does not appear in the table is sticky ringstem. Sticky ringstem is a gypsophile that is known from populations in northeastern Clark County, including one from nearby Moapa, Nevada.

The Las Vegas buckwheat is a species found to be warranted for listing under the Endangered Species Act but precluded by higher priority species. The other two species are BLM special status species and are also “Covered Species” in the Clark County Multiple Species Habitat Conservation Plan. In 2007, Clark County commissioned a report on the status of low elevation rare plants which included the sticky ringstem and three-cornered milkvetch (TNC 2007). In that report, the sticky ringstem was given a “high” overall threat rank and the three-cornered milkvetch a “very high” ranking.

Land clearing and grading, both for the site and the roadway, would destroy any plants and habitats in the affected area, thereby increasing their local extirpation and overall risk for extinction. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Destruction of surface hydrologic function**

As noted in the DPEIS, the East Mormon Mountain SEZ is located on an extensive alluvial fan, containing many ephemeral drainages and two major incised washes. Several million cubic meters of runoff is conveyed through the system annually.

The clearing and grading associated with solar development of this site could effectively destroy the current ecological and hydrologic function of the Toquop Wash watershed – not just on the site but above and below the site as well.

Desert washes such as those found on the SEZ are well known to provide important habitat for wildlife, including desert tortoises that often burrow into the caliche caves associated with the washes. Other wildlife use washes as travel routes across their territories.

Rare plant surveys for the species mentioned below should be conducted with the intent of identifying areas with suitable soil and conditions to support these species. Proactive avoidance of these areas is the best strategy.

As suggested in the DPEIS, the BLM should not develop in Toquop or South Fork Toquop Washes. Other major ephemeral washes within the SEZ should also be excluded from disturbance. This will preserve ecologic and hydrologic function, protecting desert tortoises and other wildlife and rare plant species while minimizing development costs related to grading and hydrology.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- The BLM should require that any developer construct the proposed new access road with designed wildlife underpasses and tortoise exclusionary fencing along the right-of-way boundary. Development in East Mormon Mountain should be used as a means to develop more effective mitigation for tortoise mortality.
- There is the opportunity for the BLM to require offsite mitigation from the developer to benefit desert tortoises, rare plants and other special status species found in the SEZ.
- There is the opportunity for the BLM to coordinate the needs for transmission of the East Mormon Mountain SEZ in the analysis and design of the TransWest Express transmission line proposal.
- Given the very limited water resources available in this area and because the aquifer is in a state of overdraft, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

#### **vi. Corrections**

- Sticky ringstem (*Anulocaulis leiosolenus var leiosolenus*) should be added to the list of rare plants that may occur in the project area and that should be included in any rare plant surveys.
- The DPEIS characterizes the SEZ as being in the Lower Virgin River groundwater basin; while correct at a large, landscape-scale, it is more precise to state that the SEZ is in the Tule Desert groundwater basin.
- The DPEIS is mute with regards to the development of the nearby lands conveyed to private ownership in the Lincoln County Lands Act. This development should be considered in the cumulative impacts analysis, particularly with reference to groundwater availability and impacts to desert tortoises.

## **F. Gold Point SEZ**

### **i. Overview**

The Gold Point SEZ, totaling an area of 4,810 acres (19 km<sup>2</sup>), is located in upper Lida Valley, a closed intermontane basin lying between MacGruder Mountain and Slate Ridge. The Gold Point SEZ is in the Lida Valley groundwater basin. While lying on the northwestern edge of the Death Valley Regional Flow System, Lida Valley basin has little carbonate rock so its recharge is basin-fill, almost totally from the precipitation in the surrounding mountains. The perennial yield of this groundwater basin is set at 350 acre feet/year, with usage rights totaling 76 acre feet/year.

The locale is currently pristine and remote from load centers, and a new transmission line would be needed to provide access from the SEZ to the transmission grid.

No other active renewable energy projects are in the immediate proximity to this site.

**Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

### **ii. Overarching issues for this SEZ**

None noted.

### **iii. Recommended boundary adjustments**

None noted.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support solar development**

The perennial yield of Lida Basin is 350 afy. Water requirements for dust suppression and potable water supply during construction could be as high as 1,707 afy for the peak construction year. The total water use estimates for the peak construction year are on the order of 3 to 5 times greater than the perennial yield of the Lida Valley groundwater basin. Wet cooling is not feasible, and while water usage for dry cooling systems would be as high as 1,166 afy, about 3 times the perennial yield, BLM believes it to be feasible although it is ~~d~~ doubtful that a full build-out scenario using dry-cooling technologies could be supported with the available groundwater supplies." DPEIS 11.6-58.

BLM should revise its analysis to scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Surface Hydrology**

No studies have been undertaken in the area. The BLM should include in the FPEIS a study of the flood potential of the unnamed wash that bisects the SEZ. The BLM should also include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Pronghorn antelope**

A significant pronghorn antelope herd lives permanently in Lida Basin, and antelope are frequently seen on the proposed SEZ. Disturbance during dry seasons could interfere with antelope seeking scarce green foraging resources and spring areas. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Unique Mojave-Great Basin transition zone**

Some of the northernmost Joshua trees inhabit Lida Basin, and this habitat should be preserved and not fragmented. As currently envisioned, the SEZ avoids the core Joshua Tree habitat area. This area is unstudied for rare plants and surveys should be thorough, covering more than one year and including both spring and late summer-fall surveys, as summer rains may account for species not detectable in spring.

- **Transmission corridor**

The assumed new transmission corridor would cross extremely dense Joshua tree woodland and scenic remote BLM areas used for hiking, camping, and other recreational activities, as well as potentially impact the historic mining town of Goldfield. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

**v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- There seems to be an opportunity to run the needed transmission line along highways 266 and 95, thereby sparing the bisection and fragmentation of desert habitats along the proposed route.
- The project design could take into considerations to provide antelope access to forage and water, and construction schedules outside the dry periods when antelope access is most critical.

- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

#### vi. Corrections

- Add Great Basin spadefoot (*Scaphiopus intermontanus*) and Pacific rattlesnake (*Crotalus viridis lutosus*) as potential species occurring in SEZ area.

### G. Millers SEZ

#### i. Overview

Millers SEZ is located north of U.S. 95/U.S. 6, which runs east–west along its southern border. The SEZ is in the southeast end of the Big Smoky Valley, in an area known as Tonopah Flat, and is surrounded by Lone Mountain to the south, the Monte Cristo Range to the west, and the San Antonio Mountains to the east. Three intermittent streams run into Millers SEZ: Ione Wash, Peavine Creek, and an unnamed wash. Slime Wash is also close, ending 3 miles east of the SEZ. Several springs also occur in the vicinity of Millers SEZ. Wetlands in Millers SEZ exist along the southern and southwestern border. Floodplains have not been mapped for Millers SEZ and vicinity, but aerial surveys suggest that 2000 acres (12%) of the total SEZ area may be in a 100 year floodplain.

The SEZ lies in the Tonopah Flat groundwater basin, which is designated as over-appropriated by the State Engineer. This is a designated basin according to NDWR Orders 725 and 827; municipal and domestic water are the preferred beneficial uses.<sup>12</sup>

Two transmission lines run through the SEZ, a 120 kV and a 55 kV line. There is also a 120 kV and a 55 kV line running adjacent to the SEZ, 0.2 miles from the southeast corner. One solar project in the immediate area has been approved: the Crescent Dunes project is located 3 miles northeast. There is also a pending application (NVN 086548) 19.5 miles southeast and several closed applications north and south of the SEZ, all indicating a fairly strong interest in developing this area for solar power despite water limitations. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

#### ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Cumulative effects**

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<sup>12</sup> <http://images.water.nv.gov/images/orders/725o.pdf> ; and, <http://images.water.nv.gov/images/orders/725o.pdf>



Sand dunes exist to the southwest and northeast of the SEZ, and depending on how and where build-out of Millers SEZ occurs it could affect sand transport between these areas, if sand transport is occurring. Vegetation communities in and around Millers SEZ associated with playa washes, greasewood flats, or other intermittently flooded areas that are downgradient from solar development could also be affected by widespread ground disturbance. The Tecopa bird's-beak is an imperiled plant found in alkali meadows and is down hydrologic gradient from the proposed SEZ and could be impacted by groundwater withdrawals and/or changes to surface hydrology. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

### **iii. Recommended boundary adjustments**

Insufficient information is available about the locations of sensitive areas within the SEZ to suggest adjustments; avoidance would likely need to occur at the project level after project-specific surveys are completed (unless additional surveys are performed by BLM prior to SEZ development).

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species and other species of concern**

Candelaria blazingstar could occur within Millers SEZ (it is known to occur east of the SEZ) and might be affected by project development; clearance surveys for this species would be required. USFWS coordination would be required for two federal candidate species: Crescent Dunes aegialian scarab beetle and Crescent Dunes serican scarab beetle. Although these two species do not have habitat onsite, they could experience cumulative impacts from SEZ development and associated disruption of sand transport systems between unstabilized dunes offsite (this could also affect Nevada dune beardtongue, a BLM sensitive plant). The stabilized dune habitat that does exist within the SEZ provides habitat for small mammal and invertebrate species as well, and should be avoided when siting projects. The Tecopa bird's-beak is a special status species known from only ten locations in California and Nevada. Its habitat is alkali meadows, and it is considered to be "globally imperiled". It is found down hydrologic gradient from the proposed SEZ. Wong's pyrig is a springsnail, also considered to be "globally imperiled," that occurs down hydrologic gradient from the SEZ. Nelson's bighorn sheep could use the valley to migrate between habitats, and this could also be compromised if large areas were developed. Avoidance of direct and indirect impacts to all these species must be addressed adequately at the project-specific level.

- **Millers Rest Stop**

This area is important as a spring and fall migration stopover site for a range of bird species due to the availability of water and non-native vegetation. It is likely that avoidance of this vicinity

when siting projects would be sufficient to mitigate impacts; careful consideration of the appropriate buffer distance to avoid of impacts to avian species is needed.

- **Groundwater availability to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Tonopah Flat Basin underlying this SEZ. The perennial yield for this basin is estimated at 6,000 afy; permitted water rights (approximately 19,588 afy) exceed perennial yield and the current rate of groundwater pumping is unknown. Given the limited amount of water available in the basin, it seems likely that only dry-cooled or non-cooled projects may be feasible, and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need 1,067 to 4,067 afy for 80% buildout and non-cooled technologies requiring 77 to 763 afy for 80% buildout.

BLM also glosses over the large amount of water needed during construction – almost half of the perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. In the FPEIS, the BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Road configuration and soil**

Soils within the SEZ are also prone to rutting, and roads should be configured and developed to minimize impacts related to rutting and erosion.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Avoidance of wash, playa, and stabilized dune habitats would minimize or eliminate impacts to amphibian, reptile, bird, and small mammal species, as well as to many cultural resources.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.
- Since this site is adjacent to U.S. 95/U.S. 6, access to the site would require minimal ground disturbance. The proximity of existing transmission lines also raise the possibility of using existing capacity on those lines instead of building new lines.

#### **vi. Corrections**

The Tecopa bird's-beak and Wong's pyrig are not listed as a Special Status Species in the DPEIS and should be included in Section 11.7.12.

Thank you for your thorough consideration of these comments.

Sincerely,

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### **Attachments**

- Attachment 1 – Desert Siting Criteria
- Attachment 2 – GIS Data for Citizen Inventoried Lands with Wilderness Characteristics
- Attachment 3 – Map of Recommended Boundary for Dry Lake Valley North SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11718.

Comment Date: April 18, 2011 17:39:50PM  
Solar Energy Development PEIS  
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Attachment: Solar DPEIS Comments - New Mexico Final (TWS and partners 4-18-11).pdf

Comment Submitted:

April 18<sup>th</sup>, 2011

*Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).*

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, New Mexico Wilderness Alliance, Defenders of Wildlife, Audubon New Mexico, Gila Resources Information Project, Gila Conservation Coalition, Western Environmental Law Center, Southwest Environmental Center, Upper Gila Watershed Alliance, Sierra Club, Natural Resources Defense Council, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

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## I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address New Mexico.

## **II. Alternatives**

### **A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative**

The SEZ Alternative would designate 24 Solar Energy Zones. The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

### **B. The BLM should not adopt the Solar Development Program (SEDP) Alternative**

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM’s oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency’s own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM’s solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

**C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate**

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM’s solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM’s solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

**III. Overarching Issues for Solar Development on Public Lands in New Mexico**

The issues below should be addressed for any solar development on public lands in New Mexico, whether inside or outside of a SEZ.

**A. Water resources**

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that —water use and water availability are key considerations” when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,<sup>1</sup> to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. See DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be

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<sup>1</sup> We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. —The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

#### **i. Cumulative impacts to water resources**

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

## **B. Water quality**

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

Finally, we recommend that the BLM with the New Mexico Environment Department's Surface Water Quality Bureau and Groundwater Bureau as they are the experts on water quality issues and manage various water quality management programs, e.g., promulgation and enforcement of water quality standards, and related programs, e.g., the TMDL program.

## **C. Impacts to groundwater-dependent species and their habitats**

There are a variety of groundwater dependent species that could be impacted by changes in hydrology caused by solar development, particularly groundwater withdrawal. The species impacted are site-specific, and are discussed in comments for each SEZ, below.

## **D. Soil erosion and associated vegetation impacts**

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and

bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeding should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeding mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks

each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **E. Soil diseases and toxins**

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.



## Valley fever

*Coccidioides* species is a fungus residing in the top 8” of some desert soils that causes a serious and potentially fatal disease known as “valley fever”. This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

*Coccidioides* sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.<sup>2</sup>

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.<sup>3</sup>

## Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, (Reheis et al. 2003, Morman 2010).

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<sup>2</sup> <http://www.mayoclinic.com/health/valley-fever/DS00695> .

<sup>3</sup> Ibid.

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **F. Habitat connectivity, wildlife movement corridors, and fencing**

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it's important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

### **G. Playa wetlands**

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al. 2010)

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al 2008; Liebowitz, Scot 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa.

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (Liebowitz, Scot 2003; Comer et al. 2005). Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO<sub>2</sub>, particularly as the amount of CO<sub>2</sub> in the atmosphere increases. In the case of the playa crusts, the net photosynthetic rate of the algae rose by a factor of two in going from the ambient CO<sub>2</sub> concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the dune crusts, the net photosynthetic rate tripled (Brostoff et al. 2002).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **H. Transmission, roads and other associated infrastructure**

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

### **IV. Lands in SEDP Alternative that are not appropriate for development**

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

#### **A. Recommended screening criteria for utility-scale solar development**

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, attached as Attachment 1. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

## **B. Specific examples of lands in the SEDP Alternative that are not appropriate for development**

### **i. Citizens' Wilderness Inventory Lands**

Citizens' Wilderness Inventory (CWI) lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

The SEDP Alternative includes 498,742 acres of overlap with CWI lands in New Mexico, nearly one third of the entire CWI inventory for the state. Maps detailing these conflicts are enclosed as Attachments 2-7 (six maps).

Please see the attached Appendices A and B for additional details and maps of the sensitive resources and values of the CWI lands at risk from the SEDP Alternative in New Mexico. GIS data of these areas is also included as Attachment 8.

CWI lands are not appropriate for solar development, and the BLM should exclude CWI lands from further consideration for solar development.

### **ii. Species-specific biological conflicts with the SEDP Alternative**

We compared the BLM SEDP alternative with a BLM field-verified habitat suitability model for Aplomado falcon, an endangered raptor that is currently being reintroduced in southern New Mexico. In addition to its special status, this species is significant since it selects intact native grasslands, and as a result could be considered an indicator of native grassland quality and integrity. Most of the high and moderate suitability lands identified in the model as being important for the species have already been excluded from the BLM SEDP alternative, but there are still areas of moderate and high suitability that remain; these areas should also be excluded as well.

Areas of overlap with high suitable habitat that are above 1 acres in size ("slivers") constitute approximately 2,150 acres of high suitable habitat. All of these areas (a total of 8 areas) are in the vicinity surrounding the Mason Draw SEZ. Areas of overlap with moderate suitable habitat constitute approximately 1,140 acres (a total of 4 areas) that are in the vicinity of Alamogordo, NM. Low suitability habitats were not excluded from the development alternative, and constitute a total of 64,917 acres. Because low suitability lands are the majority and in many instances constitute the matrix surrounding high and moderate quality lands, their inclusion within the development alternative raises concerns regarding the potential for solar development to cause habitat fragmentation, edge effects, and the loss of lands that could potentially be restored at some point in the future. We advocate that low suitability lands that serve to connect areas of moderate to high suitability and/or have moderate to high potential for successful

grassland restoration should also be considered for exclusion. Lastly, the development alternative overlaps with 1,061,915 acres of land in the historic range of the Aplomado that have yet to be field verified. Although the species' use of these habitats is uncertain, solar development in these areas could create undesirable cumulative impacts to the species, and this requires further evaluation. Maps detailing these conflicts are enclosed as Attachments 9 and 10.

### **iii. Cultural and historic resources**

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- **Chupadera and Mesa Well Canyon:** The BLM should exclude the Chupadera and Mesa Well Canyon area north of SR380 from solar energy development, as it contains significant late prehistoric village sites, including several large pueblos numbering more than 100 rooms.
- **Aqua Fria National Monument Area:** The BLM should exclude a larger area surrounding Agua Fria National Monument from solar energy development, given that several prehistoric habitation sites are known on BLM lands east of I-17 and west of the monument, and additional significant sites are likely in the area.

## **V. Solar Energy Zones in New Mexico**

The proposed SEZs in New Mexico include one area with limited conflicts (Afton SEZ), and two areas that have more significant issues but with modifications and special attention to sensitive resources still appear to have workable SEZs (Red Sand SEZ and Mason Draw SEZ). Please see the detailed comments below for more information, including details on our potential support for these SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, we strongly caution against that interpretation. Rather, we underscore the importance of focusing on the SEZs rather than the additional 21 million acres included in the SEDP Alternative. The SEZs have already benefited from significant screening and analysis,

and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternatives have not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

For all three proposed solar energy zones in New Mexico, we'd like to raise attention to the fact that the BLM Las Cruces District Office is currently revising the TriCounty Resource Management Plan (RMP) which will govern the lands in both counties which contain proposed zones. Therefore, the Las Cruces District Office is currently inventorying resources in these areas which are addressed in the PEIS, such as lands with wilderness characteristics, visual resource management classes, cultural and historic resources, and recreation and travel management. In some cases, the results of those inventories may be completed but not consulted in the development of the PEIS since the draft RMP has not been published. We recommend BLM consult closely with the Las Cruces District Office in finalizing the zones to ensure that the analysis and decisions in the PEIS conform to the analysis and preliminary and expected decisions in the TriCounty RMP.

## **A. Afton SEZ**

### **i. Overview**

The proposed Afton SEZ is a 77,623-acre zone in Doña Ana County, New Mexico, just north of the Mexican border. It is 2.5 miles from the City of Las Cruces. Afton is in proximity to Interstate-10, has two existing 345-kV transmission line through it, a 115 kV transmission line 2.5 miles north of the SEZ, and has one current application for a solar right-of-way.<sup>4</sup> The zone is in a low-conflict area, but is in proximity to many specially designated areas, including wilderness study areas, citizen-proposed wilderness areas, special recreation management areas, areas of critical environmental concern and Prehistoric Trackways National Monument.

**Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

### **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Water availability to support development**

The Afton SEZ does not have any perennial surface waters, but does have several ephemeral streams and intermittent ponds. Several areas within the SEZ are within the 100-year floodplain, and there are twenty small wetlands present totaling 38 acres. In terms of groundwater, the Afton site is within the Mesilla Basin, and it is possible that groundwater flows between that basin and the Mimbres Basin.

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<sup>4</sup> Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

As of 2005, 521,000 acre-feet of water per year (afy) was withdrawn in Dona Ana County, 61% from surface water and 39% from groundwater. All surface and groundwater in this basin is fully appropriated and has been involved in an ongoing adjudication since 1986. New diversions of surface waters and groundwater would need to be carried out through the transfer of existing water rights, which are mostly associated with irrigated agriculture within the Lower Rio Grande Basin (NMOSE 2006a).

According to the DPEIS, water requirements for the peak construction year (assuming three projects being built concurrently) in the SEZ could be as high as 5,372 afy and would generate up to 222 acre feet of sanitary wastewater. At full build-out capacity of the SEZ (80% buildout), the estimated total water use requirements for non-cooling technologies during operations are 353 and 3,527 afy for PV and dish engine technologies, respectively. For technologies that use water for cooling, total water needs for full buildout range from 4,907 afy to 186,469 afy. Operations would generate up to 174 afy of sanitary wastewater. In addition, for wet-cooled technologies, 1,960 to 3,528 afy of cooling system blowdown water would need to be either treated on-site or sent to an off-site facility. As stated in the DPEIS, technologies using wet- and dry-cooling would be unfeasible for the full build-out scenario of the proposed Afton SEZ, and the mitigation of impacts from water use would be best achieved by selecting technologies with low water demands. Any water used for projects would need to be acquired by transfer of existing water rights, as the basin is fully appropriated

There is still potential at Afton for contamination of the groundwater which contributes to the flow of surface waters and health of the ecosystem, especially when there is the possibility for underground flow between the Mimbres and Mesilla basins. If wells are poorly designed there is a higher likelihood of underground connections between aquifers, possibly spreading contaminants to greater areas. Wastewater discharges could seriously impact the entire area's water quality (both surface and groundwater) through pesticides, run-off and accidental spills.

Assuming development of the Afton site is pursued, we encourage the BLM to adopt as policy all of the mitigations outlined in Volume 6, section 12.2.9.3 (*SEZ-Specific Design Features and Design Feature Effectiveness*). However, we also encourage the BLM to increase the standards in these mitigation measures. Specifically, monitoring standards of water quality and groundwater levels should be held to a higher standard than the state level. The state requirements for groundwater monitoring are not sufficient to really ensure no harm is done to water resources in the area. Solar projects permitted by the BLM should at least be required to fulfill similar monitoring obligations as those listed in Section 20.6.2.3107 of the New Mexico Administrative Code.

Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Cumulative impacts**

The Afton SEZ is located near the cities of Las Cruces, NM and El Paso, TX, with populations growing at rates of 2.1% and 1.7%, respectively. There are several ongoing and planned projects in the area, including the SunZia Transmission Line, the High Plains Express, several power plants, hunting licenses and grazing allotments. In addition to these proposed activities, there are



a number of sensitive and protected areas in the region, including nine Wilderness Study Areas within a fifty mile radius of the SEZ, along with several refuges and other areas with special designations.

If developed, all of the proposed projects will impact the health of the area. Taken together the whole may be larger than the sum of its parts, causing greater harm than any one of the project's percentage if it was developed alone. Impacts specifically in the Las Cruces and El Paso areas will increase significantly should both the Mason Draw and Afton sites be developed. When solar facilities are permitted, the BLM should ensure robust analysis of cumulative impacts of other proposed or ongoing projects in the area to ensure the smallest impact possible on the larger area as a whole.

### **iii. Recommended boundary adjustments**

None noted.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

In documenting solar development's impacts to wildlife, the DPEIS looked at direct impacts, which would be effects due to actual disturbance and construction within the SEZ, as well as indirect impacts within a five mile radius in the "area of indirect effects", and then indirect impacts to the "SEZ region," a fifty mile radius from the centroid of the SEZ. The "affected area" includes both the SEZ area as well as the area of indirect effects.

Both direct and indirect impacts to species within the Afton SEZ should be relatively small, leading us to recommend its designation as a SEZ.

While many species may pass through the Afton site and use it intermittently, it does not seem to be an especially important site for most of them. There is a lack of real water resources, and no present groundwater-dependent species. No part of the site is habitat for pronghorn or deer, and it essentially avoids Aplomado Falcon habitat. Avoiding areas close to bluffs and cliffs will minimize any potential impacts to peregrine falcons.

There are a number of sensitive plant species, including sand prickly pear cactus, sandhill goosefoot and sandburg pincushion cactus, that may occur within the SEZ in dune areas and areas with specific soil types. For the most part these species occur in dune areas that would be avoided as part of the SEZ-specific design features. Pre-development surveys should be performed for these species to define avoidance areas.

Finally, any groundwater depletions could reduce the levels of surface waters and/or wetlands outside the SEZ, causing more widespread harm than at the site itself. Run-off, spills, and increased pesticide use would most likely degrade the small amount of available riparian habitat for amphibians.

All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 and the Programmatic Design Features in Appendix A, section A.2.2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act). We support the design features outlined in Volume 6, section 12.1.12.3 (*SEZ-Specific Design Features and Design Feature Effectiveness*). In accordance with these design features and to minimize impacts to natural resources, we recommend that fences should be built around as small an area as possible to ensure minimum disturbance to migration corridors; land disturbance should be avoided near streams, washes, wetlands, or within the 100-year floodplain; development should avoid the habitat of special status species and sand dunes; in depth studies and biological surveys should be done before any project is authorized to determine the project plans that will least impact present species; both on and off-site mitigation should continually occur throughout the solar development process, including restoration of grasslands and wetlands; clearing should be avoided during spring or summer, as nests and nestlings of ground and burrow-dwelling birds can be destroyed.

- **Cultural and historic resources**

A number of National Historic Landmarks (NHL), National Natural Landmarks, National Historic Trails and Scenic byways are near the Afton SEZ. About 40 mi of the Camino Real is within the SEZ viewshed; about 48 mi of Camino Real Scenic Byway is within the SEZ viewshed; and about 15 mi of Butterfield Trail Scenic Byway is within the SEZ viewshed. The SEZ boundary is also 2.7 mi from the Mesilla Plaza and 9.3 mi from the Kilbourne Hole NHL. The BLM should ensure that measures are taken to avoid, minimize and mitigate potential visual impacts to these resources when projects are proposed within the SEZ.

There are also potential direct impacts to significant cultural resources in dune areas in the SEZ. In addition to avoiding projects on dune areas to protect habitat for special status species on dunes, the BLM should avoid these areas to protect cultural resources.

- v. **Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- We appreciate BLM analyzing and acknowledging the impacts to visual resources of nearby special management areas, such as wilderness study areas, areas of critical environmental concern, and the Prehistoric Trackways National Monument. We support BLM conducting further viewshed analysis at the project level.
- The proposed zone's proximity to Interstate-10 and an existing transmission line which the PEIS estimates could provide access from the SEZ to the transmission grid should allow for this area to be developed in an environmentally responsible way without much additional infrastructure outside the zone. We encourage BLM to ensure developers utilize this existing infrastructure to the extent possible.

- vi. **Corrections**

None noted.

## **B. Mason Draw SEZ**

### **i. Overview**

The proposed Mason Draw SEZ is a 12,909-acre zone in Doña Ana County, New Mexico. It is 3 miles northwest of the proposed Afton SEZ, and is in proximity to Interstate-10 and the City of Las Cruces. Mason Draw has a 115-kV transmission line through it, and currently has no applications for solar rights-of-way. **While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone. For solar development in this region, we recommend that the BLM prioritize development in the Afton SEZ over the Mason Draw SEZ, given the limited conflicts in the Afton SEZ.**

### **ii. Overarching issues for this SEZ.**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The Southwest is an extremely arid environment. Many of the basins that contain excellent solar resources have water rights that are already fully or over-allocated. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

The Mason Draw SEZ does not have any perennial surface waters, but does have several ephemeral drainages, including Mason Draw and Kimble Draw, which runs north-south through the middle of the SEZ. Mason Draw is within the 100-year floodplain, and Kimble Draw has a small associated wetland. In terms of groundwater, Mason Draw is within the Mimbres Basin, and it is possible that groundwater flows between that basin and the Mesilla Basin.

It is difficult to estimate the groundwater recharge levels for the Mason Draw SEZ because the SEZ is located on the boundary between the Mimbres Basin and the Mesilla Basin. Groundwater recharge in the Mesilla basin was estimated to be less than 10,000 afy and estimates for total groundwater recharge in the Mimbres Basin range from 39,940 to 55,300 afy. Another potential measurement for recharge under the Mason Draw SEZ, estimated using the sum of modeled mountain front recharge values for the region found approximately 1,740 to 2,240 afy of recharge. As of 2005, water withdrawals from surface and groundwater in Dona Ana County were 521,000 afy, 61% from surface water and 39% from groundwater.

According to the DPEIS, water requirements for the peak construction year (assuming two projects being built concurrently) in the SEZ could be as high as 3,581 afy, and would generate

approximately 148 afy of wastewater. Because there are no significant surface water bodies on the SEZ, it is assumed that water use in the SEZ would necessarily come from groundwater withdrawals or by trucking water in from off-site. The estimated total water use requirements for non-cooling technologies at full buildout (80% of the SEZ developed) during operations are 58 and 587 afy for the PV and dish engine technologies, respectively. For technologies that use water for cooling, at full buildout, total water needs range from 816 afy to 31,011 afy. Operations would generate up to 29 afy of sanitary wastewater. In addition, for wet-cooled technologies, 326 to 587 afy of cooling system blowdown water would need to be either treated on-site or sent to an off-site facility. Given the limited water availability in this area, we agree with the conclusion in the DPEIS that wet cooling is not feasible for full buildout, and that low water use technologies should be prioritized for the area.

There is potential at Mason Draw for contamination of the groundwater which contributes to the flow of surface waters and health of the ecosystem, especially given the possibility for underground flow between the Mimbres and Mesilla basins. If wells are poorly designed there is a higher likelihood of underground connections between aquifers, possibly spreading contaminants to greater areas. Wastewater discharges could seriously impact the entire area's water quality (both surface and groundwater) through pesticides, run-off and accidental spills.

We encourage the BLM to adopt as policy all of the mitigations outlined in Volume 6, section 12.2.9.3 (SEZ-Specific Design Features and Design Feature Effectiveness) for the Mason Draw SEZ. However, we also encourage the BLM to increase the standards in these mitigation measures. Specifically, monitoring standards of water quality and groundwater levels should be held to a higher standard than the state level. The state requirements for groundwater monitoring are not sufficient to really ensure no harm is done to water resources in the area. Solar projects permitted by the BLM should at least be required to fulfill similar monitoring obligations as those listed in Section 20.6.2.3107 of the New Mexico Administrative Code.

Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Cumulative Impacts**

The Mason Draw SEZ is located near the cities of Las Cruces, NM and El Paso, TX, with populations growing at rates of 2.1% and 1.7%, respectively. There are several ongoing and planned projects in the area, including the SunZia Transmission Line, the High Plains Express, several power plants, hunting licenses and grazing allotments. In addition to these proposed activities, there are a number of sensitive and protected areas in the region, including nine Wilderness Study Areas within a fifty mile radius of the SEZ, along with several refuges and other areas with special designations.

If developed, all of the proposed projects will impact the health of the area. Taken together the whole may be larger than the sum of its parts, causing greater harm than any one of the project's percentage if it was developed alone. Impacts specifically in the Las Cruces and El Paso areas will increase significantly should both the Mason Draw and Afton SEZs be developed. When solar facilities are permitted, the BLM should ensure robust analysis of cumulative impacts of

other proposed or ongoing projects in the area to ensure the smallest impact possible on the larger area as a whole.

### **iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below. The enclosed map, Attachment 11, shows this recommended boundary adjustment.

- The northeast corner of the proposed Mason Draw SEZ overlaps with 1,811 acres of the Sleeping Lady Hills unit of New Mexico Wilderness Alliance's Citizens' Proposed Wilderness Inventory. The zone must be adjusted to exclude those areas. We have included information on the New Mexico proposed wilderness inventory with these comments.

### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

In documenting solar development's impacts to wildlife, the DPEIS looked at direct impacts, which would be effects due to actual disturbance and construction within the SEZ, as well as indirect impacts within a five mile radius in the "area of indirect effects", and then indirect impacts to the "SEZ region," a fifty mile radius from the centroid of the SEZ. The "affected area" includes both the SEZ area as well as the area of indirect effects.

While direct impacts to wildlife in Mason Draw might be relatively small, indirect impacts could be fairly large. Considering this area's use by many special status species and riparian dependent species, as well as its high levels of recreational use, we do not recommend designation of Mason Draw as a SEZ.

A significant number of species use the area of the proposed Mason Draw SEZ, potentially including up to twenty nine special status species. The northern half of the SEZ is home to pronghorn, and almost the entire SEZ is utilized by mule deer. To avoid impacts on these species, wildlife movement corridors within the SEZ should be avoided. There are also portions of the SEZ that are almost certainly habitat for the listed endangered Northern Aplomado Falcon. Specifically, there are areas of high suitability from the Aplomado Habitat Suitability model found within the northeastern portion of the SEZ. While this is not the Falcon's designated critical habitat, take of the species would still be prohibited, and incidental take permits would be required from the US Fish and Wildlife Service. Unlike the listed plants potentially in the area, translocation of Falcons to other sites is not realistically feasible.

Direct effects from things like collisions, accidents, and burrow infilling would be relatively small according to the analysis in the DPEIS. Indirect effects due to sediment and wastewater

runoff, dust, noise, lights, the spread of invasive species, pesticide use, and accidental chemical spills are expected to be much higher.

Finally, any groundwater depletions could reduce the levels of surface waters and/or wetlands outside the SEZ, causing more widespread harm than at the site itself. Run-off, spills, and increased pesticide use would most likely degrade the small amount of available riparian habitat for amphibians. As noted above, there is a significant riparian corridor running north-south through the SEZ (Mason Draw, the riparian corridor for which the SEZ is named). This and other riparian areas should be avoided to protect the high diversity of species that utilize these habitats.

All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act). In accordance with these SEZ-specific design features, we recommend that fences should be built around as small an area as possible to ensure minimum disturbance to migration corridors; land disturbance should be avoided on streams, washes, wetlands, or within the 100-year floodplain; development should avoid the habitat of special status species; in depth studies and biological surveys should be done before any project is authorized to determine the project plans that will least impact present species; both on and off-site mitigation should continually occur throughout the solar development process, including restoration of grasslands and wetlands; and clearing should be avoided on the SEZ during spring or summer, as nests and nestlings of ground and burrow-dwelling birds can be destroyed.

**v. Opportunities for environmentally responsible development**

None noted.

**vi. Corrections**

None noted.

**C. Red Sands SEZ**

**i. Overview**

The proposed Red Sands Zone is a 22,520-acre zone in Otero County, New Mexico. It is six miles southwest of Alamogordo, and in proximity to U.S. 70. There are currently no solar ROW applications within the zone. Three 115-kV transmission lines intersect with the zone. The Red Sands SEZ is in a very rural area in the Tularosa Basin, and is surrounded by military lands including Holloman Air Force Base, White Sands Missile Range, and Fort Bliss. It is also near White Sands National Monument (managed by the National Park Service) and the Mescalero Apache Reservation. **Though there are significant concerns about potential impacts from water use for cooling, provided the BLM addresses appropriate water use and the additional concerns below, we support the designation of this area as a Solar Energy Zone.**

## ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The Southwest is an extremely arid environment. Many of the basins that contain excellent solar resources have water rights that are already fully or over-allocated. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

The Red Sands SEZ, in the Tularosa Valley Basin, does not have any perennial surface waters, but does have several ephemeral streams and small ponds, including an un-named ephemeral wash running north-south through the middle of the SEZ, totaling 54 acres. There are also five palustrine wetlands mapped by the National Wetland Inventory (NWI) totaling 17 acres and two riverine wetlands totaling 0.3 miles (USFWS Undated). NWI maps are produced from high altitude imagery and are subject to uncertainties inherent in image interpretation (USFWS 2009).

The characteristics of the geology of this basin and the groundwater itself make the groundwater here especially vulnerable to impacts. Most of the groundwater is fairly saline, and the city of Alamogordo has already been forced to investigate desalinization possibilities due to its groundwater extraction. The water table in Otero County is extremely shallow, with depth to groundwater in the vicinity of Red Sands SEZ at about 75 feet. In the nearby White Sands National Monument, depth to groundwater is only 1-6 feet below land surface. This shallow water table is essential for the proper function of the sand dunes in the National Monument, which make up habitat for many species of wildlife.

Estimates for groundwater recharge in the northern half of the SEZ assume groundwater recharge was 11,890 acre-feet/year (afy), and that groundwater discharge by evapotranspiration 9,905 afy and 16,491 afy by groundwater extractions in 2005 (Keyes 2005). According to these estimates, groundwater extractions in the northern half of the SEZ exceed groundwater recharge. We are not aware of any good estimates for groundwater recharge rates for the southern half of the SEZ.

According to the DPEIS, water requirements for the peak construction year (assuming two projects being built concurrently) in the SEZ would total about 3200 afy, and would generate approximately 150 afy of wastewater. Because there are no significant surface water bodies on the SEZ, it is assumed that water use in the SEZ would necessarily come from groundwater withdrawals or by trucking water in from off-site. The DPEIS finds that the high water use requirements of wet cooling make wet cooling infeasible for the maximum buildout of 80% of this SEZ assumed in the DPEIS, and even dry cooling could consume 46% of the estimated local groundwater recharge at maximum buildout.

Removal or degradation of even a small portion of the available water can have serious impacts on ecosystem health, even at a significant distance away from the actual degradation. This is especially true for a site like Red Sands, when so much of the area's ecosystem is directly dependent on the shallow groundwater table. The DPEIS acknowledges that groundwater depletions can reduce the levels of streams and wetlands outside the SEZ, and also that there is a risk to the sand dune system with any groundwater withdrawal.

There is also a very high a potential at Red Sands for contamination of the groundwater which contributes to the flow of surface waters and health of the ecosystem, especially on the dunes. If wells are poorly designed there is a higher likelihood of underground connections between aquifers, possibly spreading contaminants to greater areas. Wastewater discharges could seriously impact the entire area's water quality (both surface and groundwater) through pesticides, run-off and accidental spills.

If Red Sands is designated a SEZ, we would encourage the BLM to adopt as policy all of the mitigations outlined in Volume 6, section 12.2.9.3 (*SEZ-Specific Design Features and Design Feature Effectiveness*). We also encourage the BLM to increase the standards in these mitigation measures. Specifically, monitoring standards of water quality and groundwater levels should be held to a higher standard than the state level. The state requirements for groundwater monitoring are not sufficient to really ensure no harm is done to water resources in the area. Solar projects permitted by the BLM should at least be required to fulfill similar monitoring obligations as those listed in Section 20.6.2.3107 of the New Mexico Administrative Code.

The DPEIS acknowledges that wet cooling is infeasible, and that using dry cooling at full buildout could consume 46% of the estimated local groundwater recharge. It seems likely that only non-cooled projects such as PV or dish-engine projects are feasible in this SEZ. Regardless of which technology is used, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Cumulative Impacts**

The Red Sands SEZ is located near the city of Alamogordo, NM. There are several ongoing and planned projects in the area, including the SunZia Transmission Line, the High Plains Express, several power plants, hunting licenses and grazing allotments. There are five Wilderness Study Areas within a fifty mile radius of the SEZ, along with several refuges and other areas with special designations, including White Sands National Monument, which is adjacent to the SEZ.

All of these land uses will impact the health of the area. Taken together the whole may be larger than the sum of its parts, causing greater harm than any one of the project's percentage if it was developed alone. An ecosystem can only take so many intrusions before it reaches a critical point of no return.

While other projects in the area are a concern, we support the Red Sands SEZ designation with the stipulations we have outlined and as long as all mitigation measures are followed, and the groundwater table is protected. When solar facilities are permitted, the BLM should ensure



robust analysis of cumulative impacts of other proposed or ongoing projects in the area to ensure the smallest impact possible on the larger area as a whole.

**iii. Recommended boundary adjustments**

None noted.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

• **Species of concern**

In documenting solar development's impacts to wildlife, the DPEIS looked at direct impacts, which would be effects due to actual disturbance and construction within the SEZ, as well as indirect impacts within a five mile radius in the "area of indirect effects", and then indirect impacts to the "SEZ region," a fifty mile radius from the centroid of the SEZ. The "affected area" includes both the SEZ area as well as the area of indirect effects.

While direct impacts to wildlife at Red Sands might be relatively small, indirect impacts could be fairly large unless precautions are taken to avoid impacts. Extra precautions at this SEZ should be taken by both the BLM and any permitted facility to ensure indirect impacts remain minimal. A significant number of species use the area of the proposed Red Sands SEZ, potentially including up to seventeen special status species within the affected area. The SEZ avoids the habitat of sensitive species like the Aplomado Falcon, as well as large game species like mule deer and pronghorn.

By far the most concerning potential effect of development at Red Sands is on the White Sands pupfish (NM-T, FWS-SC).<sup>5</sup> While this fish has no habitat actually within the SEZ, there are 300 acres of habitat within the area of indirect effects, which is 1/3 of its available habitat within the SEZ region. It exists in only four springs which are all supported by groundwater. The EIS lists the impact as "small to large", with the size of the impact entirely dependent on groundwater withdrawals. The BLM acknowledges in the document that avoiding groundwater withdrawals would entirely mitigate harm to this species, as well as plant communities which are dependent on the dune system. This reiterates our previous assertion that groundwater withdrawals should be avoided at Red Sands whenever possible, and that any water use follows the design features and recommendations in Section III above.

The DPEIS notes that there could also be moderate impacts to the White Sands woodrat (USFWS-SC), a subspecies of the southern plains woodrat that utilizes desert scrub, grasslands, and riparian. Species-specific surveys for this endemic subspecies at the project level could help avoid impacts.

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<sup>5</sup> NM-T = listed as threatened by the State of New Mexico; FWS-SC = USFWS species of concern

As discussed in detail in section III above, playa lakes and inter-dunal areas containing encysted macroinvertebrates during dry periods that become active and reproduce when these areas fill with water. These temporary invertebrate communities in turn provide a food source for the hundreds of migratory shore and water birds that pass through the monument. Protection of these areas, such as the palustrine wetlands included in the SEZ, should be a priority when any project is permitted.

Direct effects such as collisions, accidents, and burrow infilling would be relatively small according to the DPEIS. Indirect effects due to sediment and wastewater runoff, dust, noise, lights, the spread of invasive species, pesticide use, and accidental chemical spills are expected to be much higher, though these types of effects would be expected from solar development almost anywhere.

We support the designation of the Red Sands SEZ as long as all identified mitigation measures are followed, studies are done before every project, groundwater withdrawals are avoided, and that any water use follows the design features and recommendations in Section III above. All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act). Fences should be built around as small an area as possible to ensure minimum disturbance to migration corridors. In accordance with the SEZ-specific design features included in the DPEIS, we recommend that land disturbance be avoided on sand dunes, playas, streams, washes, wetlands, or within the 100-year floodplain; development should avoid habitat of special status species; in depth studies and biological surveys should be done before any project is authorized to determine the project plans that will least impact present species; both on and off-site mitigation should continually occur throughout the solar development process, including restoration of grasslands and wetlands; and clearing should be avoided during spring or summer, as nests and nestlings of ground and burrow-dwelling birds can be destroyed.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- We appreciate BLM analyzing and acknowledging the impacts to visual resources of nearby special management areas, most notably White Sands National Monument. We support BLM conducting further viewshed analysis at the project level.
- The proposed zone's proximity to U.S. 70, the UP railroad, and existing transmission lines which the PEIS estimates could provide access from the SEZ to the transmission grid should allow for this area to be developed in an environmentally responsible way without much additional infrastructure outside the zone. We encourage BLM to ensure developers utilize this existing infrastructure to the extent possible.

#### **vi. Corrections**

None noted.

Thank you for your thorough consideration of these comments.

Sincerely,

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### **Attachments and appendices**

- Appendix A - Analysis of SEDP Overlap with CWI Lands
- Appendix B - Detailed Write-ups for CWI Lands
- Attachment 1 - Desert Siting Criteria Memo
- Attachment 2 - Map of SEDP Overlap with CWI Lands (Bootheel Region)
- Attachment 3 - Map of SEDP Overlap with CWI Lands (Central Region)
- Attachment 4 - Map of SEDP Overlap with CWI Lands (Northwest Region)
- Attachment 5 - Map of SEDP Overlap with CWI Lands (South Central Region)
- Attachment 6 - Map of SEDP Overlap with CWI Lands (Southeast Region)
- Attachment 7 - Map of SEDP Overlap with CWI Lands (West Central Region)
- Attachment 8 - GIS Data for CWI Lands
- Attachment 9 - Map of SEDP Overlap with Aplomado Falcon Habitat 1
- Attachment 10 - Map of SEDP Overlap with Aplomado Falcon Habitat 2
- Attachment 11 – Map of Recommended Boundary Adjustments for Mason Draw SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11719.

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Attachment: Solar DPEIS Comments - Utah Final (TWS and partners 4-18-11).pdf

Comment Submitted:

April 18<sup>th</sup>, 2011

*Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).*

Linda Resseguie, BLM Solar PEIS Project Lead  
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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Wild Utah Project, Southern Utah Wilderness Alliance, Grand Canyon Trust, Center for Native Ecosystems, Sierra Club, Natural Resources Defense Council, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

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## I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address Utah.

## II. Alternatives

### **A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative**

The SEZ Alternative would designate 24 Solar Energy Zones. The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

### **B. The BLM should not adopt the Solar Development Program (SEDP) Alternative**

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM’s oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to

development – this is over 100 times more land than what the agency’s own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM’s solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

**C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate**

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM’s solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM’s solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

**III. Overarching Issues for Solar Development on Public Lands in Utah**

The issues below should be addressed for any solar development on public lands in Utah, whether inside or outside of a SEZ.

**A. Water resources**

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little

water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that —water use and water availability are key considerations” when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,<sup>1</sup> to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. See DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

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<sup>1</sup> We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. —The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

#### **i. Cumulative impacts to water resources**

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

## **B. Water quality**

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

## **C. Impacts to groundwater-dependent species and their habitats**

There are a variety of groundwater dependent species that could be impacted by changes in hydrology caused by solar development, particularly groundwater withdrawal. The species impacted are site-specific, and are discussed in comments for each SEZ, below.

## **D. Soil erosion and associated vegetation impacts**

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

#### **E. Soil diseases and toxins**

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

#### Valley fever

*Coccidioides* species is a fungus residing in the top 8” of some desert soils that causes a serious and potentially fatal disease known as “valley fever”. This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).



*Coccidioides* sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.<sup>2</sup>

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.<sup>3</sup>

### Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Morman 2010).

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The problem of disturbed desert dust causing regional climate change and early snowmelt is discussed in numerous recent scientific articles. Neff et al., 2008, have documented how the dust melting snow phenomenon is largely coincidental with increased settlement of the American

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<sup>2</sup> <http://www.mayoclinic.com/health/valley-fever/DS00695> .

<sup>3</sup> Ibid.

West. The deposition of this disturbed desert dust on snow leads to early snow melt (Painter et al. 2007). In the Colorado River Basin, these effects are staggering. Painter et al., 2010, estimated that disturbed desert soils traceable to settlement of the American West landing on mountain snowpack in the Upper Colorado River Basin was resulting in a net loss of approximately 5% of the annual flow of the Colorado River as measured at Lees Ferry. It is likely that most of this dust on mountain snowpack is coming from nearby lands, where soil-disturbing activity makes lands susceptible to wind erosion; activities such as energy development, off-road vehicle use, and grazing serve to destabilize soils (Belnap 2009).

Recently, the U.S. Environmental Protection Agency (EPA) raised this issue in its comment letter to the BLM regarding the Cedar City Field Office Resource Management Plan (RMP) scoping; it explained that the dust on snow issue is significant in the West (Letter from Svoboda to Rigtrup 2010, see Attachment 1). The EPA asked the BLM to consider and analyze this issue in its planning and analysis. As with the BLM's preparation of the Cedar City RMP, the agency should consider the effects of soil disturbance for solar development on potential transport to adjacent mountain ranges.

The methodology for inventorying dust generation, which the BLM already applies to numerous development projects, could be applied to ground disturbance for solar development. Any activity that will cause fugitive dust (e.g. road building, soil pad clearing, etc.) should be cataloged in order to estimate total dust emissions. Disclosing this information is a necessary step in the NEPA process and in ensuring that the public receives all the information necessary to understand these impacts. Although there may not be a method for modeling dust on snow impacts at the present time, BLM should still attempt to create an emissions inventory for fugitive dust for the various alternatives it analyzes in the Solar PEIS. This would allow BLM and the public to understand the differences between the impacts of the various alternatives, impacts that would likely significantly influence the dust on snow problem.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

### Snowmelt and dust

Recent research has indicated that dust generation has regional effects on snow chemistry and subsequent melting in the Central Rocky mountains (Rhoades et al. 2010). The accelerated snowmelt from dust deposition changes surface water flow pattern and timing, groundwater recharge, and water availability during the driest parts of the year, and is strongly influenced by destabilization of desert soils (Painter et al. 2010) .

These issues are clearly tied to those mentioned previously related to soil disturbance, and the biological importance of these related issues make it imperative that BLM enforce concrete guidelines for minimizing soil disturbance and dust generation from solar development.

## **F. Habitat connectivity, wildlife movement corridors, and fencing**

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it’s important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

## **G. Playa wetlands**

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al. 2010)

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al 2008; Liebowitz 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010, Liebowitz 2003; Comer et al. 2005). Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO<sub>2</sub>, particularly as the amount of CO<sub>2</sub> in the atmosphere increases. In the case of the playa crusts, the net photosynthetic rate of the algae rose by a factor of two in going from the ambient CO<sub>2</sub> concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the dune crusts, the net photosynthetic rate tripled (Brostoff et al. 2002).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

## **H. Desert tortoise relocation**

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave population) from Project Sites: Plan of Development Guidance” (U.S. Fish and Wildlife Service, August 2010).<sup>4</sup>

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.<sup>5</sup>
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.<sup>6</sup>
- Translocation plans should be finalized before project approvals, and made public for review.

#### **I. Transmission, roads and other associated infrastructure**

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

#### **J. Air quality modeling and dust emissions inventories**

The PEIS should focus on two principle issues in addressing air quality resources during its planning process. First, the PEIS should address the impacts of the activities it permits and envisions on air quality by the use of modeling. Second, the PEIS must ensure that it evaluates the impacts of soil disturbance on air quality via the use of emission inventories and modeling.

##### The need for modeling

The PEIS should model the impacts of the activities that it permits, or plans for, on air quality in the planning area in Utah. The National Environmental Policy Act, the Federal Land Policy and Management Act, and the Clean Air Act require that BLM prepare such analysis. Without preparing near-field, far-field, and cumulative air quality analyses, BLM will not understand the effects of the pollutants generated by activities analyzed in the PEIS, as required by NEPA. In addition, BLM must model pollution concentrations in order to understand if this plan will

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<sup>4</sup>[http://www.fws.gov/ventura/speciesinfo/protocols\\_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx](http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx)

<sup>5</sup><http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

<sup>6</sup> Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

comply with federal and state air quality standards, as required by FLPMA and the Clean Air Act.

FLPMA requires that BLM manage the planning area according to federal and state air quality standards. *See* 43 C.F.R. § 2920.7(b)(3) (requiring that BLM land use authorizations shall contain terms and conditions which shall . . . [r]equire compliance with *air . . . quality standards* established pursuant to applicable Federal or State law”) (emphasis added); *see also* 43 U.S.C. § 1712(c)(8) (requiring BLM in land use plans—which would therefore require implementation in daily management—to provide for compliance with applicable pollution control laws, including State and Federal air . . . pollution standards or implementation plans”). These air quality standards include both the national ambient air quality standards (NAAQS) and the prevention of significant deterioration (PSD) increment limits.

The PEIS must include an affirmative statement by BLM that it will “[r]equire compliance with air . . . quality standards established pursuant to applicable Federal or State law, as its own regulations require.” *See, e.g.*, 43 C.F.R. § 2920.7(b)(3). The nearby Richfield RMP demonstrates the sort of specific language that must be adopted by BLM here by stating that it is a goal and objective of that plan to “[m]anage all BLM and BLM-authorized activities to maintain air quality within the thresholds established by the NAAQS and ensure that those activities continue to keep the area in attainment, meet PSD Class II standards, and protect the Class I airsheds” (Richfield RMP 2008) (Richfield Record of Decision (ROD) 2008). It further elaborates that BLM will “[m]aintain concentrations of criteria pollutants associated with management actions in compliance with applicable State and Federal Ambient Air Quality Standards” and “[m]aintain concentrations of Prevention of Significant Deterioration . . . pollutants associated with management actions in compliance with the applicable increment.” (Richfield RMP 2008) (Richfield ROD 2008). BLM must adopt such clear and unequivocal language in the PEIS to ensure that it complies with its mandate under FLPMA to manage the area according to federal and state air quality standards.

Furthermore, the Clean Air Act itself requires that BLM not license, permit, approve, engage in, or support in any way an activity that will not conform with a state implementation plan. 42 U.S.C. § 7506(c)(1). State implementation plans are developed in order to achieve NAAQS. *See id.* § 7410. They are also developed to in order to observe PSD increment limits. *See, e.g.*, Utah Admin. Code R307-110-9 (implementing PSD increment limits in Utah’s state implementation plan). Conforming with a state implementation plan includes eliminating violations of NAAQS and ensuring that activities BLM approves do not cause or contribute to any new violation of any standard in any area.” *See* 42 U.S.C. § 7506(c)(1). BLM is therefore obligated under the Clean Air Act to ensure that any activity it approves will not violate air quality standards such as NAAQS and PSD increment limits.

The EPA scoping comments on the nearby Cedar City RMP raise the importance of modeling in order to demonstrate that BLM’s plans will comply with federal air quality standards such as NAAQS and the PSD increment limits (Letter from Svoboda to Rigtrup 2010, see Attachment 1). Furthermore, the EPA discusses how modeling can guide BLM’s resource allocations based on projected impacts.

The EPA has also submitted similar comments on other nearby RMPs, including the Vernal Field Office RMP and the Moab Field Office RMP. We incorporate those comments into its scoping comments here. The EPA has confirmed that BLM has authority to ensure operators on public lands are not permitted to undertake activities that will result in air quality violations or exceed air quality standards (Letter from Svoboda to Northrup 2008, see Attachment 2) (Letter from Svoboda to Sierra 2008, see Attachment 3). BLM may therefore impose standards and requirements on these operators and other in order to avoid running afoul of federal and state air quality standards. EPA also instructs BLM that it cannot declare that air quality in a planning area will be protected without providing the results of dispersion modeling to confirm that conclusion (Letter from Svoboda to Northrup 2008, see Attachment 2). As EPA says, BLM must perform dispersion modeling or it will not be able to determine whether its authorizations and planned activities will comply with federal and state air quality standards.

As an example of what is possible, the recently-released Vernal Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (August 2008) includes modeling analyses for near-field, far-field, and cumulative impacts for some pollutants.<sup>7</sup> BLM has prepared models and more comprehensive emissions inventories in its Farmington, New Mexico; Vernal, Utah; and Roan Plateau, Colorado RMPs. This reality demonstrates that the PEIS may also perform such analysis at this time. The PEIS must also undertake such modeling analysis but for all pollutants regulated under NAAQS and the PSD increment limits.

Both the State and Federal standards are based on *ambient concentrations* of various air pollutants. BLM does not know whether it is satisfying its obligation to observe air quality standards without modeling the effect that the activities permitted in the PEIS will have on ambient *concentrations* of various pollutants, such as those related to NAAQS and PSD increment limits.

The PEIS should make use of nearby monitoring data for describing conditions in the area and for preparing its modeling analysis. Furthermore, the nearby monitoring or background concentrations show that it is critical that BLM model now because air quality is likely a serious issue in the planning area that must be addressed.

The Richfield RMP, which covers portions of the planning area, contains a background concentration for the 24-hour average maximum of fine particulates (PM<sub>2.5</sub>) that appears to be near 65 µg/m<sup>3</sup>.<sup>8</sup> This level is well above NAAQS.

Likewise, there may also have elevated ozone levels in the planning area. An ozone monitor in Zion National Park has recorded an average of 0.078 parts per million (ppm) for the time period between 2005-07, in excess of NAAQS.<sup>9</sup> These averages show that the planning area's background may also be problematic for ozone.

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<sup>7</sup> Vernal PRMP at 4-14, 4-19, 4-30, available at:

[http://www.blm.gov/ut/st/en/fo/vernal/planning/rmp/proposed\\_rmp\\_eis/proposed\\_rmp\\_eis\\_document.html](http://www.blm.gov/ut/st/en/fo/vernal/planning/rmp/proposed_rmp_eis/proposed_rmp_eis_document.html).

<sup>8</sup> Richfield RMP 2008

<sup>9</sup> EPA, County Air Quality Map—Air Quality Data, Washington County, Utah, Ozone, 4<sup>th</sup> Highest 8-hour Average Concentration, 2007, [http://www.epa.gov/cgi-bin/broker?\\_service=airdata&\\_program=progs.webprogs.msummary.scl&\\_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3\\_8&myear=2007&exc=&mapsize=zsc&reqtype=viewmap](http://www.epa.gov/cgi-bin/broker?_service=airdata&_program=progs.webprogs.msummary.scl&_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3_8&myear=2007&exc=&mapsize=zsc&reqtype=viewmap)

It is critical that BLM list the correct background concentrations for ozone and PM<sub>2.5</sub> and that it perform modeling for these pollutants now since it is possible that these pollutants could be at unhealthy levels. The health impacts of PM<sub>2.5</sub> are severe. *See* National Ambient Air Quality Standards for Particulate Matter, 71 Fed. Reg. 61,144 (Oct. 17, 2006) (discussing deleterious health effects of PM<sub>2.5</sub> pollution). Likewise, the health impacts of ozone are also considerable. National Ambient Air Quality Standards for Ozone, 73 Fed. Reg. 16,436 (Mar. 27, 2008) (discussing adverse health impacts of ground-level ozone pollution).

NEPA also requires that BLM model the impacts from the various activities—and fully inventory the pollutants generated by these activities—permitted by the PEIS. “NEPA ‘prescribes the necessary process’ by which federal agencies must ‘take a ‘hard look’” at the environmental consequences‘ of the proposed courses of action.” *Pennaco Energy, Inc. v. U.S. Dept. of the Interior*, 377 F.3d 1147, 1150 (10th Cir. 2004) (quoting *Utahns for Better Transp. v. U.S. Dept. of Transp.*, 305 F.3d 1152, 1162–63 (10th Cir. 2002)) (internal citation omitted). The fundamental objective of NEPA is to ensure that an agency will not act on incomplete information only to regret its decision after it is too late to correct.” *Marsh v. Or. Natural Resources Council*, 490 U.S. 360, 371 (1990) (citation omitted). Without preparing modeling to determine what the ambient concentrations of relevant pollutants will be, BLM cannot understand or disclose the impacts of these pollutants on humans, wildlife, vegetation, water bodies, or the climate. Since it is actual ambient concentrations that will impact these various components of the ecosystem, BLM must model concentrations to understand these impacts. This is why the EPA has demanded that the various BLM RMPs, for example, include dispersion modeling to support their statements that the activities permitted in those plans would not harm air quality (Letter from Svoboda to Northrup 2008, see Attachment 2). Likewise, BLM must prepare modeling to demonstrate that the PEIS will comply with federal air quality standards such as NAAQS and the PSD increment limits.

#### The PEIS must analyze the impacts from soil-disturbing activities

The optimal time for BLM to begin evaluating air quality impacts from the activities analyzed in the PEIS is at the planning stage. The optimal way for BLM to evaluate these impacts is through the use of dispersion modeling. BLM should not abdicate this obligation to perform quantitative dispersion modeling to a later date. It is vital that BLM fully model and analyze impacts from soil-disturbing activities and that it prepare those models now.

BLM must inventory the particulate matter pollution, differentiated for PM<sub>2.5</sub> and for PM<sub>10</sub>, which will be generated by fugitive dust from soil-disturbing activities. These activities include

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(reporting a concentration of 0.071 ppm for 2007); EPA, County Air Quality Map—Air Quality Data, Washington County, Utah, Ozone, 4<sup>th</sup> Highest 8-hour Average Concentration, 2006, [http://www.epa.gov/cgi-bin/broker?\\_service=airdata&\\_program=progs.webprogs.msummary.scl&\\_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3\\_8&myear=2006&exc=&mapsize=zsc&reqtype=viewmap](http://www.epa.gov/cgi-bin/broker?_service=airdata&_program=progs.webprogs.msummary.scl&_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3_8&myear=2006&exc=&mapsize=zsc&reqtype=viewmap)

(reporting a concentration of 0.072 ppm for 2006); EPA, County Air Quality Map—Air Quality Data, Washington County, Utah, Ozone, 4<sup>th</sup> Highest 8-hour Average Concentration, 2005, [http://www.epa.gov/cgi-bin/broker?\\_service=airdata&\\_program=progs.webprogs.msummary.scl&\\_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3\\_8&myear=2005&exc=&mapsize=zsc&reqtype=viewmap](http://www.epa.gov/cgi-bin/broker?_service=airdata&_program=progs.webprogs.msummary.scl&_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3_8&myear=2005&exc=&mapsize=zsc&reqtype=viewmap)

(reporting a concentration of 0.091 ppm for 2005).



travel on unpaved roads, the creation of roads, the clearing of surface pads, and other intensive uses that generate dust. These disturbances and uses of existing routes will generate significant amounts of fugitive dust which will negatively affect air quality in the region. It is vital that the PEIS and its air quality emissions inventory consider such emissions and then use that inventory data to model impacts.

BLM field offices in Utah have been alerted regarding the importance of such quantification and modeling by members of the public with examples of air quality modeling for fugitive dust from vehicular travel on unpaved roads (Letter from Braden to Heinlein 2008, see Attachment 4). These comments showed that the BLM has conducted fugitive dust inventories and modeling for projects such as the West Tavaputs Plateau Natural Gas Full Field Development Plan, Draft Environmental Impact Statement, UT-070-05-055 (Feb. 2008), and the Enduring Resources' Saddletree Draw Leasing and Rock House Development Proposal, Final Environmental Assessment UT-080-07-671 (Dec. 2007) (Rock House EA). In both cases, BLM itself attempted to estimate fugitive dust emissions from the passage of vehicles on unpaved roads as well as activities that resulted in the disturbance of soil, such as earthmoving. Furthermore, it then modeled these emissions to arrive at predicted ambient concentrations of various pollutants. This quantification and modeling must be conducted in order to understand where BLM's plans will comply with federal and state air quality standards and to know what impact they may have on human health, wildlife, vegetation, water bodies, and the climate.

The models for these other projects demonstrate that fugitive dust can create significant levels of ambient pollution. The levels of  $PM_{2.5}$  predicted in the Rock House EA were so high that they exceeded NAAQS (Letter from Braden to Heinlein 2008, see Attachment 4). It is likely that most of the predicted  $PM_{2.5}$  was the result of fugitive dust. Furthermore, disturbance areas, such as pads and dirt roads may generate fugitive dust even when not being traveled by vehicles or directly impacted (e.g., by wind blown dust). Thus, it is vital that the PEIS quantify all of the disturbance that it is permitting, estimate the rate at which it will generate fugitive dust when not being traveled by vehicles or directly worked, estimate the number of vehicles that will use each route and the amount of earthmoving that will take place, and the likely fugitive dust generation rate, and then model those figures to understand the true impacts of fugitive dust emissions.

These examples demonstrate the importance of fugitive dust emissions inventories, differentiated for  $PM_{10}$  and  $PM_{2.5}$ , in order to begin to understand the true impacts of the activities envisioned and authorized in the PEIS on air quality in the planning area. In addition, BLM must then perform dispersion modeling to know how individuals, plants, and wildlife will be affected by these activities.

#### **IV. Lands in SEDP Alternative that are not appropriate for development**

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of

examples of lands and resources within the SEDP Alternative that need to be protected from development.

### **A. Recommended screening criteria for utility-scale solar development**

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, attached as Attachment 5. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

### **B. Specific examples of lands in the SEDP Alternative that are not appropriate for development – Citizen's Proposed Wilderness Lands and Other Sensitive Areas Proposed for Protection**

Citizen's Proposed Wilderness (CPW) lands are lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

Of the more than 2 million acres in Utah of BLM managed lands identified in the SEDP Alternative as being available for leasing, nearly 25%—380,414 acres—is located in lands proposed for wilderness in America's Red Rock Wilderness Act (ARRWA). We have included the GIS data for these areas as Attachment 6. First introduced in the U.S. House of Representatives in 1989, ARRWA enjoys significant nationwide support from members of congress and Americans from all fifty states. In the 111st Congress, ARRWA had 168 co-sponsors in the House (H.R. 1925) and 23 co-sponsors in the Senate (S. 799). The bill will be reintroduced shortly in the 112<sup>th</sup> Congress.

Utah, along with Arizona and New Mexico, has significant conflicts in terms of total acreage of proposed wilderness that would be available for leasing in the SEDP Alternative. The majority of the lands in conflict in Utah have been identified by BLM itself as wilderness caliber lands (e.g. "lands with wilderness characteristics") and span a number of iconic western landscapes. These include, for example, the culturally rich Colorado Plateau, the remote Dirty Devil wilderness complex, and several impressive mountain ranges and basins in Utah's west desert

region. Below is a brief discussion of three proposed wilderness areas, a large percentage of each which the SEDP Alternative would make available for solar development.

### **Dirty Devil and Henry Mountains Wilderness Complexes**

The Dirty Devil and Fiddler Butte citizen-proposed wilderness (CPW) areas contain an abundance of archeological resources. Studies by the National Park Service and the BLM in this area have suggested that this region contains an average density of twenty-four archeological sites per square mile.<sup>10</sup> This means that in the Dirty Devil region alone there are likely hundreds and hundreds of rock shelters, campsites, lithic scatters, stone tool quarries, and petroglyph sites.<sup>11</sup>

The Dirty Devil CPW wilderness is home to antelope, bighorn sheep, and at least nine species of plants and animals identified as “sensitive” by the BLM.<sup>12</sup> It is a landscape of narrow redrock canyons surrounded by vast slickrock bowls and cliffs. Plateaus above the canyons provide important habitat for plants and animals.

This area was also frequented by outlaws; Butch Cassidy and the Wild Bunch were the most famous of the lawbreakers to hang out here.<sup>13</sup> The Dirty Devil has served as the setting for many Western novels, including one by Zane Grey.<sup>14</sup>

The Fiddler Butte area possesses some of the most spectacular scenery in the United States.<sup>15</sup> This area, along with the Dirty Devil River CPW, would be totally inappropriate for solar development. The preferred alternative in the DPEIS presents 23,280.8 acres of conflict with the Dirty Devil CPW. There are 963.5 acres of conflict with the Fiddler Butte CPW.

The BLM agrees that the majority of the relevant Dirty Devil and Fiddler Butte CPWs contain wilderness characteristics.<sup>16</sup> The relevant resource management plan even manages portions of this area to preserve those wilderness characteristics.<sup>17</sup>

The Flat Tops, located in the northern portion the Dirty Devil area, are one of the most prominent and recognizable landforms in the San Rafael Desert. Impressive views from the Flat Tops include the San Rafael Reef, Sweetwater Reef, Book Cliffs, La Sal Mountains, Henry Mountains, Factory Butte, North and South Caineville mesas, Boulder Mountain, and Thousand Lake Mountain. To the northeast of the Flat Tops is Spire Point, a volcanic dike that is extremely rare in the San Rafael Desert area.

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<sup>10</sup> Wilderness at the Edge at 218.

<sup>11</sup> *See id.*

<sup>12</sup> *Id.*

<sup>13</sup> Utah Wilderness Inventory at 75.

<sup>14</sup> *Id.*

<sup>15</sup> *See supra* at 7 (photo of this area).

<sup>16</sup> Richfield RMP at 3-86.

<sup>17</sup> *See* Richfield RMP ROD at Map 2.

Sand dunes, native grasslands, and a series of washes lie between the Flat Tops in the north and Buck Canyon to the south. These support a wide variety of wildlife species including golden eagles, hawks, antelope, coyotes, rodents, lizards, snakes, and many different types of insects.

The BLM has recognized that all of the Flat Tops CPW contains wilderness characteristics.<sup>18</sup> In addition, the BLM's Price Resource Management Plan designated parts of the Flat Tops as an Area of Critical Environmental Concern.<sup>19</sup> This area also represents one of the very few relic plant communities in southern Utah.<sup>20</sup> The BLM has stated that this area presents the potential for scientific study for comparison to areas that have been grazed.<sup>21</sup> Nearly 19,200 acres of land proposed for potential solar development in the DPEIS preferred alternative conflict with this remarkable CPW.

Bee diversity is higher in the world's deserts—and the Mediterranean—than anywhere else on the planet.<sup>22</sup> The San Rafael Desert, just north of the Dirty Devil Canyon, is no different. In fact, it is home to one of the most astonishing and highly diverse array of native and endemic bees anywhere in North America.<sup>23</sup>

Researchers have found forty-nine different genera and 333 different species in this area.<sup>24</sup> This is nearly half of all genera known in the United States.<sup>25</sup> This is also more genera and nearly as many species of bees as in all of New England.<sup>26</sup> Forty-eight of these species were new to science and sixty-eight of these species occur, as far as is known, only in the Canyonlands section of the Colorado Plateau.<sup>27</sup>

Most of the bees found in the San Rafael Desert make their homes and nests in the ground.<sup>28</sup> Many of them visit, for pollination, only flowers of one or a few closely-related plants.<sup>29</sup> This makes these bees extremely vulnerable to ground disturbing activities.<sup>30</sup> It is likely that extensive solar development in this region could have a significant adverse impact on these bees.

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<sup>18</sup> Price RMP at 3-64, Map 3-15; Richfield RMP at 3-86, Map 3-9.

<sup>19</sup> Price RMP ROD at Map R-29.

<sup>20</sup> See Price RMP at L-1.

<sup>21</sup> *Id.*

<sup>22</sup> See J.S. Wilson *et al.*, Variation Between Bee Communities on a Sand Dune Complex in the Great Basin Desert, North America: Implications for Sand Dune Conservation, *Journal of Arid Environments*, vol. 73, 666-71, at 666 (2009), available at <http://ddr.nal.usda.gov/bitstream/10113/29074/1/IND44201136.pdf>.

<sup>23</sup> See generally Terry Griswold *et al.*, The Bees of the San Rafael Desert Implications for the Bee Fauna of the Grand Staircase-Escalante National Monument, in *Learning from the Land*, Grand Staircase-Escalante National Monument Science Symposium Proceedings, Cedar City, Utah (1997).

<sup>24</sup> *Id.* at 181.

<sup>25</sup> *Id.* at 176.

<sup>26</sup> *Id.* at 175.

<sup>27</sup> Declaration of Dr. Vincent J. Tepedino, ¶ 6, *S. Utah Wilderness Alliance v. Bankert*, Case No. 2:07cv00292 (TC) (Oct. 9, 2007) (attached).

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> See *id.*

The northern Dirty Devil region is home to the endangered Colorado squawfish, in the Green River, and may also contain the endangered humpback chub and the bonytail chub.<sup>31</sup> It may also contain habitat for the Utah sensitive species, the roundtail chub and razorback sucker.<sup>32</sup>

The proposed area also provides high value habitat for desert bighorn sheep. There are significant areas of critical habitat for pronghorn antelope in vast portions of this proposed MLP area, as well as high value habitat.

Based on Utah GAP Analysis data, the following sensitive species have habitat in the northern Dirty Devil region:

- Ferruginous hawk (high-value habitat).
- Short-eared owl (critical habitat).
- Burrowing owl (high-value habitat).
- Long-billed curlew (critical habitat).
- Peregrine falcon (high-value habitat).
- Blue grosbeak (critical habitat).
- Bald eagle (critical habitat).
- Common yellowthroat (critical habitat).
- Virgin River montane vole (critical habitat).
- Spotted bat (substantial and high-value habitat).
- Big free-tailed bat (substantial habitat).
- Townsend's big-eared bat (high-value habitat).
- Black-footed ferret (critical habitat).
- Utah milk snake (critical habitat).

The Flat Tops area in the San Rafael Desert supports a BLM Sensitive Species, which is also a candidate for potential listing: the Smith wild buckwheat.<sup>33</sup>

Based on Utah GAP Analysis and Utah Natural Heritage Program data, the following sensitive species have habitat northern Dirty Devil region:

- *Dalea favesces var epica*.
- *Allium passeyi*.
- *Astragalus monumentalis*.
- Flat Top wild buckwheat.
- Rockloving milkvetch.
- Moab woodyaster.
- Low woollybase.
- Jones indigo-bush.

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<sup>31</sup> See BLM, Utah Wilderness Inventory 79 (1999).

<sup>32</sup> According to data compiled with Utah Division of Wildlife Resources Utah Aquatic Species Gray Literature Records and Utah Aquatic Species Museum Records.

<sup>33</sup> Price Field Office, Record of Decision and Approved Resource Management Plan, at Map R-29 (2008) (Price RMP ROD).

- Jones catseye.
- Yellow blanketflower.
- Jones cycladenia.
- Psoralea globemallow.
- Entrada skeletonplant.
- Shultz stickleaf.
- Hole-in-the-rock prairie clover.

The Henry Mountains region is one of the most spectacular in Utah. It is remote, seldom visited, and gorgeous. It possesses some of the greatest scenery in the United States. It is also home to a free-roaming herd of bison.

The Henry Mountains area provides critical habitat for the threatened Mexican Spotted Owl.<sup>34</sup> The area also provides crucial habitat for desert bighorn sheep<sup>35</sup> and crucial winter habitat for mule deer.<sup>36</sup> Additionally, this area provides crucial habitat for one of the very few remaining genetically pure plains bison herds.<sup>37</sup>

This area also includes critical and high-value habitat for mule deer,<sup>38</sup> critical habitat for pronghorn,<sup>39</sup> high-value and substantial value habitat for black bear,<sup>40</sup> and substantial habitat for elk.<sup>41</sup>

Further, the Henry Mountains may provide habitat to the Mount Ellen Pocket Gopher, which is endemic to the area. However, additional surveys are needed to clearly determine the status of the Mt. Ellen pocket gopher because it may already be extinct.<sup>42</sup>

Based on Utah GAP Analysis data, the following sensitive species have habitat in the the Henry Mountains and southern Dirty Devil area:

- Ferruginous hawk (critical and high-value habitat).
- Burrowing owl (high-value and substantial habitat).
- Long-billed curlew (critical habitat).
- Williamson's sapsucker (critical habitat).
- Swainson's hawk (high-value habitat).
- Peregrine Falcon (high-value habitat).
- Yellow-billed cuckoo (critical habitat).

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<sup>34</sup> Richfield RMP ROD at Map 6.

<sup>35</sup> Richfield RMP ROD at Map 8.

<sup>36</sup> Richfield RMP ROD at Map 9.

<sup>37</sup> Richfield RMP ROD at Map 8; Curtis H. Freese *et al.*, *Second Chance for the Plains Bison*, 136 BIOLOGICAL CONSERVATION, 175 (2007).

<sup>38</sup> Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

<sup>39</sup> Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

<sup>40</sup> Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

<sup>41</sup> Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

<sup>42</sup> Michael Mac *et al.*, Status and trends of the nation's biological resources, U.S. Department of the Interior, U.S. Geological Survey, 580 (1998), available at <http://www.nwrc.usgs.gov/sandt/Sothwest.pdf>.

- Osprey (high-value habitat).
- Sage grouse (critical habitat).
- Northern goshawk (critical habitat).
- Bald eagle (substantial habitat).
- Mexican spotted owl (critical habitat).
- Willow flycatcher (substantial habitat).
- Western red bat (critical habitat).
- Ringtail cat (critical and high-value habitat).
- Virgin River montane vole (critical and high-value habitat).
- Dwarf shrew (critical and high-value habitat).
- Fringed myotis (substantial habitat).
- Big free-tailed bat (substantial habitat).
- Townsend's big-eared bat (high-value and substantial habitat).

Based on Utah Division of Wildlife Resources' Heritage Data or Aquatic Species Gray Literature Records and Utah Aquatic Species Museum Records, the following sensitive fish species have habitat in the Henry Mountains area:

- Leatherside chub
- Roundtail chub
- Flannelmouth sucker

The Henry Mountains area contains many sensitive plants, some of which are threatened or endangered. One such species is the Wright's Fishhook cactus, which was listed as endangered in 1985.<sup>43</sup> It is possible that the Winkler Pincushion cactus may also be found in the proposed area.<sup>44</sup>

Based on Utah GAP Analysis and Utah Natural Heritage Program data, the following sensitive species have habitat the Henry Mountains potentially at risk from the proposed program in the DPEIS:

- *Dalea flavescens var epica*.
- *Spiranthes diluvialis*.
- Wright's fishhook cactus (*Sclerocactus wrightiae*).
- Monument milkvetch (*Astragalus monumentalis*).
- Pavement phacelia (*Phacelia pulchella var sabulonum*).
- Kaiparowits milkvetch (*Astragalus malacoides*).
- Last chance townsendia *Townsendia aprica*.

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<sup>43</sup> Wright Fishhook Cactus Recovery Plan (1985), available at [http://www.fws.gov/ecos/ajax/docs/recovery\\_plan/851224.pdf](http://www.fws.gov/ecos/ajax/docs/recovery_plan/851224.pdf); [http://www.blm.gov/ut/st/en/prog/recreation/what\\_do\\_you\\_want\\_to/off\\_highway\\_vehicles/factory\\_butte/endangered\\_cactus.html](http://www.blm.gov/ut/st/en/prog/recreation/what_do_you_want_to/off_highway_vehicles/factory_butte/endangered_cactus.html) (last viewed Sept. 24, 2010).

<sup>44</sup> BLM, Endangered Cactus Information, [http://www.blm.gov/ut/st/en/prog/recreation/what\\_do\\_you\\_want\\_to/off\\_highway\\_vehicles/factory\\_butte/endangered\\_cactus.html](http://www.blm.gov/ut/st/en/prog/recreation/what_do_you_want_to/off_highway_vehicles/factory_butte/endangered_cactus.html) (Apr. 30, 2008).

- Jane's globemallow (*Sphaeralcea leptophylla* var *janeae*).
- Flat top wild buckwheat.
- Dana's milkvetch.
- Barneby Milkvetch.
- Rockloving milkvetch.
- Low woolybase.
- Eastwood monkeyflower
- Westwater buckwheat
- Pinyon milkvetch
- Heil's beavertail
- Intrusive milkvetch
- Harrison milkvetch
- Woodruff milkvetch
- Cronquist wild buckwheat
- Thompson peteria
- Panther milkvetch.
- Winkler pincushion cactus (*Pediocactus winkleri*).
- Despain pincushion cactus (*Pediocactus despaini*).
- Maguire daisy (*Erigeron maguirei*).
- Ute ladies' tresses (*Spiranthes diluvialis*).
- Alcove bog-orchid.
- Psoralea globemallow.
- Hole-in-the-rock prairie clover.

The Henry Mountains region is a top recreation destination. People visit this region for many reasons. Canyoneers enjoy its many, varied canyons, which are famous for their narrow width.<sup>45</sup> Climbers visit its mountain crags.<sup>46</sup> The Dirty Devil even provides a river running adventure during high flow season.<sup>47</sup> It is also a prime location for hiking, camping, and family adventures.<sup>48</sup>

The Henry Mountains also boast world class hunting. Remarkably, this area has bison hunting.<sup>49</sup> It is the only free-roaming and huntable herd in the lower 48 states.<sup>50</sup> It is also a top mule deer hunting ground.<sup>51</sup>

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<sup>45</sup> See, e.g., Tom's Utah Canyoneering Guide, North Wash, <http://www.canyoneeringusa.com/utah/north/index.php> (last visited Sept. 24, 2010).

<sup>46</sup> See, e.g., summitpost.org, Henry Mountains, <http://www.summitpost.org/area/range/592740/henry-mountains.html> (Jan. 28, 2010).

<sup>47</sup> See, e.g., paddling.net, Dirty Devil River, <http://www.paddling.net/places/showReport.html?885> (last visited Sept. 24, 2010).

<sup>48</sup> See, e.g., Utah.com, Henry Mountains, [http://www.utah.com/playgrounds/henry\\_mtns.htm](http://www.utah.com/playgrounds/henry_mtns.htm) (last visited Sept. 24, 2010).

<sup>49</sup> See, e.g., Fremont River Guides, Henry Mountain Buffalo & Deer Hunting, <http://www.flyfishingsouthernutah.com/bison> (last visited Sept. 24, 2010).

<sup>50</sup> Utah.com, Dirty Devil River.

<sup>51</sup> See, e.g., Extreme Outdoors, Guided Hunting: Henry Mtn's Mule Deer, Utah, <http://www.goextremeoutdoors.com/EOGuidedHuntHenrys.html> (last visited Sept. 24, 2010).



The BLM has designated three special recreation management areas that overlap with the proposed solar areas in the DPEIS: the Dirty Devil/Robber's Roost, Factory Butte, and Henry Mountains.<sup>52</sup> Furthermore, the BLM considered a much larger special recreation management zone for the Factory Butte area in the Richfield Resource Management Plan, as well as the Henry Mountains and the Dirty Devil.<sup>53</sup> The BLM also considered special recreation management zones for lands adjacent to Capitol Reef National Park, in the Little Rockies area, and around Wild Horse Mesa.<sup>54</sup>

The Henry Mountains area contains some of the most scenic lands in the United States. The view of Happy and Hatch Canyon with the Henry Mountains as a backdrop is unparalleled.



Many areas of the areas proposed for solar development in the Henry Mountains area provide sublime, quiet reflective hiking locations where visitors may ponder undeveloped terrain and functioning ecosystems. Most recreational activities taking place in these locations would be impaired by oil and gas development.

**i. Factory Butte**

The Factory Butte citizen-proposed wilderness (CPW) encompasses one of the most spectacular badland features in Utah and possibly the world: Factory Butte. Photographs of this feature have appeared in countless magazines and advertisements. It is a Utah icon. These spectacular scenic values, as well as the endangered cacti living in its shadows, should be protected from oil and gas development.

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<sup>52</sup> See Richfield RMP ROD at Map 14.

<sup>53</sup> See Richfield RMP at Map 2-8, Map 2-11.

<sup>54</sup> See *id.* at Map 2-11; Price RMP at Map 2-25.

The BLM has found that nearly all of the Factory Butte CPW contains wilderness characteristics.<sup>55</sup>

**ii. Red Desert**

The remarkable Red Desert CPW sits to the east of Capitol Reef National Park. It includes sandstone cliff towers guarding rugged badlands.

The Red Desert provides refuge for the endangered Wright scelerocactus.<sup>56</sup>

The BLM has agreed that essentially all of the Red Desert CPW contains wilderness characteristics.<sup>57</sup>

**iii. Mount Ellen and Mount Pennell**

Surrounding the Mount Ellen and Mount Pennell wilderness study areas, respectively, these CPWs contain many of the same values. They are excellent examples for geologists of igneous intrusion.<sup>58</sup> Rich in wildlife, they even includes a free-roaming bison herd.<sup>59</sup> They provide habitat for endangered species such as the Wright's fishhook cactus.<sup>60</sup>

The BLM agrees that most of these CPWs contain wilderness characteristics.<sup>61</sup> Together, these areas result in 23,747.6 acres of conflict with the DPEIS.

**iv. Long Canyon**

The BLM agrees that all 16,600 acres of this CPW contains wilderness characteristics.<sup>62</sup> It sits immediately adjacent to Capitol Reef National Park and is remote and wild. 1,410.5 acres of land conflict with the Long Canyon CPW in the DPEIS.

**v. Bullfrog Creek**

The Bullfrog Creek CPW consists of a large, deep canyon system and the extensive Clay Point and Saleratus Point mesa tops.<sup>63</sup> It is a remote, spectacular area with ample opportunity for solitude. There are 3,650 acres of overlap between this CPW and the DPEIS preferred alternative.

BLM has inventoried the Bullfrog Creek CPW and agreed most of this unit contains wilderness

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<sup>55</sup> See Richfield RMP at 3-87; Utah Wilderness Inventory at 86-86M.

<sup>56</sup> Utah Wilderness Inventory at 92.

<sup>57</sup> See Richfield RMP at 3-88.

<sup>58</sup> Utah Wilderness Inventory at 69.

<sup>59</sup> *Id.* at 69, 72.

<sup>60</sup> *Id.* at 72.

<sup>61</sup> See Richfield RMP at 3-87.

<sup>62</sup> Richfield RMP at 3-87.

<sup>63</sup> Utah Wilderness Inventory at 73.

character.<sup>64</sup>

**vi. Ragged Mountain and Bull Mountain**

These two CPWs include rugged outcroppings and peaks on the eastern portion of the Henry Mountains. The Bull Mountain CPW is an extension of the Bull Mountain Wilderness Study Area and contains the same values. The BLM has found that nearly all of the Mull Mountain CPW contains wilderness characteristics.<sup>65</sup> Likewise, it has found almost all of the Ragged Mountain CPW to contain wilderness character.<sup>66</sup>

**vii. Muddy Creek**

The Muddy Creek CPW encompasses a vast swath of the San Rafael Swell and the northern portion of the proposed Henry Mountains MLP. The area contains “extensive evidence of tool-making,” speaking of archeological resources.<sup>67</sup> The vegetation of the Muddy Creek CPW is extremely varied and fluctuates from pinyon and juniper woodlands to grassy flats to nearly barren mancos badlands. The area is also crucial bighorn sheep habitat.<sup>68</sup>

The Muddy Creek CPW is home to a number of renowned canyons; some of which are popular recreational destinations. The Moroni Slopes, in particular, has two premier canyons for canyoneers to descend.<sup>69</sup>

The BLM agrees that the large majority of the Muddy Creek CPW possesses wilderness character.<sup>70</sup>

**viii. Little Rockies**

The Little Rockies are a jumble of canyons, mountains, and deserts. This incredible and remote area is worthy of protection from oil and gas development in all areas of this CPW.

The BLM has agreed that essentially this entire CPW possesses wilderness characteristics.<sup>71</sup> Nearly 200 acres of land conflict with the preferred alternative in the DPEIS and this CPW.

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<sup>64</sup> Richfield RMP at 3-86.

<sup>65</sup> See Utah Wilderness Inventory at 70.

<sup>66</sup> See *id.* at 71.

<sup>67</sup> See Utah Wilderness Inventory at 85.

<sup>68</sup> See Price RMP at Map 3-12a.

<sup>69</sup> See Tom’s Utah Canyoneering Guide, Lower Squeeze Canyon, <http://www.canyoneeringusa.com/utah/swell/squeeze.htm> (last visited on Sept. 9, 2010); Tom’s Canyoneering Guide, Segers Window Canyon aka South Fork Segers Hole Canyon, <http://www.canyoneeringusa.com/utah/swell/segers.htm> (last visited on Sept. 9, 2010).

<sup>70</sup> See Richfield RMP at 3-87, Map 3-15; Utah Wilderness Inventory at 86-86M.

<sup>71</sup> See Richfield RMP at 3-87.

**ix. Cane Spring Desert and Cane Spring Adjacents**

These remarkable, arid CPWs border the Glen Canyon National Recreation area. They include both badlands and a canyon system. Both are deserving of protection from development. There are 5,620 acres of conflict between these CPWs and the preferred alternative in the DPEIS.

**x. Pleasant Creek Bench and Capitol Reef Adjacents**

The BLM appears to agree that the entirety of both of these areas contain wilderness character.<sup>72</sup> The BLM identified these CPWs as part of its larger Red Desert non-wilderness study area with wilderness characteristics.<sup>73</sup> The values of these areas are similar to those of the Red Desert CPW and to Capitol Reef National Park, which they border.

**xi. Wild Horse Mesa**

The Wild Horse Mesa CPW acts as a spectacular backdrop to Goblin Valley State Park. It is an area of sensitive badlands, which are highly susceptible to erosion. This area contains geological and paleontological specimens such as agates, petrified wood, sharks teeth, and occasional dinosaur bones.<sup>74</sup> It is a frequent visiting place for university and commercial geological field trips because of the many exposed formations and strata.<sup>75</sup>

The BLM agrees that nearly all of the Wild Horse Mesa CPW contains wilderness character.<sup>76</sup> It has even decided to manage portions of this area to protect its wilderness character.<sup>77</sup> There are 5,928 acres of conflict between this CPW and the preferred alternative in the DPEIS.

**xii. Areas of Critical Environmental Concern (ACECs)**

The Henry Mountains area includes one ACEC that was designated in the Richfield Resource Management Plan and six ACECs that were found to meet the relevance and importance criteria but were not designated or that only had portions of the full area meeting the relevance and importance criteria designated.

**1. Existing ACEC (North Cainville Mesa)**

The Henry Mountains area includes one designated ACEC: North Cainville Mesa.<sup>78</sup> This area appears to permit oil and gas leasing only with no surface occupancy stipulations.<sup>79</sup>

**2. Badlands**

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<sup>72</sup> See Richfield RMP at Map 3-9.

<sup>73</sup> See *id.*

<sup>74</sup> Utah Wilderness Inventory at 91.

<sup>75</sup> See *id.*

<sup>76</sup> See Richfield RMP at Map 3-9.

<sup>77</sup> See Richfield RMP ROD at Map 2.

<sup>78</sup> Richfield RMP ROD at Map 28.

<sup>79</sup> Compare Richfield RMP ROD at Map 28, with *id.* at 23.

The BLM ultimately selected an ACEC designation that left out the major part of the Badlands ACEC.<sup>80</sup> However, the BLM still found that those portions of the potential Badlands ACEC not designated were scenic, contained special status plants, demonstrated natural processes (wind erosion, and had riparian and relict vegetation.<sup>81</sup> The BLM identified the scenery as —Class A.<sup>82</sup>

### **3. Lower Muddy Creek**

Although the Richfield Resource Management Plan did not designate the potential Lower Muddy Creek ACEC, it did find an array of important and relevant values.<sup>83</sup> The BLM stated the following regarding this potential ACEC:

This potential ACEC contains a vibrant multi-colored visual landscape intermingled with badland topography. These scenic values area of exceptional quality, and the area is Class I scenery. Because of its proximity to Goblin [Valley] State Park, some of the rare “goblin” structures can also be found. The southeast quarter area also contains high value habitat for pronghorn. Three threatened, endangered, or sensitive plants occur within the area—Wright fishhook cactus, *Psoralea globemallow*, and Heil’s Beavertail.<sup>84</sup>

These impressive and unique scenic and biological values should be protected from leasing and development.

### **4. Bull Creek Archeological District**

As the name indicates, this area was found to possess relevant and important cultural resource values.<sup>85</sup>

These values would be harmed by development in this area. Indeed, the BLM has already limited this area to no surface occupancy stipulations for oil and gas development.<sup>86</sup>

### **5. Henry Mountains**

The potential Henry Mountains ACEC was considered for the ~~purpose~~ of ... recognize[ing] and provid[ing] special management for relevant and important scenic, wildlife (bison and deer), SSS (i.e. Townsend’s big-eared bat, ferruginous hawk, burrowing owl, and hole-in-the-rock prairie clover), and ecological values.”<sup>87</sup> All of these values would be threatened by development in these areas.

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<sup>80</sup> Compare Richfield RMP ROD at 28, with Richfield RMP at Map 2-46.

<sup>81</sup> Richfield RMP at 3-124.

<sup>82</sup> *Id.*

<sup>83</sup> See Richfield RMP at 3-126.

<sup>84</sup> Price RMP at 3-93.

<sup>85</sup> See Richfield RMP at 3-125.

<sup>86</sup> See Richfield RMP ROD at Map 23.

<sup>87</sup> Richfield RMP at 3-125.

## 6. Little Rockies

The BLM considered this potential ACEC in order to manage for the scenic values and wildlife values of this region.<sup>88</sup> The Little Rockies provide a spectacular juxtaposition of laccolith uplifts surrounded by harsh, arid desert.

## 7. Dirty Devil

This spectacularly scenic ACEC encompasses the Dirty Devil River and its main side canyons.<sup>89</sup> The BLM says the following about this area:

The potential ACEC is defined by Class A Scenery, Mexican spotted owl suitable habitat, and desert bighorn sheep crucial yearlong habitat within the nominated areas. The potential ACEC includes the existing Beaver Wash Canyon ACEC. The potential ACEC overlaps portions of the Dirty Devil, French Spring/Happy Canyon, and Fiddler Butte WSAs; thus management would be governed by the IMP for these areas. The Dirty Devil River and several of its side canyons were determined to be eligible as [Wild and Scenic Rivers].<sup>90</sup>

### Glen Canyon/San Juan River Wilderness Complex

Southeast Utah's Glen Canyon/San Juan River region encompasses a one of the nation's most remarkable and awe inspiring environments. This area is encompassed by the lands found in the Monticello Field Office. From the forested, high elevation plateaus to desert shrublands to lush riparian corridors, this area covers a wide range of ecosystems. The scenery and vistas from this area is magnificent, vintage Utah redrock country. The area also offers important recreation opportunities, including outstanding hiking, camping, and opportunities to explore and appreciate intact cultural resources. The DPEIS proposes potentially allowing development in areas not suitable for solar development. This development could place at risk other federal and local priorities, including important big game habitat, outstanding recreation opportunities, prized cultural sites and multiple Citizen Wilderness Proposal areas. The preferred alternative encompasses tens of thousands of acres of proposed wilderness in the heart of Utah's iconic red rock country in southeastern Utah.

The Glen Canyon/San Juan River area contains significant cultural resources.

The cultural resources found within the jurisdiction of the [Monticello Field Office] constitute some of the most aesthetically appealing and scientifically significant resources anywhere on the Colorado Plateau. The more than 26,000 documented archaeological sites in the area, the majority on BLM-administered lands, constitute the most significant concentration of cultural resources in the state of Utah. The extraordinary number and density of sites (cf. DEIS 1-4) makes

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<sup>88</sup> Richfield RMP at 3-126.

<sup>89</sup> See Richfield RMP at Map 2-46.

<sup>90</sup> Richfield RMP at 3-125.

the region among the most significant concentrations of archaeological sites anywhere in the western United States.<sup>91</sup>

A more recent report prepared by the Colorado Plateau Archaeological Alliance entitled “Farming and Foraging on the Southwestern Frontier,” further details the significant cultural resources found within the proposed MLP.<sup>92</sup>

The Glen Canyon/San Juan River area includes several designated “cultural management areas,” the Hole-in-the-Rock historic trail, the Alkali National Historic Landmark and National Historic Districts.<sup>93</sup>

The Monticello RMP identified significant portions of this area as providing critical and high value habitat for mule deer and crucial habitat for desert bighorn sheep.<sup>94</sup> Also, black bear inhabits portions of the region in and around Arch Canyon and Montezuma Creek.<sup>95</sup>

The Glen Canyon/San Juan River area contains habitat for bald eagle, ferruginous hawk, and osprey, as well as designated critical habitat for Mexican spotted owl (*Strix occidentalis lucida*).<sup>96</sup> Substantial portions of the area also provide habitat for Gunnison prairie dog.<sup>97</sup> Although seasonal restrictions and other stipulations may moderate the impacts of development on such raptors, they are still sensitive to human disturbance in nesting, and rely on functional natural habitats for prey. Impacts to waterways and prairie dog colonies can impede healthy forage patterns for various raptors. Based on ongoing concerns about these impacts to raptors of all kinds, the U.S. Fish and Wildlife Service has recently issued draft guidelines for managing activities such as oil and gas drilling in raptor habitat; such guidelines could also apply to solar development. These guidelines are being adhered to already by the BLM in other resource management decisions in several field offices in Utah and should be considered in the development of management prescriptions for the PEIS.

According to Utah GAP analysis, the Glen Canyon/San Juan River area also provides habitat for many BLM sensitive animal and plant species,<sup>98</sup> including: western red bat, ringtail cat, spotted ground squirrel, Townsend’s big eared bat, Utah night lizard, Many Lined Skink, Whiteflower Penstemon, Monument Milkvetch, Virgin Phacelia, Eastwood Monkeyflower, Sheathed Deathcamus, and Rydberg’s Thistle.

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<sup>91</sup> Colorado Plateau Archaeological Alliance Comments re: Monticello DEIS/DRMP at 3 (submitted Jan. 31, 2008).

<sup>92</sup> A copy of “Farming and Foraging on the Southwestern Frontier” is available online at <https://research.wsulibs.wsu.edu:8443/dspace/handle/2376/2643>.

<sup>93</sup> Monticello ROD Map 20; Monticello FEIS/PRMP at 3-15 to -28.

<sup>94</sup> See Monticello ROD Map 14 (wildlife habitat).

<sup>95</sup> See Monticello FEIS/PRMP Map 72.

<sup>96</sup> See Monticello FEIS/PRMP Map 92 (bald eagle) and 93 (Mexican Spotted Owl Habitat).

<sup>97</sup> Monticello ROD Map 14.

<sup>98</sup> The BLM maintains a list of sensitive species that may occur on managed lands. The BLM Utah state director’s Sensitive Species List includes those that are federally listed species, those identified by the BLM, and those listed as state sensitive by the State of Utah. Monticello FEIS/PRMP at 3-159. See *id.* at 3-159 to -64 (listing sensitive species occurring within the Monticello planning area).

The Monticello Field Office contains large areas of identified wilderness values or areas proposed by the Utah Wilderness Coalition for wilderness designation.<sup>99</sup> Many of these areas present conflicts with the preferred alternative in the DPEIS.

**i. Red Rock Plateau (Mancos Mesa)/Copper Point<sup>100</sup>**

The eastern edge of the Red Rock Plateau and Copper Point proposed wilderness units are most often viewed by travelers as they drive the Highway 95 Bicentennial Scenic Byway, between the Glen Canyon National Recreation Area and Natural Bridges National Monument, which recognizes the area's outstanding natural beauty as well as its historic, cultural and recreational importance. Roughly fifteen miles of the Scenic Byway provide direct views into the proposed wilderness, but the heart of this vast wilderness remains well off the beaten path, and harbors natural wonders beyond compare. 2,0832.2 acres from the preferred alternative in the DPEIS conflict with the Red Rock Plateau CPW. 214.8 acres conflict with the Copper Point CPW.

The crown jewel of this wilderness is the expansive Mancos Mesa, which is dissected east to west by the 20-mile long Moqui Canyon. Mancos Mesa's 180-square mile mesa top, bounded on every side by 1,000- to 1,500-foot-high cliffs, is the largest isolated slickrock mesa in southern Utah. Navajo Sandstone dominates the westward-sloping mesa, with elevations ranging from nearly 7,000 feet to 4,500 feet. Expanses of slickrock domes in shades of vermilion intermingle with sand dunes vegetated with ancient juniper trees, sagebrush, Mormon tea, and Indian ricegrass. Cottonwood trees and riparian vegetation can be found tucked away in canyons, fed by natural seeps and by springs. Highly eroded, and multi-hued badlands, found beneath the rim complete the diversity of this outstanding wilderness.

The Redrock Plateau and Copper Point proposed wilderness units also shelters extensive archaeological remains spanning thousands of years of prehistory and several different cultures. Remains of stone tool-making sites, fireplaces, pit houses, kivas, and storage structures can be found throughout the area.

**ii. Nokai Dome<sup>101</sup>**

The Nokai Dome CPW is one of the most out-of-the-way places in Utah. It is inappropriate for solar development. Over 5,551 acres of land conflict with this CPW and the preferred alternative in the DPEIS. Contiguous with the San Juan River arm of the Glen Canyon National Recreation Area, this rugged and lonely landscape contains numerous deep canyons, scenic expanses of slickrock and colorful Chinle badlands. The area also provides year-round habitat for desert bighorn sheep.

A vast expanse of sandstone dating from the Mesozoic and Paleozoic eras, the Nokai Dome area

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<sup>99</sup> See Monticello ROD Map 18. See also Monticello FEIS/PRMP Map 33 (depicting areas BLM determined to have wilderness character); *id.* at 3-80 to -82 (Table 3.19 Summary of Lands Evaluated for Wilderness Characteristics).

<sup>100</sup> See Utah Wilderness Inventory at 97 (1999) (describing Mancos Mesa). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se97.pdf>.

<sup>101</sup> See Utah Wilderness Inventory at 98 (1999) (describing Nokai Dome). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se98.pdf>.



slopes gradually down to the San Juan River and Lake Powell. Mikes Canyon and Castle Creek, both harboring rare spring-fed streams, continue to cut deep into the ancient layers of sandstone. Lake Canyon provides a perennial water source in the western part of the Nokai Dome area. Unforgettable vistas from Nokai Dome include Navajo Mountain to the southwest, the distinctive Waterpocket Fold to the northwest, and the distant spires of Monument Valley to the south.

Although this vast area has not been inventoried for archaeological resources, it was used by Ancestral Puebloans over the course of several thousand years; evidence of this prehistoric presence can be found in canyons, on mesa tops, and scattered throughout the area. The lower canyons have numerous storage structures and habitation sites; stone chipping and camping sites are found on the bench lands. Traces of the historic Hole-in-the-Rock trail used by Mormon settlers in the late 1800's can be found near Lake Canyon. Today, due to its exceptional remoteness, the Nokai Dome wilderness attracts only those seeking uncompromised solitude and naturalness, values that are becoming extinct on public lands across the West.

### **iii. White Canyon/Fort Knocker Canyon/Tuwa Canyon<sup>102</sup>**

Each year nearly 100,000 visitors explore Natural Bridges National Monument, searching for the solitude, beauty, and silence that are unique to the Colorado Plateau. Few of these visitors realize that the 7,600-acre national monument is surrounded by thousands of acres of BLM wild lands including Tuwa Canyon and the upper drainages of White Canyon.

The preferred alternative of the DPEIS presents the following acreage conflicts: 1,647.6 acres with White Canyon and 2,217.2 acres with Fort Knocker Canyon.

White Canyon has carved a maze of canyons deep into the Cedar Mesa Sandstone layer. These canyons are among the world's foremost displays of erosion sculpting, and the upper part of White Canyon was included within Natural Bridges National Monument in recognition of this distinction. The sinuous canyons on the BLM lands alternately narrow down into cool, dark, armspan-width slots and then widen again into coves littered with 40-ton house-sized rocks and pocket forests of cottonwood, ponderosa, and fir.

The canyon walls are honeycombed with alcoves, arches, windows, hanging gardens, and grottoes; the canyon floors are riddled with potholes. In places, natural spring water forms deep pools, and occasional rainstorms bring torrents of floodwater raging through the boulder gardens and thundering over pour-offs in spectacular waterfalls. Well over 100 miles of narrow, winding canyons in the White Canyon proposed wilderness complex (including White Canyon, Fort Knocker Canyon and Tuwa Canyon) form a network so labyrinthine that outstanding solitude is assured. Fort Knocker Canyon winds through sandstone bench lands surrounded by 1000-foot high mesas and buttes, and feeds into the lower reaches of White Canyon before it flows into the Colorado River arm of Lake Powell. This remote area is becoming internationally recognized for its dark night skies, offering some of the best stargazing in the world.

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<sup>102</sup> See Utah Wilderness Inventory at 94 (1999) (describing Fort Knocker Canyon). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se94.pdf>.

White Canyon's intermittently flowing water is an attraction for wildlife, and surely attracted the Ancestral Puebloans to the area, as remnants of their culture, ranging from scattered stone-working sites to impressive cliff dwellings, are located throughout the proposed wilderness.

**iv. Upper Red Canyon/The Needle**

Upper Red Canyon and The Needle proposed wilderness areas are located west of Natural Bridges National Monument, to the north of Highway 276 as it proceeds west towards Glen Canyon National Recreation Area. The sweeping landscape, which encompasses both the North and South forks of Red Canyon, is characterized by winding canyons, sheer Wingate Sandstone cliffs, and towering buttes and mesas. Geological and scenic contrast is provided by the colorful and undulating Chinle badlands, a consequence of erosional forces through millennia.

A remote and seldom-visited area, The Needle and Upper Red Canyon wilderness retains an exceptional degree of naturalness. Highway travelers glimpse only a small portion of the area while passing by the Red House Cliffs, completely unaware of the diverse and spectacular landscape that unfolds beyond their ramparts.

3,026.6 acres of the preferred alternative in the DPEIS conflict with the Upper Red Canyon CPW. 1,563.7 acres of the preferred alternative in the DPEIS conflict with the Needle CPW.

**v. Arch Canyon/Allen Canyon/Hammond Canyon**

The Arch Canyon proposed wilderness unit offers particularly rare resources in the canyon country of southeastern Utah. The canyon has a perennial water source that appears to have been the focus of intense prehistoric occupations by Ancestral Puebloan farmers, resulting in spectacular architectural remains along the canyon bottom and at various higher cliff levels. Remnants from this occupation include residential structures and shelters, possible defensive structures, storage granaries, elaborate petroglyphs and pictographs, pottery and ceremonial artifacts. Allen Canyon and Hammond Canyon proposed wilderness units are adjacent to Arch Canyon and quite similar, though neither has a perennial water source.

**vi. Valley of the Gods/Lime Creek**

Valley of the Gods and the immediately adjacent Lime Creek proposed wilderness units are important to regional, national and international visitors who view and photograph the scenery. Panoramic views can be seen from the highway bordering the area and from the Valley of the Gods Loop Road. The eroded, wind sculpted spires and buttes, and long rock fins resemble animals or gods.<sup>103</sup> The area is strikingly similar to Monument Valley located approximately forty miles south in Arizona.

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<sup>103</sup> Monticello FEIS/PRMP at 3-146. See also Utah Wilderness Inventory at 101 (1999) (describing the southern portion of the adjacent Road Canyon proposed wilderness unit as offering "exceptionally high" scenic qualities).

**vii. San Juan River**

The scenery throughout the San Juan River and Tabernacle proposed wilderness units includes tilted formations as the river crosses Comb Ridge, steep vertical cliffs hundreds of feet high with walls of interbedded sandstone and limestone, and the 1,200-foot high walls of the Goosenecks. The Goosenecks are one of the best examples of entrenched meanders in the U.S. Riparian areas with various hues of green border the watercourse and contrast with red sandstone, presenting a diverse and varied scenic viewing area. Hanging gardens occur in ledges of Navajo Sandstone. The rock art along the San Juan River is unsurpassed.” Monticello FEIS/PRMP at 3-146. *See* Utah Wilderness Inventory at 102 (1999) (“The scenic quality of the [San Juan River] unit are exceptionally high. Views of Monument Valley and the San Juan River are breathtaking. . . . The beautiful, complex erosional patterns of interbedded gray limestone and red mudstone around Sugarloaf Butte and visually striking.”).<sup>104</sup>

1,667.2 acres of land proposed for solar leasing and development in the DPEIS conflict with the San Juan River CPW.

**viii. Comb Ridge/Fish and Owl Creek Canyons/Road Canyon**

In its 1999 Utah Wilderness Inventory, BLM documented that the Comb Ridge/Fish and Owl Creek Canyons/Road Canyon complex is a wilderness caliber landscape.<sup>105</sup> BLM explained that these units contain hundreds if not thousands of archeological sites, offer “superb” scenic qualities – including “impressive vistas of ancient ruins, cottonwood-filled canyons, and spectacular cliffs.” Utah Wilderness Inventory at 100. Solar development in this area would clash with the character and setting of this unique wilderness setting.

**ix. Tin Cup Mesa/Cross Canyon/Monument Canyon**

In its 1999 Utah Wilderness Inventory, the BLM described the Tin Cup Mesa/Cross Canyon/Monument Canyon region as being “an important ecological islands in a surrounding sea of lands altered by agriculture.”<sup>106</sup> BLM noted that the Cross Canyon unit – adjacent to the Utah Wilderness Coalition’s Tin Cup Mesa proposed wilderness unit, contains “impressive archeological sites, consisting of standing walls of core-and-veneer construction.”<sup>107</sup>

The units are just across the state line from Canyons of the Ancients National Monument and close to Hovenweep National Monument, and in fact contain hundreds of outlier Hovenweep sites. These wilderness units are particularly important to Native American tribes, including the Rio Grande Pueblo.

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<sup>104</sup> Available online at <http://www.access.gpo.gov/blm/utah/pdf/se102.pdf>.

<sup>105</sup> *See* Utah Wilderness Inventory at 100, 101 and 103 (1999) (describing Fish and Owl Creeks, Road Canyon, and Comb Ridge). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se100.pdf>; <http://www.access.gpo.gov/blm/utah/pdf/se101.pdf> and <http://www.access.gpo.gov/blm/utah/pdf/se103.pdf>.

<sup>106</sup> Utah Wilderness Inventory at 105. Available online at <http://www.access.gpo.gov/blm/utah/pdf/se105.pdf> (Squaw and Papoose Canyon) and <http://www.access.gpo.gov/blm/utah/pdf/se106.pdf> (Cross Canyon).

<sup>107</sup> *Id.* at 106.

The Solar DPEIS presents 2,696.2 acres of conflict with the Tin Cup Mesa CPW, 770 acres with the Monument Canyon CPW, and 14.4 acres with the Cross Canyon CPW.

**x. Areas of Critical Environmental Concern**

The Monticello RMP designated four ACECs that are located within the Glen Canyon/San Juan River area: Valley of the Gods, Alkali Ridge, Hovenweep, and San Juan River.<sup>108</sup> The RMP closed the Valley of the Gods ACEC to oil and gas leasing and designated the San Juan River ACEC and portions of the Hovenweep ACEC as open to leasing with no surface occupancy stipulations; it would be incongruous to now allow solar leasing and development in these areas.<sup>109</sup> Leasing and development in other portions of the Hovenweep ACEC and all of the Alkali Ridge ACEC would threaten the identified relevant and important values.<sup>110</sup>

**V. Solar Energy Zones in Utah**

The proposed SEZs in Utah include one area with good potential to be an appropriate SEZ (Milford Flats South SEZ), one area that contains a good portion of land that may be appropriate for inclusion as a SEZ (Escalante Valley SEZ), and one area that we recommend de-prioritizing for designation as a SEZ (Wah Wah Valley) at this time because the land use plan for the area should be updated first. Please see the detailed comments below for more information, including details on our potential support for these SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, we strongly caution against that interpretation. Rather, we underscore the importance of focusing on the SEZs rather than the additional 21 million acres included in the SEDP Alternative. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternatives have not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in

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<sup>108</sup> See Monticello ROD Map 11.

<sup>109</sup> Compare *id.* with Map 18 (oil and gas leasing categories).

<sup>110</sup> Monticello FEIS/PRMP at 4-488 (Alkali Ridge) and 4-497 to -498.

Section IV, we expect that volumes of additional issues and challenges would be found on the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

## **A. Escalante Valley SEZ**

### **i. Overview**

Escalante Valley SEZ is located in Iron County in southwestern Utah, 30 miles southeast of Cedar City, 20 miles southwest of Milford Flats South SEZ, and 33 miles south of Wah Wah Valley SEZ. Situated in the south-central part of the Escalante Desert, Escalante Valley SEZ is bounded by the Black Mountains and the Antelope Range to the south, the Shauntie Hills and Wah Wah Mountains to the northwest, and the Mineral Mountains to the northeast. The nearest major road is State Route 56, 15 miles to the south, and a rail spur off the main line at Lund passes through the northeastern edge of the SEZ. This area supports a sparse saltbush-greasewood shrub community. No perennial streams, water bodies, or springs have been identified in the area of indirect effects, but three miles of Fourmile Wash, an intermittent stream that is usually dry, fall within the area of indirect effects, as close as 3 miles NW of the SEZ. In the Beryl Enterprise basin that contains the SEZ, 97% of groundwater use is agricultural, 3% is domestic, and 1% is industrial. As with most of the desert southwest, limited availability of water resources may make low water use technologies most appropriate for this area.

There is an existing 138 kV transmission line 3 miles southeast of the SEZ, and an existing DC transmission line 4.5 miles south of the SEZ.<sup>111</sup> There are no solar applications within 50 miles, but large areas 40-50 miles to the northeast are being examined for wind and geothermal energy development. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

### **ii. Overarching issues for this SEZ**

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The DPEIS states that wet cooling is not feasible for Escalante Valley SEZ. There has been unsustainable groundwater use in Escalante Valley since 1950. Groundwater levels dropped as much as 150' from 1948-2009 from pumping in the SW Escalante Valley (11 mi. southwest of the SEZ), and some subsidence and fissuring has occurred. In recent years, groundwater pumping of 80,000 AFA in the basin has lowered the water table 1.2 feet over 11 years, and USGS data show the withdrawal rate has increased to 93,000 AFA, mostly due to irrigation

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<sup>111</sup> Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

(some industrial use as well); this rate is 2.5 times the estimated basin safe yield. A full build out using wet cooling would represent 3-17% of total current groundwater withdrawals in the Beryl Enterprise basin that contains Escalante Valley SEZ (9-47% of annual recharge). No new groundwater diversions are allowed; existing rights would need to be acquired for any development in Escalante Valley SEZ. The DPEIS states that the proposed Lake Powell pipeline could supply water to meet solar development demands or offset groundwater use, but there's no assurance that this project is viable or will be built. Although water requirements for dry cooling are comparable to small farm usage levels, wet cooling would require the water usage of a medium size farm at the minimum, three times the size of a large farm at the maximum. The document states that in conjunction with the eastern Nevada SEZs only 40 miles to the northwest, solar development in Escalante valley SEZ could result in cumulative regional groundwater effects. Given the limited water availability in the area, it seems that dry-cooled or non-cooled projects are most viable. Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Vegetation removal and soil disturbance**

Detailed information regarding vegetation removal and soil disturbance is included in Section III, above. Specific to Escalante Valley SEZ, shrub and dune communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZ, particularly given that the noxious weeds cheatgrass and halogeton already exist on site, could proliferate with land disturbance, and could become entrenched with the increased fire frequency common in cheatgrass invaded areas. All soil types in Escalante Valley SEZ have moderate to high wind erosion potential; windblown dusts were noted by BLM during visits to Escalante Valley, and the soil pedestals around the bases of shrubs noted during site visits indicate extensive wind erosion. Although the DPEIS states that no microbiotic crusts are reported for soils covering the three SEZs, we observed them during site visits to Escalante Valley as well as Milford Flats South. Given these conditions, it is especially important that the BLM analyze potential impacts related to vegetation removal and soil disturbance for Escalante Valley SEZ and include more detailed measures to avoid, minimize and mitigate any potential impacts in the FPEIS.

### **iii. Recommended Boundary Adjustments**

The initial boundaries of Escalante Valley were altered in the DPEIS to remove the intersection of the SEZ with the Lund-Cedar City rail line through the northeast corner and to include an area in the southern tip that was previously excluded; the revised SEZ is 33 acres larger. The boundary adjacent to the dry lakebed in the southwest portion of the SEZ might be adjusted with a buffer to protect this area, and this requires further investigation. We have no other information at this time that could be used to recommend additional boundary revisions;

evaluation and avoidance of biologically sensitive areas would likely need to occur at the project specific level.

#### **iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special Status Species**

- **Utah Prairie Dog.** USFWS consultation will be required for the federally endangered Utah prairie dog; quad level UNHP occurrences of this species intersect the SEZ, and the Utah prairie dog tracking database shows active colonies in the affected area (all areas within a five mile buffer of the SEZ boundary). Impacts to the species are predicted to be small since pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Greater Sage-grouse.** Coordination will be required for the greater sage-grouse, a candidate species. USFWS indicated in scoping comments that suitable habitat occurs throughout the Escalante Valley SEZ region (50 mile buffer around the SEZ centroid), and UDWR has identified crucial breeding habitat 10 miles east and 20 miles west of the SEZ. SWReGAP habitat models predict potential habitat in the SEZ and the affected area. However, there are no sage-grouse occurrence data in the immediate vicinity based on downloaded UDWR data and an official review by UDWR which specified no greater sage-grouse occurrences within a half mile radius of the SEZ. UNHP quad-based records indicate that there was a lek recorded in the quad to the east in 2008. BLM data digitized from the 1983 Pinyon MFP do not show any sage-grouse in the vicinity, and the sparse saltbush-greasewood shrub vegetation that dominates Escalante Valley SEZ is not high quality habitat for the species. Any impacts to the species are doubtful, but pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Pronghorn.** Escalante Valley and its affected area are completely within crucial pronghorn habitat, as are all the Utah SEZs. It should be noted, however, that a significant proportion of the state is crucial pronghorn habitat, so impacts from development within the SEZs should be considered within this context.
- **Miscellaneous special status species.** The analysis in the DPEIS indicates that impacts to most other special status species are minimal. Foraging habitat, but not nesting habitat, occurs in the affected area for bald eagle, ferruginous hawk, and long billed curlew. UDWR quad scale occurrence data also indicate that western burrowing owl and pygmy rabbit are present. Only non-breeding winter

habitat is predicted for short eared owl, but summer breeding habitat is possible for western burrowing owl. Potentially suitable year round foraging habitat is predicted for fringed myotis, kit fox, pygmy rabbit, spotted bat, and Townsend's big eared bat. No direct impacts are expected on aquatic habitats or biota since perennial water features do not exist on site, and indirect effects to ones in the SEZ region are unlikely since they are more than 13 miles away from the SEZ and more than 2 miles away from the road corridor. When wet, however, ephemeral aquatic habitat can contain endemic species, and site specific surveys should be performed to characterize aquatic biota. As mentioned above, avoidance of the dry lakebed in the southwest of Escalante Valley and dry washes is recommended to prevent impacts to Great Basin spadefoot and Great Plains toad. 18 of the special status species compiled for the SEZ region could occur in the affected area, but for many of these species the nearest known occurrence is >20 miles away. Impacts for all these species are judged to be small.

#### **v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring Water Use to Improve Groundwater Status**

BLM has a great opportunity here to explore creative ways to promote solar development that actually improves the water situation in over-allocated basins; by retiring existing agricultural uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating erosion and dust issues through minimizing soil and vegetation loss**

In areas like Escalante Valley that have extremely fragile soils, and where fugitive dust during operations could be a pervasive problem across the SEZ, approaches to solar development that minimize soil and vegetation modification can be explored that would expand the range of areas where solar can be deployed. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the soil. In particular, the DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to dominant vegetation type (e.g. shadscale dominated communities like those in Escalante Valley). Mitigation measures outside facility footprints such as protecting areas to preserve native vegetation and soil crusts is another approach that might be used provided that soil loss, fugitive dust, and invasive weed problems could be controlled within cleared areas.

- **Optimizing Access to Transmission.**



The Escalante Valley transmission analysis assumes that the 138 kV line 3 miles SE of Escalante Valley SEZ would provide interconnection with the grid, but this line could only accommodate 588 of the 1058 estimated MW of new capacity. Additional transmission lines are planned or proposed that could facilitate solar development. The approved Three Peaks 138 kV was constructed by PacifiCorp primarily to service an electrochemical company and may have no capacity available for solar projects. The Sigurd Red Butte 345 kV line POD was submitted in Dec 2008; this line would run 10-15 miles east of both Milford Flats and Escalante Valley SEZs. The TransWest Express 600 kV DC line is proposed to carry wind energy from Wyoming to Las Vegas, and could pass through the vicinity of the three Utah SEZs. The path rating for this project is scheduled for completion by 2011, and the BLM/WAPA EIS is expected by 2013. A UNEV pipeline project is planned along same route as TWE line, the FEIS for this project was issued in 2010. The PacifiCorp Gateway South 500 kV AC line project is in the initial stages, with ROW and EIS work slated for 2015. Finally, there is a 2 mile wide Section 368 (of the Energy Policy Act of 2005) designated energy corridor about 4 mi southeast of the area. All these projects indicate strong interest in renewable development in the area, and are promising avenues to connect solar projects to the grid. They provide the opportunity to optimize connectivity while minimizing disturbance and fragmentation. Access to these lines for well-designed solar projects should be prioritized.

- **Optimizing Road and Railway Access**

Currently Escalante Valley SEZ is accessed using dirt roads extending from Lund Highway NE of the SEZ or by Beryl Milford Road NW of the SEZ; both roads are within 2 miles of the SEZ. Access from Beryl Milford Road is on Cow Trail or on 7200 E Road, both unimproved dirt roads, which provide access to the western and central sections of the SEZ, respectively. Access to the eastern portion from Lund Highway is on 15200 N, another unimproved dirt road. The nearest major road, State Route 56, is 15 miles south. The analysis presented in the DPEIS is based upon constructing an access road to State Route 56, but using existing access roads would disturb less acreage. Alternatively, using the existing rail line from Lund to Cedar City that passes through the NE corner of SEZ could be most efficient. Access roads are a significant component of project impacts; the ability to use rail access to minimize these impacts and transport equipment and supplies to the SEZ in the most energy efficient manner possible is an exciting opportunity to create synergy between renewable development, energy conservation, and minimizing disturbance.

- **Ecological reference area.**

There is currently limited information available regarding the impacts of utility-scale solar development on surrounding landscapes. Designating an ecological reference area of 1,000 hectares as part of the SEZ would provide a control area for researching impacts of utility-scale solar development and could inform future efforts to minimize and mitigate impacts.

## vi. Corrections

None noted.

### B. Milford Flats South SEZ

#### i. Overview

Milford Flats South SEZ is located in Beaver County in southwestern Utah, 28 miles north of Cedar City, 22 miles northeast of Escalante Valley SEZ, and 20 miles southeast of Wah Wah Valley SEZ. Situated in the northeastern part of the Escalante Desert, Escalante Valley SEZ is bounded by the Black Mountains to the south and southeast, the Wah Wah Mountains to the west, and the Mineral Mountains to the northeast. The nearest major road is State Route 21, which lies 5 miles to the east. A rail spur off the main line at Lund passes 1.25 miles northeast of the SEZ. The nearest existing transmission is a DC line 2 miles to the northwest of the SEZ. The western and southern areas of the SEZ support a sparse saltbush-greasewood shrub community dominated by shadscale, winterfat, greasewood, and bud sagebrush with a sparse grass understory, mostly under shrubs. The eastern portion of the SEZ is dominated by Wyoming big sagebrush, includes perennial bunchgrasses, and generally has higher relief. No wetlands or perennial streams, water bodies, or springs have been identified in the area of direct effects. 10 springs were identified in 1971-72 as being fed from the groundwater reservoir under the SEZ, only three of them flowing, but their current status is unknown. In the indirect effects area, Minersville Canal runs adjacent to the northern border, and the Utopia Ditch lies 2 miles east. Most water use in Beaver County is for irrigation (87%), followed by thermo electric energy production (6%), livestock (3%), domestic use (2%), and industrial (2%).

There were no solar applications within the SEZ or in the vicinity as of February 2010, but ROWs for two energy pipelines, one transmission line, two roads, and one telecommunications line exist. There are multiple existing or planned wind projects north of the SEZ, and numerous concentrated animal feeding operations (CAFOs) are present in the indirect effects area around the SEZ. The disturbed nature of this area makes this area more suitable for development than many other SEZs since the region is already fragmented and has relatively low habitat value for many species. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

#### ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

Milford Flats South is located in the Cedar/Beaver River Basin planning area. From 1997-2007, an average of 47,000 AFA of groundwater was withdrawn from the basin, and this increased to 51,000 AFA in 2008. The majority of water use within the basin occurs east and northeast of the SEZ between the towns of Milford and Minersville. Groundwater levels in this heavy use area have dropped up to 65' in these areas from 1948 -2009, and this drop has been accompanied by some subsidence and ground fissuring. There has been a 40' drop in wells within 2 miles of the SEZ, and groundwater elevations are currently declining at 0.3 2.5 ft/yr in the SEZ. There is no groundwater management plan for the Milford district to protect existing uses and limit water use and degradation in water quality, but new applications for groundwater rights are not being accepted, and transfers of existing rights from adjacent basins are usually not approved. The DPEIS states that the proposed Lake Powell pipeline could supply water to meet solar development demands or offset groundwater use, but there's no assurance that this project is viable or will be built. Water shortfalls could occur by 2012. Although water requirements for dry cooling are comparable to small farm usage levels, wet cooling would require the water usage of a medium size farm at the minimum, three times the size of a large farm at the maximum. Given the limited water availability in the area, it appears likely that dry-cooled or non-cooled projects are most viable for the area. Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Vegetation Removal and Soil Disturbance**

Detailed information regarding vegetation removal and soil disturbance is included in Section III, above. Specific to Milford Flats South SEZ, shrub and dune communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZ, particularly given that the noxious weeds cheatgrass and halogeton already exist on site, could proliferate with land disturbance, and could become entrenched with the increased fire frequency common in cheatgrass invaded areas. All soil types in Milford Flats South SEZ have moderate to high wind erosion potential. Although the DPEIS states that no microbiotic crusts are reported for soils covering the three SEZs, we observed them during site visits to Milford Flats South as well as Escalante Valley. Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it's unclear what density of soil crusts would be sufficient to put an area off limits; in Escalante Valley, soil crusts were sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle. It's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not, although the section for Milford Flats South does state that "Aggressive dust control measures would be used."

The PEIS states that large scale earthmoving operations are not expected for Milford Flats South given the relatively flat topography, that fugitive dust concerns are a major concern in this area, that noxious weeds could become established in disturbed areas, colonize adjacent undisturbed habitats, and reduce restoration success, potentially resulting in widespread habitat degradation.

As with the other SEZs, however, they also assume total vegetation removal within project footprints.

**iii. Recommended boundary adjustments**

None noted.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

• **Special Status Species.**

- **Utah Prairie Dog.** USFWS consultation will be required for the federally endangered Utah prairie dog; quad level UNHP occurrences of this species intersect the SEZ, and the Utah prairie dog tracking database shows active colonies outside the affected area ten miles south of the SEZ boundary. Impacts to the species are predicted to be small since there are no active colonies nearby (Utah prairie dogs typically have a maximum dispersal distance of 0.75 miles), but pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Greater Sage-grouse.** Coordination will be required for the greater sage-grouse, a candidate species. USFWS indicated in scoping comments that suitable habitat occurs throughout the Milford Flats South SEZ region (50 mile buffer around the SEZ centroid), and UDWR has identified crucial breeding habitat 1 mile south of the SEZ. SWReGAP habitat models predict potential habitat in the SEZ and the affected area. Pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Pronghorn.** Escalante Valley and its affected area are completely within crucial pronghorn habitat, as are all the Utah SEZs. It should be noted, however, that a significant proportion of the state is crucial pronghorn habitat, so impacts from development within the SEZs should be considered within this context. Up to 4.5% of suitable pronghorn habitat within the SEZ region lies within the indirect effects area of Milford Flats south, but this area is also fragmented by CAFOs, and the extent of actual pronghorn use of this partially disturbed area is unknown.
- **Miscellaneous special status species.** Potentially suitable habitat for 20 special status species exists within the affected area of Milford Flats South, but for all species, less than 1% of the potentially suitable habitat in the SEZ region occurs in the area of direct effects. UDWR quad level SSS that intersect affected area are ferruginous hawk, greater sage grouse, short eared owl, western burrowing owl, dark kangaroo mouse, kit fox, Townsend's big eared bat, and Utah prairie dog. There are no permanent water bodies, streams, or wetlands occur within

Milford Flats South or the proposed access and transmission corridors. Minersville canal is within the area of direct and indirect effects for the SEZ, line, and access road, but does not support any aquatic biota. Pre-disturbance surveys, avoidance of ephemeral streams and washes, woodland habitats, rocky cliffs, and outcrops as well as avoidance of Minersville Canal is recommended to reduce impacts to special status species.

**v. Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring Water Use to Improve Groundwater Status**

BLM has a great opportunity here to explore creative ways to promote solar development that actually improves the water situation in over-allocated basins; We suggest that ground water acquisition for solar development in this SEZ should be structured to acquire more water than is needed for solar facility operation, retiring the use of some water rights as mitigation to reduce impacts and improve the groundwater situation in this arid, over-allocated basin. By retiring existing agricultural uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating Erosion and Dust Issues Through Minimizing Soil and Vegetation Loss**

In areas like Milford Flats South that have extremely fragile soils, and where fugitive dust during operations could be a pervasive problem across the SEZ, approaches to solar development that minimize soil and vegetation modification can be explored that would expand the range of areas where solar can be deployed. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the soil. We suggest that native vegetation and soil crusts be left undisturbed whenever possible to minimize fugitive dust and resulting air quality effects, as well as to minimize water use for dust abatement and equipment cleaning. Ambient air quality in Beaver County is currently relatively good, with background air quality levels for PM2.5, PM10, and other criteria pollutants lower than standards, with the exception of ozone. Measured PM levels are currently roughly half of NAAQS cutoffs. The DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to dominant vegetation type (e.g. shadscale dominated communities like those in Escalante Valley). Mitigation measures outside facility footprints such as protecting areas to preserve native vegetation and soil crusts is another approach that might be used provided that soil loss, fugitive dust, and invasive weed problems could be controlled within cleared areas. This is not one of the BMPS in Appendix A, but the appendix also states that "Project developers

shall implement the design features for soil resources given below and develop others that address unique site conditions not anticipated here."

- **Optimizing Access to Transmission**

The Milford Flats South transmission analysis assumes that the nearest existing transmission line is a 345 kV line 19 miles SE of the SEZ. Construction of a 19 mile line to connect to existing transmission would disturb 576 acres, assuming a 250' ROW, and the existing line would only accommodate 461 of the 1,037 MW of projected generation from solar projects; upgrades or new transmission would be required to add capacity. Additional transmission lines are planned or proposed that could facilitate solar development, however. There is a designated corridor 2 miles away that runs parallel to an existing 1000 kV line according to GIS data from the state of Utah (see corrections, below). This may be the NewSub1-Three Peaks line, a PacificCorp line that was built for an electrochemical facility and may have unused capacity or the ability to increase capacity. By connecting projects to the closest proposed and existing lines, connectivity can be optimized while minimizing disturbance and fragmentation; access to these lines for well-designed solar projects should be prioritized.

- **Optimizing Road and Railway Access**

It is assumed that 18 miles of new road construction would be required to attain access to State Route 21/130. This road would be 8 miles long and disturb 36 acres of habitat, some of this private. A paved road already exists on the north side of the SEZ, however, and the PEIS states that "priority consideration should be given to utilizing upgraded existing county roads to provide construction and operational access to the SEZ." Alternatively, using the existing rail line that passes 2 miles west of the SEZ could be most efficient. Access roads are a significant component of project impacts; the ability to use existing roads and railways to minimize these impacts and transport equipment and supplies to the SEZ in the most energy efficient manner possible is an exciting opportunity to create synergy between renewable development, energy conservation, and minimizing disturbance.

- **Ecological reference area.**

There is currently limited information available regarding the impacts of utility-scale solar development on surrounding landscapes. Designating an ecological reference area of 1,000 hectares as part of the SEZ would provide a control area for researching impacts of utility-scale solar development and could inform future efforts to minimize and mitigate impacts.

**vi. Corrections**

- The DPEIS states that the nearest transmission is 19 miles SE, but there is an existing DC transmission line two miles northwest of the SEZ.

- UDWR quad-level occurrences for greater sage grouse intersect the SEZ itself, not just the affected area.

### C. Wah Wah Valley SEZ

#### i. Overview

The proposed Wah Wah Valley SEZ includes approximately 6,000 acres in the middle of the Wah Wah Valley and straddles State Highway 21. This is the most remote of the three Utah SEZ with the nearest major town 50 miles away, railway 23 miles away, and an existing DC transmission line 18 miles away. Additionally, there is no natural gas or water distribution system that is near this site.

The Wah Wah Valley is one of the least developed and most representative valleys of the basin and range ecosystem. Bound on the east and west by horsts (uplifted mountains) this valley is a graben, a fault caused valley. The Basin and Range Physiographic Province and ecosystem is characterized by a number of separate and parallel mountain ranges with broad valleys interposed and extends across several states and a huge area. Unlike the other two SEZ sites in Utah, the Wah Wah Valley has minimal rural dirt roads, no industrial development, no power lines or working phone lines, and almost no developed agricultural lands.

Several candidate wilderness areas are nearby. The San Francisco Mountains proposal lies 2.2 miles to the north and East. The Central Wah Wah Mountains proposal lies 1.3 miles south and west.

The BLM lands in the area of the Wah Wah Valley SEZ are currently being managed under the Pinyon Management Framework Plan (MFP). The MFP framework was used by the BLM prior to the development of the Resource Management Plan (RMP) framework that is currently used for most BLM lands. The Pinyon MFP has not been revised for many years, and we recommend that it should be revised to meet the standards of the RMP framework before a SEZ is designated here.

Because of the remoteness of this site, the Wah Wah Valley SEZ least fits the siting criteria of the three SEZ sites in Utah. Lack of water, the need for long new transmission lines and the lack of an underlying RMP management framework make this area less suitable for development than the other two SEZ sites in Utah. **For these reasons, we recommend that the BLM prioritize the designation of the Milford Flats South and Escalante Valley SEZs and de-prioritize the designation of the Wah Wah Valley SEZ until an RMP is completed for the area.**

#### ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of water to support development**

Today, shallow wells provide the dominate water source for human use in Great Basin valleys. Two pivot irrigation systems operate just north of the SEZ; each is approximately 0.1 miles in diameter. Except for this pivot irrigation no other lands are irrigated in this valley and the ranches are small, seasonal, and have little use of existing water.

Groundwater recharge for the Wah Wah Valley is estimated to be approximately 7,000 acre-feet per year (afy) (Stephens 1974). Additional recharge from subsurface inflow could add another 3,000 afy. Groundwater is not fully appropriated in the Wah Wah Valley, but there are currently two pending water right applications for 12,000 afy and 6,650 afy, which, if both approved, would exceed the estimated value for groundwater recharge in the basin.

The DPEIS estimates that water needs for construction of a solar project in the SEZ could be as high as 1,261 afy. At full build-out capacity (80% buildout of the SEZ), the DPEIS estimates total water use requirements during operations to range from 28 to 277 afy for dish engine and PV technologies (no cooling required). For parabolic trough and power tower technologies, full build-out water requirements range from 385 to 1,478 afy using dry cooling and from 2,716 to 14,647 afy using wet cooling. Given the limited water resources available in this area, we concur with the BLM's conclusion in the DPEIS that wet cooled projects would not be feasible for full buildout of this SEZ. It appears likely that only non-cooled or potentially limited dry cooled projects are feasible in this SEZ.

Development of ground water sources for this SEZ is highly likely to lead to dewatering of existing surface springs over a long period of time. These springs such as Antelope, Wah Wah, Kiln, Gun Spring Willow, Skelly, Hospital Springs are among the larger of these springs that could be influenced by long term drop in the water table

Today most streams and springs in the Great Basin are degraded and, as such, have lost their resilience to new stresses such as increased water extraction for industrial uses.<sup>112</sup>

Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Availability of transmission access**

The Wah Wah Valley SEZ does not have access nearby existing transmission lines – the closest existing transmission line is a DC line 18 miles to the east. There may be opportunities to develop new transmission lines to access the SEZ in an environmentally responsible way. However, one potential corridor that has been identified in the Section 368 West-wide Energy Corridors process should not be utilized. An unoccupied and proposed Section 368 energy corridor runs across the SEZ from the south east to northwest. This corridor is identified as 110-114 in the record of decision for the Section 368 energy corridors. Development of this corridor is highly speculative and faces serious political opposition as it crosses the Wah Wah Mountains candidate wilderness area to the west. The Record of Decision for this energy corridor concluded, –Designation of Section 368 corridors and amendment of affected RMPs does not

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<sup>112</sup> Engelhardt, Blake Meneken. 2009. Geomorphic controls on Great Basin riparian vegetation at the watershed and process zone scales. Masters of Science thesis.



authorize any projects, mandate that future projects be confined to the corridors, or preclude BLM from denying a project in a designated corridor or requesting design revisions to meet unanticipated siting issues there.”

The Wah Wah Valley lies within the area covered by the Pinyon MFP. This MFP specifically states that no rights of way or corridors will be authorized in “wilderness study areas” . . . . and other areas where rights of way should not be allowed because of a significant resource value.” The Wah Wah Mountains WSA and lands possessing wilderness characteristics would be impacted by Corridor 110-114. For this reason, development of this corridor poses a conflict with this existing land use plan requirement. The BLM has yet to apply the full land use planning requirements to this area that modern Resource Management Plans (RMP) include. Should BLM prepare a RMP for this area, there is possibility that areas might be designated for special protection areas such as ACECs or lands with wilderness characteristics. For these reasons, the BLM should analyze other opportunities to provide environmentally responsible transmission access to this SEZ.

**iii. Recommended boundary adjustments**

None noted.

**iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

**• Wildlife and special status species**

The wild and largely natural valley that this SEZ lies in is frequented by bald eagles, peregrine falcons, golden eagles, ferruginous hawk, Swainson’s hawk, long-billed curlew, western snowy plover, and white-faced ibis.<sup>113</sup> The Pinyon MFP identified important raptor areas near to this SEZ.

The area is identified as much of the region is as important for antelope. This SEZ site is approximately seven miles north of a “special stipulation area (Antelope Kidding Area)” identified by BLM in the Pinyon MFP.

Twenty two special status species were found to be in the affected area (SEZ boundary and 5 mile buffer for area of indirect effects) for this SEZ by the BLM. This is more than the number listed for the other two Utah SEZs, though the DPEIS does note that overall impacts to all of the special status species found in the affected area are likely to be small. However, we recommend that the BLM analyze potential impacts to any of these species prior to approving any projects in this area.

**v. Opportunities for environmentally responsible development**

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<sup>113</sup> BLM 1991 Utah statewide wilderness study report, volume IIA

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Low water use technologies.**

Given the limited groundwater available in this area, low water use PV and dish-engine technologies could limit potential negative impacts from water use.

- **Ecological reference area.**

There is currently limited information available regarding the impacts of utility-scale solar development on surrounding landscapes. Designating an ecological reference area of 1,000 hectares as part of the SEZ would provide a control area for researching impacts of utility-scale solar development and could inform future efforts to minimize and mitigate impacts.

- **Opportunity to use existing road and rail access**

The SEZ has paved highway access directly to the site. An old rail grade also exists from Milford to this valley. Use of this existing infrastructure could limit impacts by limiting the need to build new roads and rail lines to access the SEZ.

**vi. Corrections**

None noted.

Thank you for your thorough consideration of these comments.

Sincerely,

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**Attachments**

- Attachment 1 - EPA Cedar City RMP Scoping Comments (Svoboda to Rigtrup 2010)
- Attachment 2 - EPA Comments FEIS MOAB RMP (Svoboda to Northrup 2008)
- Attachment 3 - EPA Comments on Vernal FEIS-PRMP1 (Svoboda to Sierra 2008)
- Attachment 4 - June 18 08 Letter to Monticello FO (Braden to Heinlein 2008)
- Attachment 5 - Desert Siting Criteria Memo
- Attachment 6 - GIS Data for CWP Units

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Thank you for your comment, Janet Fotos.

The comment tracking number that has been assigned to your comment is SolarD11720.

Comment Date: April 18, 2011 19:14:24PM  
Solar Energy Development PEIS  
Comment ID: SolarD11720

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Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, HAL ARMES.

The comment tracking number that has been assigned to your comment is SolarD11721.

Comment Date: April 18, 2011 19:26:49PM  
Solar Energy Development PEIS  
Comment ID: SolarD11721

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City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.



Thank you for your comment, Julie Fitch.

The comment tracking number that has been assigned to your comment is SolarD11722.

Comment Date: April 18, 2011 19:27:40PM  
Solar Energy Development PEIS  
Comment ID: SolarD11722

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City: San Francisco  
State: CA  
Zip: 94102  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: SolarDraftPEISCPUCcomments4182011.pdf

Comment Submitted:

**PUBLIC UTILITIES COMMISSION**

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



April 18, 2011

Ms. Linda Resseguie, Project Manager  
Bureau of Land Management  
Argonne National Laboratory EVS/900  
9700 S. Cass Ave.  
Argonne, IL. 60439

**Re: California Public Utilities Commission (CPUC) Comments on the Draft  
Programmatic Environmental Impact Statement (DPEIS) for Solar Energy  
Development in Six Western States prepared by the Bureau of Land Management  
(BLM) and the Department of Energy (DOE)**

Dear Ms. Resseguie:

Thank you for the opportunity to comment on the BLM and DOE Draft PEIS for the solar energy development in the six western states including the consideration of 24 Solar Energy Zones (SEZs). Through the PEIS, BLM is evaluating a new Solar Energy Program for utility-scale solar development on BLM-administered lands in the six western states. DOE is evaluating new program guidance relevant to DOE supported solar projects on federal, state, tribal, or private land.

We have provided scoping comments on both the May 2008 and July 2009 notices and have been a cooperating agency on the Solar PEIS as well as a representative on the California Interagency Working Group for the Solar PEIS since 2008. In addition, the CPUC was an active member of the Renewable Energy Transmission Initiative (RETI) process for over 3 years. As evidenced by our continued involvement, the CPUC is very supportive of the Solar PEIS process. The draft PEIS correctly notes that California investor-owned utilities are already mandated to provide 20% of their electricity from renewable energy sources by 2010. Additionally, on April 12, 2011, Governor Jerry Brown signed into law Senate Bill 2 (First Extraordinary Session), extending the current 20 percent renewable energy goal by 2010 to a 33 percent goal by December 31, 2020.

We appreciate the fact that BLM has addressed a number of our scoping and interagency working group comments. However, we would like to provide the following comments on the Draft PEIS for your consideration in preparing the final document. Our attached comments focus on the California SEZ designations and the selected alternatives along with a number of technical comments.

Ms. Linda Resseguie  
April 18, 2011  
Page 2

We look forward to continuing to work with BLM on the finalization of the Solar PEIS document in our role as a cooperating agency and as a member of the Interagency Working Group. If you have any questions, please contact Billie Blanchard, our interagency group representative, at 415-703-2068 or email at [bcbl@cpuc.ca.gov](mailto:bcbl@cpuc.ca.gov).

Sincerely,



Julie A. Fitch  
Director, Energy Division

Cc: Molly Sterkel, Program Manager Energy Division  
Mary Jo Borak, Supervisor Energy Division  
Anne Mills, CPUC Energy Division  
Paul Douglas, CPUC Energy Division  
Ashley Conrad-Saydah, BLM State Office  
Roger Johnson, CA. Energy Commission  
Scott Flint, CA. Energy Commission  
Manal Yamout, Governor's Office  
Michael Picker, Governor's Office

# CPUC COMMENTS ON THE DRAFT SOLAR PEIS

April 18, 2011

## GENERAL COMMENTS

### THE LOCATIONS AND CONFIGURATIONS OF PROPOSED SOLAR ENERGY ZONES (SEZs)

In our previous scoping comments, we requested that BLM's PEIS consider the RETI CREZ areas by studying all the CREZ areas or, in the alternative, the rationale or criteria for eliminating certain CREZ areas from consideration. The PEIS (p. 2-10) did consider four of the RETI CREZs as proposed SEZs along with their general criteria for selection, although it is not clear how some CREZs were considered for SEZs and why others were not in the PEIS. However, per our comments below, we agree with the PEIS statement (p. 2-11) that states, "based on the potential conflicts identified, some of the proposed SEZ areas may be reduced in size or eliminated entirely when the final SEZs are identified in the ROD for this PEIS." As such, we are recommending designation of three of the four SEZs: Imperial East, Pisgah, and Riverside East, at reduced acreage or configurations, and the elimination or postponement of the Iron Mountain SEZ.

Likewise, according to another PEIS statement (p. 2-11), we also agree with BLM that, "in the future based on lessons learned from individual projects and/or new information, the BLM could decide to expand SEZs, add SEZs or remove or reduce SEZs." Given the additional environmental analysis underway for additional SEZ areas and the Desert Renewable Energy Conservation Plan (DRECP) ongoing process, we are recommending that additional SEZ modifications or additions be considered in a near-future supplemental process to this PEIS, based on the results of the DRECP and other ongoing environmental efforts.

#### **Section 9.1 Imperial East**

The CPUC would recommend the continued designation of the Imperial East SEZ in Imperial County, which could accommodate up to 916 MW of solar generation. As indicated in the PEIS, it is located near the West Wide Corridor, a 115 kV line along with the existing 500 kV Southwest Powerlink, with proximity to existing roads, a slope of less than 2%, and an area of over 2500 acres. The area does appear to have a low risk for permitting challenges based on the PEIS information. However, there are wetlands to the south and two adjacent ACECs (Lake Cahuilla and East Mesa) which could affect the size and configuration of the two solar applications, due mainly to biological and cultural resource issues. In their Record of Decision (ROD) for this PEIS, BLM could factor these issues into their final SEZ boundaries.

## **CPUC COMMENTS ON THE DRAFT SOLAR PEIS**

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### **Section 9.2 Iron Mountain**

The proposed Iron Mountain SEZ lies in the Ward Valley within the Mojave Desert. The PEIS indicates that the maximum development of the proposed SEZ is assumed at 80% of the total area over a period of 20 years at a maximum of 85,217 acres, with an estimated total of between 9,469 MW and 17,043 MW. With only an existing 230 kV line, we agree that full build-out of the SEZ would require substantial new transmission lines or upgrades. This will probably require utilizing not only the existing corridor, but also new corridors in the same or a new location to the north and/or south.

Further, even though the SEZ appears to meet BLM's minimum physical criteria, it is questionable that it fulfills the purpose and need related to "identifying and prioritizing specific locations best suited for utility scale solar energy development on public lands" (Chapter 1 page 1-7). The PEIS (Table 9.2.1.3-1) has identified a number of issues that could result in significant environmental impacts including:

- There are visual and recreational impacts to Turtle Mountains, Old Woman Mountains, and the Palen-McCoy Wilderness areas.
- Impacts to the night sky environment as viewed from Joshua Tree National Park.
- There would be disturbance to habitats that include many special status species.
- Desert Tortoise habitats are on the northern and western areas. On page 9.2-156 it is indicated that the USFWS estimated that full scale development in the SEZ may directly affect between several hundred to more than 1,000 Desert Tortoises as well as create indirect impacts from fragmentation by affecting linkages between the Chemehuevi and Pinto Mountain DWMAs.
- There could be direct impacts to significant cultural resources. The PEIS indicates numerous prehistoric and Native American sites and trails are potentially located in the SEZ including the Salt Song trail passing just west of the proposed SEZ.
- The SEZ includes Citizen Wilderness Inventory lands.

Given that there are no fast-track projects located here and that there are a significant number of possible environmental permitting challenges, we would recommend that this SEZ designated area not be carried forward as part of the agency's Solar Energy Program. Alternatively, the SEZ should be placed on hold until the completion of the DRECP process, which will provide a more specific assessment of renewable development and conservation areas.

### **Section 9.3 Pisgah**

The proposed SEZ has a total area of 23,950 acres. The PEIS assumes maximum development over 20 years of 2,129 MW to 3,832 MW. Even though there are existing available transmission lines, the PEIS correctly states that full build-out capacity would require new transmission lines for upgrades to move the power to load centers.

## **CPUC COMMENTS ON THE DRAFT SOLAR PEIS**

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The CPUC would recommend the continued designation of the Pisgah SEZ, but at a reduced configuration to reflect identified issues. The PEIS has indicated that there are a number of environmental concerns associated with this SEZ including impacts to Desert Tortoise which the USFWS estimates that full scale solar development on the SEZ may affect up to 260 tortoises in the SEZ (page 9.3-157). As BLM is aware, the Fast Track Calico Project (formerly the SES – Solar One) in this SEZ was originally proposed as a 850 MW facility on 8,230 acres, but the ROD approved on 10/20/2010 allows for a 665.5 MW facility on 4,604 acres due to cultural, biological, and hydrologic resources including avoidance high value Desert Tortoise habitat on the north side, Nelson’s Bighorn Sheep habitat, donated-acquired lands, and cultural sites. In addition to the Calico issues, the proposed Mojave Trails National Monument lies to the north of the SEZ which is addressed further in our technical comments below.

### **Section 9.4 Riverside East**

This proposed SEZ is presently sized at 202,896 acres with a maximum development assumed at 80% over 20 years of 162,317 acres with a generation potential of 18,035 MW to 32,463 MW. The PEIS correctly notes that full build-out would require substantial new transmission lines and/or upgrades to existing lines to bring this SEZ energy to load centers.

We recommend that this SEZ be retained in the BLM ROD. However, the final configuration of the SEZ will need to consider impacts such as indicated in Table 9.4.1.3-1 along with issues that have been identified or resulted from the specific solar project approvals in this SEZ including the following:

- The CEC reconfigured the 500 kV Palen Solar Project (09AFC7) in its 12/15/2010 approval due to impacts to Mojave fringe toed lizards, sand dune habitats, and the sand transport corridor.
- There are potential impacts to seven ACECs in and near the SEZ.
- Thirty special status species are known to occur in this SEZ including the Desert Tortoise.
- There are identified affects to wilderness areas-Palen-McCoy, Rice Valley, Big Maria Mountains, Chuckwalla and Little Chuckwalla Mountains.
- Visual impacts have been identified to Joshua Tree National Park. It is the CPUC’s understanding that there is a formal agreement dated February 24, 2011 between the BLM and the National Park Service (NPS) that requires the Solar PEIS to preclude any additional renewable energy development projects on those lands excluded from the Desert Sunlight and EnXco Eagle Mountain Soliel application footprints.
- The BLM and NPS agreement requires the Solar PEIS to reconfigure SEZ boundaries to exclude land near NPS units including Joshua Tree National Park.
- The BLM and NPS agreement requires the scaling back of the Desert Sunlight Project to 4000 acres or less; and further if Desert Sunlight or EnXco Eagle Mountain Soliel do not develop that these areas will be withdrawn from further development.

## **CPUC COMMENTS ON THE DRAFT SOLAR PEIS**

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### **CONSIDERATION OF ADDITIONAL FUTURE SEZS**

As indicated in Section 2.5.9 page 2-29, BLM may evaluate additional SEZs in the future using a process similar to that employed in this PEIS. We recommend the consideration of additional SEZ through the DRECP process, public comments, and other identified environmental work.

#### **Additional SEZ Evolving from DRECP Process**

Through an October 2009 MOU between the State of California and the Department of Interior, BLM is involved in the DRECP process. There is the distinct possibility that additional SEZs could evolve from the DRECP to balance the loss or reduction of the proposed SEZs. We recommend that BLM use the results of the DRECP scheduled to be complete in 2012 for additional SEZs or use it to adjust the proposed SEZs. As the PEIS points out on page 1-24 Section 1.6.2.3, "The DRECP will include a strategy that identifies and maps areas for renewable energy development and areas for long term natural resource conservation. This initiative could result in amendments to BLM land use plans related to solar and other renewable energy development."

#### **Other Areas to Consider or could be Considered for Additional SEZs through public comments and environmental assessment efforts**

We recommend and encourage BLM to consider in the near term additional SEZs suggested through public scoping comments and/or Draft PEIS comments. For example, The California Energy Commission and the Department of Fish and Game in their September 14, 2009 scoping comments provided seven suggested areas.

Further, we support BLM's consideration of the West Chocolate Mountains area as a future SEZ. On page 9.4-387, the PEIS indicates that the BLM El Centro office on February 10, 2010 noticed its intent to prepare an EIS to identify 21,300 acres of BLM lands within the West Chocolate Mountains area for geothermal, solar, or wind development.

### **PROPOSED ALTERNATIVES**

The PEIS has examined the No Action alternative and two action alternatives. (1) The No Action alternative continues authorizations on BLM land for solar development using its existing policies on a case-by-case basis. Lands available in California under existing laws would include 11,067,366 acres. (2) The Solar Development Program Alternative includes new program administration and authorization policies and design features for a subset of BLM lands that would total 1,766,543 acres in California. Within these lands, BLM would identify 339,090 acres for SEZs which would be prioritized for development. This alternative makes less BLM land available by excluding or "screening out" categories of land that are known or believed to be unsuitable for utility scale solar development but not for supporting linear infrastructure. (3) The Solar Energy Zone Program alternative would have the same new program administration

## CPUC COMMENTS ON THE DRAFT SOLAR PEIS

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policies and design features for solar development but restricts applications to SEZs only, which would include a proposed 339,090 acres in California.

The Solar Development Program Alternative has been identified as the Preferred Alternative. Based on the PEIS environmental analysis, the ongoing DRECP process, and other initiated environmental assessments for renewable developments, the CPUC would like to recommend modifications to the Preferred Alternative as outlined in the below paragraphs.

### **No Action Alternative**

We agree with the PEIS that the No Action Alternative is not the preferred alternative. As identified on Table 6.1-2, the impacts would be greater and more widespread in all the resource categories. As stated in Section 6.3.1, there would be no clear direction as to which lands would be excluded from or available for development. Developers and BLM would continue to spend time and resources considering inappropriate locations. There would be no ability to tier off of programmatic evaluations. BLM would not have comprehensive design features to implement for project impacts. The authorization process would not have the benefit of a comprehensive program to standardize and streamline the agency's review and approval of solar development.

### **Consideration of a Modified Preferred Alternative - Solar Energy Development Program Alternative**

Both of the action alternatives offer many of the same benefits that the No Action Alternative does not include in the present process. However, the PEIS identifies the Solar Energy Development Program Alternative as the Preferred Alternative. Based on the Comparison Table 6.4-1 BLM finds that it would likely result in the highest pace of development at the lowest cost; provide more than an adequate amount of lands available for the 20 year projections; and allow for flexibility in siting development. The main drawback to the SEZ Program Alternative versus the Program Alternative appears to be that it may not make an adequate amount of lands available to support development projects unless BLM identified additional SEZs (Section 6.2.7 pages 6-44-45). Even though the Program Alternative may offer this possible benefit, the resource impacts would be dispersed over a greater area of 1.7 million-plus acres, including in the Iron Mountain area, as opposed to the SEZ Program Alternative which would limit impacts to only the SEZ areas. Some of the lands outside the SEZs could be suitable for solar development, but also some of these identified lands could have high wildlife value and are being considered for DRECP inclusion.

Given the concerns of land availability and dispersed environmental impacts, the CPUC would like to recommend the Preferred Alternative with modifications, allowing for a more phased solar development, based on ongoing resource planning and further SEZ development as outlined below. It is our opinion that this more phased process would be even more likely to "screen for success" than the presently-described Solar Energy Development Program Alternative.



## CPUC COMMENTS ON THE DRAFT SOLAR PEIS

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### **Certain Proposed SEZ would be adopted with ROD for PEIS**

We recommend that BLM:

- Approve the Pisgah, Riverside East, and Imperial East SEZ in the ROD for the Solar PEIS, but as reconfigured by previous project approvals, exclusions, and restrictions such as those resulting from design features.
- Eliminate or place the Iron Mountain SEZ on hold pending the completion of the DRECP process, and then consider it as modified or eliminated as a SEZ in a future ROD.

### **Consideration of applications on lands available within the SEZs and outside the adopted SEZs**

We recommend that BLM:

- Prioritize the processing of viable solar applications located within the SEZs adopted with this Solar PEIS ROD.
- Using the completed DRECP process, reassess the location and acreage of lands available for applications under the Solar Development Program outside the SEZs.
- After the DRECP and reassessment of lands, consider any viable applications outside the adopted PEIS SEZs or consider them within future adopted additional SEZs.

### **Consideration of Future SEZs with completion of DRECP and additional supplemental environmental work**

We recommend that BLM:

- Use the DRECP results for establishing additional SEZs.
- Consider SEZ recommendations from the Draft PEIS comments in the context of the DRECP results.
- Pursue SEZs in the West Chocolate Mountains area in the context of the DRECP results.

## **OTHER TECHNICAL COMMENTS**

**3.2.5 page 3-24 – transmission lines** – it is indicated that, “upgrading existing lines would be advantageous to transmission operators because there would be no need to obtain new rights of way (ROWs) on federal, state, or private lands.” This statement is not entirely correct. If upgrading a line is limited to reconductoring the line or retrofitting existing structures, then it is likely that there would be no need to obtain new ROWs. However, if the voltage is increased (i.e. 115 kV to 230 kV), it is highly likely that the operator would have to obtain adjacent new ROW or new ROW in the area.

**6.1.5 page 6-39 Optimize Existing Transmission Infrastructure and Corridors** – It is stated in the first paragraph in relation to the Program Alternative, “By making a relatively large amount of land available for utility scale solar ROW applications, developers could identify and propose

## CPUC COMMENTS ON THE DRAFT SOLAR PEIS

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projects that optimize existing transmission infrastructure and designated transmission corridors.” It is not clear that by allowing large amount of land for ROW applications that you would necessarily optimize existing lines. All of the lands may not be near a designated corridor or existing lines. In addition, there may be the need for longer gen-tie lines to access existing lines or corridors. Unless areas are planned in this alternative to consider existing lines and corridors, optimization may not occur as this section suggests to the reader.

**Table 9.1.22.2-1 – Future Actions – Imperial East SEZ** – The following items should be updated as follows:

- **Imperial Valley Solar Project (CACA 47740)** 750 MW 6,500 acres Disk Engine – It is indicated that it is under review. This statement should be updated to state that BLM issued a Record of Decision (ROD) on October 5, 2010.
- **New Sunrise Powerlink 500 kV Transmission line** – The status is indicated as “planned.” This should be corrected to indicate “under construction.” All approvals have been issued and SDG&E is constructing the project in both San Diego and Imperial Counties. Also, the CPUC-approved line is 123 miles long and not 150 miles as originally proposed.
- **Renewable Energy Development - Imperial Valley Solar Project (Stirling Energy Systems Solar Two Project)** – It is indicated that construction for the proposed project would begin in 2010. Since BLM only approved a ROD on October 5, 2010, the construction start date needs to be updated in this document, along with any other changes to project status, including new applicants and change in the proposed solar technology.

**Renewable Energy Development pages 9.2-307- 9.2 -313 and Table 9.2.22.2-1 Reasonable Foreseeable Future Actions** - The status of these projects needs to be updated as follows:

- **Solar Millennium Blythe Solar (CaCa 48811)** – A ROD was approved on 10/25/2010 for the 1000 MW solar facility on 7,025 acres.
- **NextERA Genesis Ford Dry Lake (CaCa 48880)** – A ROD was approved on 11/4/2010 for 250 MW solar facility on 1,950 acres.
- **Solar Millennium Palen (CaCa 48810)** – An AFC (09AFC7) was approved by the CEC on 12/15/2010 for a 500 MW facility.

**9.2.1.1 General Information (Iron Mountain) and 9.3.1.1 General Information (Pisgah) Proposed Mojave Trails National Monument** – As previously provided in our interagency comments, the General Information sections for both the Pisgah and Iron Mountain SEZs should discuss and identify on a graphic the proposed Mojave Trails National Monument, whose proposed boundaries would be north of this study area. Clearly, this proposed

## **CPUC COMMENTS ON THE DRAFT SOLAR PEIS**

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Monument could affect the SEZ locations and configurations as well as lands considered available under the Solar Energy Development Program Alternative.

Senator Feinstein reintroduced the California Desert Protection Act (CDPA 2011 S. 138) in January 2011. The CDPA 2011 creates the 941,000 acre Mojave Trails Monument and the 134,000 acre Sand to Snow Monument. The bill also adds land to Joshua Tree National Park, Mojave National Preserve, and Death Valley National Park.

**9.4.1.2** – It is indicated that full build-out of the Riverside East SEZ would require substantial new transmission and/or upgrades of existing lines to bring electricity from the proposed SEZ to load centers, but at this time the location and size of such new transmission is unknown. This statement is not entirely correct. To deliver energy from the solar projects already permitted in the SEZ, it is presently known that the Devers-Palo Verde #2 500 kV line will require construction, along with two 500/230 kV interconnection substations that are known as Red Bluff and Colorado River.

**Table 9.4.22.2-1** – See above comments on Table 9.2.22.2-1 for updates to Genesis, Blythe, and Palen.

**Page 9.4-386 Devers to Palo Verde No. 2** – This paragraph requires some updates. The first sentence should state, “A second Devers-Palo Verde line was approved by the CPUC in January 2007 that would have run adjacent to the existing line south of I-10 and the proposed Riverside East SEZ in an existing corridor.” The last sentence should state, “SCE has satisfied the ISO conditions for interconnection agreements, but construction can not commence until the project receives approval in a BLM ROD.

Thank you for your comment, Linda Marshall.

The comment tracking number that has been assigned to your comment is SolarD11723.

Comment Date: April 18, 2011 19:33:43PM  
Solar Energy Development PEIS  
Comment ID: SolarD11723

First Name: Linda  
Middle Initial:  
Last Name: Marshall  
Organization:  
Address: PO Box 5743  
Address 2:  
Address 3:  
City: Greenville  
State: SC  
Zip: 29606  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

As David Lamford the California Desert Prog. Mgr with NPCA stated; "Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage."

Thank you for your comment, Alex Beutel.

The comment tracking number that has been assigned to your comment is SolarD11724.

Comment Date: April 18, 2011 22:50:11PM  
Solar Energy Development PEIS  
Comment ID: SolarD11724

First Name: Alex  
Middle Initial:  
Last Name: Beutel  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

It is encouraging to learn that companies are working to promote renewable resources in our country. However any project to capture resources should be done in a way with minimal impact to the natural environment. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development on land that would avoid future conflicts with national park resources and delicate desert ecology.

Four areas that concern me are the Riverside East SEZ which must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors, the Iron Mountain SEZ which must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Lastly the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

By changing these sites and consulting the National Park Service when proposing anything within 15 miles of a national park boundary the SEZ plans should be allowed. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, solarpanel haq.

The comment tracking number that has been assigned to your comment is SolarD11725.

Comment Date: April 19, 2011 01:00:08AM  
Solar Energy Development PEIS  
Comment ID: SolarD11725

First Name: solarpanel  
Middle Initial:  
Last Name: haq  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

i still want to study this knowledge.

i find this ,very happy.

thanks.i like it.<http://www.haqsolar.com>

please.

Thank you for your comment, Joyce Wood.

The comment tracking number that has been assigned to your comment is SolarD11726.

Comment Date: April 19, 2011 01:44:18AM  
Solar Energy Development PEIS  
Comment ID: SolarD11726

First Name: Joyce  
Middle Initial: G  
Last Name: Wood  
Organization:  
Address: [Withheld by requestor]  
Address 2: [Withheld by requestor]  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Please have adequate notice in advance of public comment periods and meetings, etc. published in local news media. Solar panel areas and wind farms should not impact the viewsheds of designated national or state lands such as parks, wildlife refuges or wilderness areas.

Thank you for your comment, chris ludvik.

The comment tracking number that has been assigned to your comment is SolarD11727.

Comment Date: April 19, 2011 04:47:32AM  
Solar Energy Development PEIS  
Comment ID: SolarD11727

First Name: chris  
Middle Initial:  
Last Name: ludvik  
Organization:  
Address: 6374 austin st apt 2A  
Address 2:  
Address 3: 6374 austin st apt 2A  
City: rego park  
State: NY  
Zip: 11374  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

yo start using some solar panels on things! booyakasha!



Thank you for your comment, ALEJANDRA FRANCO.

The comment tracking number that has been assigned to your comment is SolarD11728.

Comment Date: April 19, 2011 09:04:12AM  
Solar Energy Development PEIS  
Comment ID: SolarD11728

First Name: ALEJANDRA  
Middle Initial: M  
Last Name: FRANCO  
Organization:  
Address: BOSQUE DE CIRUELOS  
Address 2:  
Address 3:  
City: MEXICO  
State:  
Zip: 03020  
Country: DF, Mexico  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Hagamos algo ya!!

Thank you for your comment, Katherine O'Sullivan.

The comment tracking number that has been assigned to your comment is SolarD11729.

Comment Date: April 19, 2011 11:47:34AM  
Solar Energy Development PEIS  
Comment ID: SolarD11729

First Name: Katherine  
Middle Initial:  
Last Name: O'Sullivan  
Organization:  
Address: 1825 Riverside Drive  
Address 2:  
Address 3:  
City: New York  
State: NY  
Zip: 10034  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

We need clean air and water.  
Solar energy does not compromise either.  
It is clean, renewable and will provide jobs.  
We need to invest in solar energy

Thank you for your comment, katherine O'Sullivan.

The comment tracking number that has been assigned to your comment is SolarD11730.

Comment Date: April 19, 2011 11:51:44AM  
Solar Energy Development PEIS  
Comment ID: SolarD11730

First Name: katherine  
Middle Initial:  
Last Name: O'Sullivan  
Organization:  
Address: 1825 Riverside Drive  
Address 2:  
Address 3:  
City: New York  
State: NY  
Zip: 10034  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar development should take local environmental conditions(wildlife habitat and essential wilderness) into account in planning.

Thank you for your comment, Jim Boone.

The comment tracking number that has been assigned to your comment is SolarD11731.

Comment Date: April 19, 2011 13:52:15PM  
Solar Energy Development PEIS  
Comment ID: SolarD11731

First Name: Jim  
Middle Initial:  
Last Name: Boone  
Organization:  
Address: 3112 Ivory Coast Dr  
Address 2:  
Address 3:  
City: Las Vegas  
State: NV  
Zip: 89117  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

We need to be Smart From The Start!

Solar is important, but solar energy should be developed only in solar energy zones that don't compromise wildlife corridors, special wildlife habitat, scenery, archaeological sites, water resources, night sky viewing, National Park areas, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Vince Lopez.

The comment tracking number that has been assigned to your comment is SolarD11732.

Comment Date: April 19, 2011 15:24:54PM  
Solar Energy Development PEIS  
Comment ID: SolarD11732

First Name: Vince  
Middle Initial:  
Last Name: Lopez  
Organization:  
Address: 129  
Address 2:  
Address 3:  
City:  
State: FL  
Zip: 32765  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

solar energy!

Thank you for your comment, Cameron Miller.

The comment tracking number that has been assigned to your comment is SolarD11733.

Comment Date: April 19, 2011 17:15:41PM  
Solar Energy Development PEIS  
Comment ID: SolarD11733

First Name: Cameron  
Middle Initial:  
Last Name: Miller  
Organization: Adams State College EARTH  
Address:  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment: BLM-PEIS-Alamosa-20110307.txt

Comment Submitted:

See attached.

Comment for 11,000 page PEIS document feedback meeting, Colorado

Monday March 7th, 2011

As a resident of the San Luis Valley (SLV), I have some concerns about industrial scale solar development in the valley. As an information technology professional I'm data driven. Here is some data illustrating why the SLV is not necessarily a good location for large scale solar siting in Colorado.

A) Better insolation (sunshine) in the SLV is significantly offset by transmission line losses. Better insolation is a red herring for guiding the location of solar development in Colorado and the US.

B) There is no cost benefit to the residents of the SLV or residents of Colorado.

###Insolation vs transmission losses

1) Electricity Transmission Line Loss

\* According to the US DOE average transmission [line losses in the US are 6.5%][1].

\* According to the DOE Energy Information Administration [line losses in Colorado are ~7.5%][2].

\* A recent article in National Geographic puts this line loss in perspective. A year of US [line losses can power 14 cities the size of New York][3].

2) Insolation

According to 30 year average insolation data gathered by the NREL:

\* [Alamosa gets 8.8 KWh/m<sup>2</sup> of sunshine][4].

\* [Pueblo gathers 8% less sun than Alamosa][4].

\* [Colorado Springs 12.5% less][4].

\* [Denver/Boulder area 16% less][4].

\* Those differences get pretty small when factoring in at least 7.5% of transmission line losses. But wait, Colorado has 7.5% line loss before adding an additional 100+ miles of transmission distance out of the SLV.

\* Germany's insolation is just [1KWh/m<sup>2</sup>][5], less than almost anywhere in the US.

\* Germany at 88% less sun than Alamosa, has the largest photovoltaic installed base in the world on a per country basis at [17GW][6]. They produce their power at 69% of solar panel ability.

\* Germany has about a dozen central solar plants but their size ranges from

20 - 80MW each, [most are under 50MW][6]. The rest of their production is via

rooftop solar.

3) Solutions for transmission line loss are unproven and expensive

\* According to a recent National Geographic article, the cost for superconducting high power transmission lines is around \$10 million per mile, in line with a normal new line. However, the superconducting line requires a liquid nitrogen filled tube needing power to keep the fluid at [-350 F][3]. Line losses may be replaced by cooling power requirements.

###Cost benefit for whom?

1) Costs for new transmission and line losses are passed on to Colorado rate payers. Xcel and the large scale solar developers are out of state for profit companies.

2) Some money may go to local counties in more tax revenues. How much is unclear. Even if county governments receive more revenue there has been no mention of reducing local resident tax burdens.

3) In short Colorado residents will get fleeced on their electric bills and lose some pristine public lands. SLV residents face a direct assault on our lands and our chosen way of life via the SEZ option for solar development on BLM lands.

That is my perspective.

Thanks,

Cameron Miller  
ASC EARTH  
Alamosa

E.A.R.T.H., Environmental Action for Resources, Transportation, and Health is Adams State's organization focused on sustainability efforts.

[1]: <http://www.eia.doe.gov/tools/faqs/faq.cfm?id=105&t=3>

[2]:

[http://www.eia.doe.gov/cneaf/electricity/st\\_profiles/e\\_profiles\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/st_profiles/e_profiles_sum.html)

[3]: <http://news.nationalgeographic.com/news/2010/03/100319/lost-power-super-solution/>

[4]: [http://rredc.nrel.gov/solar/old\\_data/nsrdb/1961-1990/](http://rredc.nrel.gov/solar/old_data/nsrdb/1961-1990/)

[5]: [http://www.forbes.com/2008/07/08/opeo-oil-congress-oped-cx\\_mc\\_0709energy.html](http://www.forbes.com/2008/07/08/opeo-oil-congress-oped-cx_mc_0709energy.html)

[6]:

[https://secure.wikimedia.org/wikipedia/en/wiki/Solar\\_power\\_in\\_Germany](https://secure.wikimedia.org/wikipedia/en/wiki/Solar_power_in_Germany)



Thank you for your comment, Edward LeBlanc.

The comment tracking number that has been assigned to your comment is SolarD11734.

Comment Date: April 19, 2011 17:37:14PM  
Solar Energy Development PEIS  
Comment ID: SolarD11734

First Name: Edward  
Middle Initial:  
Last Name: LeBlanc  
Organization:  
Address: 531-A Dolores St.  
Address 2:  
Address 3:  
City: Santa Fe  
State: NM  
Zip: 87501  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

The right place for solar energy development is on the billions of rooftops in this country. After that, responsible solar development needs to avoid conflict with national parks, wild areas, sensitive populations, sensitive ecosystems, and scenic areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11735.

Comment Date: April 19, 2011 22:24:09PM  
Solar Energy Development PEIS  
Comment ID: SolarD11735

First Name: [Withheld by requestor]  
Middle Initial:  
Last Name: [Withheld by requestor]  
Organization:  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold name and address from public record  
Attachment:

Comment Submitted:

I wish to withhold my name and street address from public view or from disclosure under the Freedom of Information Act.

I strongly support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Terrance Hutchinson.

The comment tracking number that has been assigned to your comment is SolarD11736.

Comment Date: April 19, 2011 22:55:01PM  
Solar Energy Development PEIS  
Comment ID: SolarD11736

First Name: Terrance  
Middle Initial: A  
Last Name: Hutchinson  
Organization:  
Address: 21305 Conklin Court  
Address 2:  
Address 3:  
City: California City  
State: CA  
Zip: 93505  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Christopher Bardin.

The comment tracking number that has been assigned to your comment is SolarD11737.

Comment Date: April 20, 2011 11:20:21AM  
Solar Energy Development PEIS  
Comment ID: SolarD11737

First Name: Christopher  
Middle Initial:  
Last Name: Bardin  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip:  
Country:  
Privacy Preference: Withhold address from public record  
Attachment:

Comment Submitted:

Rooftops, parking lots and hundreds of miles of canals within the cities of the desert Southwest could be covered with solar panels without needing Environmental Impact Statements. The total area within the cities of LA, Phoenix, Tucson and San Diego that would benefit from being shaded by solar arrays must amount to hundreds of square miles. Putting the solar arrays in the cities where the electricity is used would obviate the need for transmission lines to be built through sensitive desert areas. Why does everyone seem to assume that the best place to put solar panels is far out in the pristine desert?

ANL's very informative pdf all about powerlines states that a high-voltage powerline needs approximately 40 acres of right of way per mile. I haven't been able to find the equivalent figure for canals but from what I've seen, the major canals which crisscross the desert Southwest require about the same amount of right of way. There are hundreds of miles of such canals within the city limits of Los Angeles and Phoenix which could be covered with solar panels without needing EIS to be written or powerlines to be constructed through the desert.

I've not been able to find anyone who can tell me why no one is proposing to cover those in-city canals with solar arrays rather than build solar arrays far out in the pristine desert, then build power lines through the desert to get the electricity to the cities where it is needed. Why not shade parking lots and canals within the cities first? If more power is needed, then shade the canals that traverse the desert? The right-of-way is already owned, the environmental damage already done.

Thank you for your time.

Thank you for your comment, Donald Burnette.

The comment tracking number that has been assigned to your comment is SolarD11738.

Comment Date: April 20, 2011 13:29:17PM  
Solar Energy Development PEIS  
Comment ID: SolarD11738

First Name: Donald  
Middle Initial: G  
Last Name: Burnette  
Organization: Clark County  
Address: Manager's Office  
Address 2: 500 S. Grand Central Parkway, 6th Flr  
Address 3:  
City: Las Vegas  
State: NV  
Zip: 89155  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: BLM-PEIS comments.pdf

Comment Submitted:

Clark County would like to take this opportunity to provide comments on the draft Programmatic Environmental Impact Statement (PEIS).

Clark County supports the goals of the PEIS to facilitate utility scale solar development on federal lands while minimizing environmental, social, and economic impacts. Being located in Southern Nevada, the County has one of the premier solar resources in the world and solar development has the potential to provide clean renewable electricity to the region and much needed economic benefit to the County.

Although we appreciate the efforts of the Bureau of Land Management and the Department of Energy in preparing this document, the County is concerned that the PEIS, as currently drafted, might have an adverse impact on current and future solar development in the County, as well Nevada as a whole. The PEIS appears to exclude future solar development from a significant portion of the federal land in the County while focusing on areas that might not be as well suited. Reasonable levels of responsibly planned and designed solar development, with appropriate stakeholder input, can be compatible in sensitive resource areas but the concern is that the PEIS appears to prohibit all solar development over a vast area, which encompasses some of the most technically and economically suitable lands for solar development.

Consistent with the goals of the PEIS, the document should facilitate responsible development of solar energy. However, Clark County believes that the document, as currently proposed, would not meet this goal.



Thank you for your comment, Nicole Korbe.

The comment tracking number that has been assigned to your comment is SolarD11739.

Comment Date: April 20, 2011 15:05:10PM  
Solar Energy Development PEIS  
Comment ID: SolarD11739

First Name: Nicole  
Middle Initial: C  
Last Name: Korbe  
Organization: Tri-State Generation and Transmission Association,  
Address: 1100 W 116th Ave  
Address 2:  
Address 3:  
City: Westminster  
State: CO  
Zip: 80215  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Tri-State has long supported renewable resources as part of a diverse energy portfolio. As a number of states move toward instituting Renewable Portfolio Standards, Tri-State will continue to add renewable power to its portfolio to further diversify its energy resources and to meet government requirements on behalf of its member co-ops. The San Luis Valley in Colorado is recognized as an area with high quality solar resources and Tri-State is supportive of responsible siting of solar facilities within this area. Therefore, we are supportive of the action alternatives to allow streamlined solar generation facility development on appropriate BLM lands.

Thank you for your comment, Ginger Ritter.

The comment tracking number that has been assigned to your comment is SolarD11740.

Comment Date: April 20, 2011 18:39:46PM  
Solar Energy Development PEIS  
Comment ID: SolarD11740

First Name: Ginger  
Middle Initial:  
Last Name: Ritter  
Organization: Arizona Game and Fish Department  
Address: 5000 W. Carefree Hwy  
Address 2:  
Address 3:  
City: Phoenix  
State: AZ  
Zip: 85086  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment: M10-12133526 Draft Solar PEIS.pdf

Comment Submitted:





THE STATE OF ARIZONA  
**GAME AND FISH DEPARTMENT**

5000 W. CAREFREE HIGHWAY  
PHOENIX, AZ 85086-5000  
(602) 942-3000 • WWW.AZGFD.GOV

**GOVERNOR**  
JANICE K. BREWER  
**COMMISSIONERS**  
CHAIRMAN, ROBERT R. WOODHOUSE, ROLL  
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J.W. HARRIS, TUCSON  
ROBERT E. MANSELL, WINSLOW  
**DIRECTOR**  
LARRY D. VOYLES  
**DEPUTY DIRECTORS**  
GARY R. HOVATTER  
BOB BRDSCHIED



April 20, 2011

Solar Energy PEIS Scoping  
Argonne National Laboratory  
9700 S. Cass Ave. – EVS/240  
Argonne, IL 60439

Re: **Draft PEIS for Solar Energy Development in 6 Southwestern States**

Dear Sir/Madam:

The Arizona Game and Fish Department (Department) reviewed the Draft Programmatic Environment Impact Statement (PEIS) to evaluate Solar Energy Development on Bureau of Land Management (BLM) administered lands in six southwestern states. The Department supports BLM's efforts in developing the PEIS, and provides the following comments for your consideration (see attachment for page specific comments).

The Department supports the development of alternative energies, such as solar, provided detrimental effects to wildlife and wildlife habitat are avoided. The PEIS has proposed 3 alternatives:

1. A no action alternative, which would continue the BLM's existing policies,
2. A solar energy development program alternative that applies new program administration and authorization policies and design features for utility-scale solar energy development on BLM-administered lands to a subset of BLM administered lands that would be available for solar energy ROW applications (approximately 22 million acres in the six-state study area); and
3. A solar energy zone (SEZ) program alternative that applies the same new program administration and authorization policies and design features to utility-scale solar energy development but restricts applications to SEZs only (up to approximately 677,400 acres in the six-state study area).

The Department supports the third alternative, the SEZ alternative, and believes it minimizes impacts to wildlife and wildlife habitat in Arizona. The SEZ's have been fully analyzed and address potential impacts to wildlife and their habitats, as well as impacts associated with the loss of public use in those areas.

Although Arizona has the fewest acres identified in the SEZ alternative (13,375 acres), the state BLM office is currently developing an EIS, the Restoration Design Energy Project (RDEP), which identifies areas/sites in the state appropriate for renewable energy development. It focuses development to previously disturbed sites and areas with low resource conflicts. Currently, up to

1,037,200 acres have been identified in the RDEP process and would greatly increase the number of acres identified for renewable energy development in Arizona. The Department believes the SEZ alternative coupled with the RDEP:

1. Supports the President's New Energy for America Plan;
2. Provides site recommendations for the development of renewable energy consistent with the Secretarial Order 3285;
3. Aids the state in attaining their Renewable Energy Portfolio Standards of 15% by 2025; and
4. Helps meet community energy needs, creates economic opportunities, and provides good value to the taxpayer for the use of public lands.

It also meets the need of the Department by ensuring that projects are sited in appropriate areas with low resource conflict thereby minimizing impacts to wildlife and their habitats.

Alternative 2, the Expanded alternative, has not had the thorough analysis the SEZ alternative has and identifies areas in Arizona which may not be appropriate for solar development due to wildlife issues. The Department does not support this alternative; and if chosen, would strongly recommend that a thorough NEPA analysis be conducted for any proposed project occurring outside the SEZ's. Conversely, if the SEZ alternative were chosen, the Department believes BLM would be able to rely on some of the environmental analysis already conducted for those areas, thereby reducing the time and effort needed to evaluate the project.

The Department appreciates the opportunity to provide comments on the draft PEIS. Please contact me at 623-236-7606 if you have any questions, or would like to further discuss our comments.

Sincerely,



Ginger Ritter

Project Evaluation Program Specialist, Habitat Branch

cc: Dave Dorum, Habitat Program Manager, Region I  
Sarah Reif, Habitat Program Manager, Region II  
Trevor Buhr, Habitat Program Manager, Region III  
Troy Smith, Habitat Program Manager, Region IV  
John Windes, Habitat Program Manager, Region V  
Kelly Wolff-Krauter, Habitat Program Manager, Region VI

AGFD # M10-12133526

## ***Page Specific Comments***

### **5.10.5.1 Siting and Design**

**General** – Evaluating cumulative impacts on biotic communities and species assemblages should include examining the impacts that multiple large scale developments would have within a region, which include other development pressures, such as population growth in the Sonoran Desert. Currently many species that inhabit areas proposed for solar are considered common but if development continues to proceed without these considerations, they will become rare and endangered.

Also, site and design facilities to minimize habitat fragmentation and/or impacts to identified wildlife linkages; access routes, wash crossings, facility lighting, etc.

**Pg. 127, Third Bullet** – Predisturbance surveys should also follow species specific protocols and be designed with seasonal and other life history constraints that could ensure survey during periods of optimum detection.

**Pg. 127 Last Bullet, continues onto Page 128** – The Department recommends incorporating monitoring to ensure mitigations for T&E species are effective.

**Pg. 128 Second to Last Bullet** – In addition to making sure to prevent soil erosion/deposition there should be preserving existing drainage patterns as well.

Thank you for your comment, MONICA FRANCO.

The comment tracking number that has been assigned to your comment is SolarD11741.

Comment Date: April 20, 2011 20:40:32PM  
Solar Energy Development PEIS  
Comment ID: SolarD11741

First Name: MONICA  
Middle Initial: A  
Last Name: FRANCO  
Organization:  
Address:  
Address 2:  
Address 3:  
City:  
State:  
Zip: 11700  
Country: DF, Mexico  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

NOW!!!!!!!

Thank you for your comment, Harriet Hirsch.

The comment tracking number that has been assigned to your comment is SolarD11742.

Comment Date: April 20, 2011 22:39:16PM  
Solar Energy Development PEIS  
Comment ID: SolarD11742

First Name: Harriet  
Middle Initial: J  
Last Name: Hirsch  
Organization:  
Address: 1903 Memory CT.  
Address 2:  
Address 3:  
City: Vienna  
State: VA  
Zip: 221823327  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

Solar energy should only be gathered in places where it doesn't compromise national park views, water , etc.

Thank you for your comment, Jesse Gore.

The comment tracking number that has been assigned to your comment is SolarD11743.

Comment Date: April 20, 2011 23:57:18PM  
Solar Energy Development PEIS  
Comment ID: SolarD11743

First Name: Jesse  
Middle Initial:  
Last Name: Gore  
Organization:  
Address: 2411 Chapel Avenue  
Address 2:  
Address 3:  
City: Nashville  
State: TN  
Zip: 37206  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

SOLAR ENERGY IS CLEAN AND SAFE

Thank you for your comment, Jonathan Disbro.

The comment tracking number that has been assigned to your comment is SolarD11744.

Comment Date: April 21, 2011 10:29:14AM  
Solar Energy Development PEIS  
Comment ID: SolarD11744

First Name: Jonathan  
Middle Initial: D  
Last Name: Disbro  
Organization:  
Address: 3499 Leighton Rd  
Address 2:  
Address 3:  
City: Columbus  
State: OH  
Zip: 43221  
Country: USA  
Privacy Preference: Don't withhold name or address from public record  
Attachment:

Comment Submitted:

I'm strongly supportive of the move to develop alternative energy production including solar energy especially the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Steve Belinda.

The comment tracking number that has been assigned to your comment is SolarD11745.

Comment Date: April 21, 2011 11:25:33AM  
Solar Energy Development PEIS  
Comment ID: SolarD11745

First Name: Steve  
Middle Initial:  
Last Name: Belinda  
Organization: Theodore Roosevelt Conservation Partnership  
Address: [Withheld by requestor]  
Address 2:  
Address 3:  
City: [Withheld by requestor]  
State: [Withheld by requestor]  
Zip: [Withheld by requestor]  
Country: [Withheld by requestor]  
Privacy Preference: Withhold address from public record  
Attachment: TRCP PEIS Solar Comments.docx

Comment Submitted:

Please accept the attached file as official comments on the Draft PEIS for Solar Development in Six Western States.

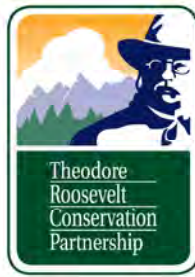
The Theodore Roosevelt Conservation Partnership support Solar Energy Zone Program Alternative establishing 24 Solar Energy Zones and not the preferred alternative proposed by BLM in the PEIS.

We believe this alternative is the best alternative at this time to meet the demand for solar production and to allow for proper multiple use of public lands. We fear the selection of the preferred alternative would re-create the land rush actions associated with other development like oil and gas leasing and hard rock mining has on public lands. We also recommend that a system of competitive leasing be established, a process for return on the public investment (royalties) be establish and a portion of those royalties be dedicated to conservation actions, and that a process for modifying, creating, or deleting existing zones or future zones be established.

We have other concerns with how the PEIS and any decision would impact wildlife, recreation, and economics - and are explained in the attached letter. We recommend these be addressed in the final EIS before decisions are made. Also we believe sportsmen and hunting/fishing groups and interests are under or not represented in any existing stakeholder involvement and recommend that there be a process for formal consultation with these groups.

Thank you for allowing opportunity to provide comment on this important issue.





April 21, 2011

The Office of Energy Efficiency and Renewable Energy (EERE)  
Department of Energy (DOE)  
Bureau of Land Management (BLM)

Comments on the Programmatic Solar EIS for Six Western States

The Theodore Roosevelt Conservation Partnership is a coalition of hunting, fishing and conservation organizations, and individuals who represent the wide spectrum of America's outdoor community. We are dedicated to the foresighted stewardship of America's landscape, helping expand fish and wildlife habitat and increase public access to quality hunting and fishing. We appreciate the opportunity to provide comments and suggestion to the Draft Solar Programmatic Environmental Impact Statement. Our primary concern with any proposal to develop projects on federal lands is based on the needs of fish and wildlife, and those who pursue fish and game for recreation and subsistence.

Based on our review and analysis of the alternatives in the PEIS, we are concerned with about some key issues that either not addressed or we felt were inadequately address by the draft. We understand changes will be made and our detailed recommendations should be incorporated into the final EIS and any decisions that come from that final analysis. Our understanding is that there will not be any additional opportunity to comment on the EIS process and only on the Record of Decision when it is released, therefore, we cannot support the preferred alternative but support Alternative B which would create 24 Solar Energy Zones (SEZ) without making any additional acres available for solar development at this time.

We do support the creation of SEZ and believe that the 24 SEZ analyzed in the PEIS are sufficient to meet the state needs for solar energy production. We believe these zones, with few minor exceptions, can allow for production of solar energy and have transmission capacity or will have capacity built in the near future to transport energy created to market. We also believe that a local process be set up to deal with any issues that arise after these zones are created and before development is permitted. We encourage you to include sportsmen and conservation organizations as part of any stakeholder effort because these groups are typically under or not represented on advisory groups or committees.

Based on the current status of the existing Right of Way (ROW) applications for solar development and the continued stream of ROW applications, our recommendation is that all ROW applications for solar development on BLM Lands be halted. Although it is recognized on pg 2-4 and 2-5 that a Federal Register Notice was submitted to any applicant after June 30, 2009 that their application would have to abide by decisions made in the PEIS ROD, the application process should stop. This will help expedite the process and assure that applications do not fall into conflict with decisions made in ROD. Continuing to leave the application process open will open up conflict with industry and the BLM, further slowing

the process and potentially having adverse affect not only on natural resources but the resources of the BLM, who otherwise would be managing lands for other uses. We recommend you undertake a process that would allow for competitive leasing once zones are establish and develop a process for getting some sort of fair return on investment from the use of public land (royalty system) and that a portion of the returns be dedicated to conservation activities. Finally we recommend a clear and transparent process for modifying existing zones, creating new zones, or deleting unnecessary zones as part of any decisions based on this NEPA analysis.

### Recreation

The Draft Solar PEIS makes an attempt to address the potential affects to recreation on federal lands by industrial scale solar based on the three alternatives put forth. The following is an overview of concerns with the initial analysis of these affects in the Draft Solar PEIS, and some suggestion how they may be better addressed in each alternative.

Beginning on pg 2-11 line 37, the BLM recognizes that the agency will, "Place a priority in utility-scale solar energy development over other land uses", when managing "actions in areas selected as Solar Energy Zones (SEZ)." This is a potential loss of 677,384 acres of accessible public land and wildlife habitat. It is recognized in the Reasonable Foreseeable Development Scenario that the perceived development will total 214,199 acres (p. 2-20). It is also recognized on pg 4-13 that "more than 57 million visitors" participated in numerous outdoor activities including hunting and fishing on BLM administered lands in the 6 southwestern states. It should be recognized that the loss of access to 214,199 acres and the fragmentation of 677,384 acres of public lands will further consolidate those regions that the more than 57 million visitors use. The impact of the consolidation of available public lands to humans, horses and burrows, wildlife, livestock grazing, mineral exploration, and other sources of energy development, should be considered throughout this document. Because solar energy will take priority in these areas it can be assumed that this land will become a single use area.

Other loses that need to be recognized outside of the SEZ's are the roads and transmission required for access. Upon review of chapters 8-13, a minimum of 159.5 miles of transmission lines and access roads are needed to provide adequate access to the SEZ's. It is also recognized that the nearby transmission, that is available, may have insufficient capacity to provide adequate transfer of power to the grid. Chapter 5 recognizes that transmission and access roads will increase access to otherwise inaccessible regions, further fragmenting habitat and reducing the amount of lands available for wildlife and increasing potential for invasive weeds. With a minimum of 159.5 miles of transmission and access roads needed, this must be considered in the overall impacts to sportsmen and fish and wildlife. While the PEIS recognizes that when "screening for success" that areas excluded from solar energy development because of incompatible resource values:

"The exclusions would apply only to the siting of utility-scale solar energy generation facilities and not to any required supporting linear infrastructure, such as roads, transmission lines, and natural gas or water pipelines." (p. 2-7)

The PEIS goes on to say that the required supporting linear infrastructure would be reviewed on a project by project basis, based on information in land use plans. It would be the argument that if the "linear infrastructure" is "required" for the project then it is part of the project and overall impacts should be considered in this document. The PEIS mentions the need to amend land use

plans to implement solar development, therefore when amending for solar development the BLM should amend land use plans for that infrastructure required for projects (p. 2-17).

Also regarding recreational impacts, nowhere within the PEIS is it addressed how this may impact recreation shooting on public lands. It is required to use a firearm or bow for hunting and recreational shooting is a valid, important use of public lands for sportsmen. We can assume that any project area would be closed to shooting or have some other restrictions on shooting and hunting activities. If a no shooting buffer is placed around solar projects, this will adversely affect the region of public land used by sportsmen to an even greater degree. We are not advocating allowing shooting near these projects, but would like the cumulative impacts to hunting to be considered in the PEIS as well as how this loss of access will be mitigated.

Lastly on page 5-17 it is stated under heading 5.5.3 that “Solar facilities should not be placed in areas of unique or important recreation resources.” How will this be determined and quantified? This is considered to be mitigation in the PEIS, by means of avoidance. We recommend that local sportsmen’s groups are formally consulted along with the state wildlife agency to determine if a region has “unique recreational resources” to the local hunting public, and those resources be addressed during the final PEIS and land use plan amendment process.

### Wildlife

The PEIS recognized the need for protections to big game winter ranges and migratory corridors. A few recommendations regarding these protections are as follows. The PEIS identifies those regions that will be excluded from solar development as, “big game migratory corridors identified in applicable land use plans” and “big game winter ranges identified in applicable land use plans”. When identifying big game migratory corridors and winter ranges, the most up to date information and data should be used as provided by the state wildlife agency or other credible sources. The PEIS recognizes that big game animals are managed by state wildlife agencies on page 4-81 line 16. Land use plans can vary in age by 20 years often creating conflicting or inaccurate data. An example of this is when comparing the big game winter range GIS layer from state wildlife agencies to the preferred Solar Development Alternative, over 4 million acres of mule deer winter range was identified within the 21 million acres offered. The GIS dataset that we used for this analysis was used was from the Western Association of Fish and Wildlife Agencies Mule Deer Working Group’s species-wide habitat mapping effort (<http://.muledeerworkinggroup.com>).

Discrepancies in data between antiquated land use plans can have adverse impacts to big game. This difference between 4 million acres may stem from crucial winter range and winter range identification. When protecting crucial winter range, it is important to consider the winter range surrounding that region and how animals transition from one range to the next. The PEIS recognizes this:

Maintaining genetic interchange through landscape linkages among subpopulations is also essential for long-term survival of species. Maintaining migration corridors and landscape linkages, especially when seasonal ranges or subpopulations are far removed from each other, can be difficult because of the various land ownership mixes that often need to be traversed (Sawyer et al. 2005). (p. 4-87)

But, when using information in land use plans versus the most up to date information from state wildlife agencies, big game can suffer affecting those wildlife species we as sportsmen pursue and work to protect. Mapping discrepancies and errors have real, on-the-ground consequences for wildlife and must be minimized.

Considering the recognition of the up to date science, and big horn sheep movements, some questions need to be considered in the PEIS analysis. The analysis states that big horn sheep are non-migratory (p. 4-90). This is true that bighorn sheep have a high fidelity to one range, but corridors are needed to move from one range to another for genetic diversity. The California Department of Fish and Game calls these Essential Connectivity Areas and provides up-to-date GIS maps and data from their website. This is again an example of why it is important to work directly with state agencies and not use out of date information in land use plans.

Regarding transmission lines and access roads, we encourage you to consider their impacts in the PEIS to big game and upland game bird resources. As was mentioned above regarding recreation and fragmentation, this is a cumulative impact affecting all other multiple-use on public lands. Without considering the impacts (direct, indirect, and cumulative) of over 159.5 miles of roads and transmission needed to reach the SEZ, the PEIS is inadequate in its review on the affects to all wildlife.

### Economics

The Socioeconomic Impacts or Environmental Justice within the PEIS do not address the loss of local hunting revenue and the economic off-set that hunting for subsistence provides. Albeit, determination of amount and loss from subsistence hunting is difficult to quantify, it should be considered a loss in local revenue if popular hunting areas become inaccessible and quality hunting is diminished. Many sportsmen rely on meat harvested during hunting on public lands for their survival and essentials. The need for quality local hunting areas is often essential in rural regions, where people off-set their needs by harvesting game birds and big game. Hunting and fishing account for \$950 million in retail sales each year in California, the six southwestern states account for \$2.3 billion in retail sales in 2006 (Southwick 2007 AFWA report). Some analysis of how affects from solar development on public lands should be considered in the PEIS.

In conclusion the effort to begin developing an entire new natural resource based economy on the public estate is difficult. The effort to analyze how this affects all other multiple-uses including the needs of fish, wildlife, hunting, and fishing, needs to be adequately considered. Industrial solar energy development will create areas of single land use; similar to that of public lands surface mining. Some assurances of successful reclamation, through bonding need to be considered as does the need to “off-set” these industrial use designations with setting aside other areas that will not experience energy development activities and can provide quality hunting, fishing, and habitat. Solar energy cannot alone solve our energy crisis, and is an important part of any domestic energy policy. It needs to be coordinated with activities on private and state lands and not done in places that are irreplaceable or too valuable for other resources like fish and wildlife. Other federally owned lands not accessible to the public, such as Department of Defense lands, that would have less conflict while still providing needed energy should also be considered. In your effort to quantify loss and gain to the public by industrial solar development on BLM lands, please be arduous in your efforts to protect wildlife and sportsmen’s resources for generations to come.

Sincerely,

A handwritten signature in black ink that reads "Steven R. Belinda". The signature is written in a cursive style with a large initial 'S'.

Steven R. Belinda  
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Thank you for your comment, Mark Carroll.

The comment tracking number that has been assigned to your comment is SolarD11746.

Comment Date: April 21, 2011 14:48:02PM  
Solar Energy Development PEIS  
Comment ID: SolarD11746

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Attachment:

Comment Submitted:

Lets get solar energy going, save the planet