

## Email: Desert Harvest Solar Project EIS

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From: Howard Wilshire [<mailto:howardgw@comcast.net>]  
Sent: Friday, April 13, 2012 5:20 PM  
To: BLM\_CA\_Desert\_Harvest  
Subject: CD

I would appreciate receiving a CD of the Desert Harvest Solar Project DEIS

Thank you,

Howard Wilshire  
3727 Burnside Rd.  
Sebastopol, CA 95472

--

Howard G. Wilshire, Ph.D.  
Geologist

More on Western U.S. land use, resource depletion, energy issues:  
[www.theamericanwestatrisk.com](http://www.theamericanwestatrisk.com)

**Email: Desert Harvest Solar Project EIS**

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**From:** Donna & Larry Charpied [<mailto:laronna@earthlink.net>]  
**Sent:** Tuesday, April 17, 2012 12:33 PM  
**To:** BLM\_CA\_Desert\_Harvest  
**Cc:** Ian Black; Julie Smiley; George & Lois Donaldson  
**Subject:** Desert Harvest DEIS  
**Importance:** High

Hello Lynnette,

We are in receipt of the pre-released NOI for Desert Harvest.

We request that you place a copy of the DEIS along with Appendices in the Lake Tamarisk library, since we are the host community.

Thank you in advance,  
Donna

--

LaRonna Jojoba Co ®  
Laurence & Donna Charpied  
PO Box 321  
Desert Center CA 92239  
(760) 392-4722

[www.LaRonnaJojoba.com](http://www.LaRonnaJojoba.com)  
[laronna@earthlink.net](mailto:laronna@earthlink.net)  
<http://www.youtube.com/watch?v=pOwFa1tnpNc>  
"Nature's Perfect Gift From The California Desert"

**Email: Desert Harvest Solar Project EIS**

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**From:** Paul Friesema [<mailto:pfree@northwestern.edu>]

**Sent:** Wednesday, April 18, 2012 2:12 PM

**To:** BLM\_CA\_Desert\_Harvest

**Subject:** Draft enXco Desert Harvest Solar Farm Project EIS, Riverside County, CA and Draft California Desert Conservation Area Plan Amendment

Hi. Please send me a paper copy of the Draft enXco Desert Harvest Solar Farm Project EIS and Draft California Desert Conservation Area Plan Amendment (unless you have already sent me a copy! I don't need two). Please send this material to:

Professor Paul Friesema  
Environmental Policy and Culture Program  
227 Scott Hall, Northwestern University  
601 University Place  
Evanston, IL.60208-1006

Thank you! Paul

George Hepker  
850 River Drive  
Norco, Ca 92860

May 1, 2012

To Whom it may concern;

Re: Harvest Solar Project, Desert Center

I am a property owner in the area since 1971, near Pallen Pass Road.  
I strongly favor this project.

For Decades, we have been trying to find a way to make our area, a place where  
we could live. Since Kaiser mine closed, our area has been struggling.

For a while it looked as though agriculture was going to be the business we  
could depend on, but our dreams of a Jojoba future did not realize.

We have the sunshine, and always will. Electricity is in demand and always will  
be.

Not only can we utilize our great asset, the business should last forever.  
Solar Power will enable our country to be more Energy Self Sufficient so as not  
to fight wars for oil, and Solar Energy will help reduce Global Warming.

Please put my name on the list of supporters for this project.

Please call 951 323 5539 cell or email [ghepker@ilbinc.com](mailto:ghepker@ilbinc.com) if I can help.

Sincerley

  
George Hepker, Property Owner

**Email: Desert Harvest Solar Project EIS**

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**From:** Donna & Larry Charpied [<mailto:laronna@earthlink.net>]  
**Sent:** Wednesday, May 09, 2012 11:14 AM  
**To:** BLM\_CA\_Desert\_Harvest  
**Cc:** Kevin Emmerich; L Cunningham  
**Subject:** Desert Harvest

Hello again Lynnette,

I know you were pressed for time when I called earlier this morning.

There is one more issue I need to bring to your attention.

We noticed that the meetings scheduled for Desert Harvest this month are called "work shops".

BLM needs to be scheduling public hearings, allowing public testimony with a court reporter to take verbatim transcripts. BLM has an instruction memo stating this is how these projects need to move through the process after much public upheaval.

To schedule work shops, only allowing the applicant to talk then break into groups is nothing but a big dog and pony show for the applicant, and a slap in the face to the public.

Please correct your notices to reflect that the meetings are public hearings.

Thank you in advance for your cooperation,  
Donna

--

**Donna Charpied, Executive Director**  
**Desert Protection Society (Formerly Citizens for the Chuckwalla Valley)**  
**PO Box 397**  
**Desert Center CA 92239**  
**(760) 392-4722**  
**(c) 760-987-1363**  
[laronna@earthlink.net](mailto:laronna@earthlink.net)  
<http://www.youtube.com/watch?v=pOwFa1tnpNc>  
"DON'T WASTE OUR DESERT"

## Email: Desert Harvest Solar Project EIS

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**From:** [atomictoadranch@netzero.net](mailto:atomictoadranch@netzero.net) [mailto:atomictoadranch@netzero.net]  
**Sent:** Wednesday, May 09, 2012 11:55 AM  
**To:** BLM\_CA\_Desert\_Harvest; Donna & Larry Charpied  
**Cc:** L Cunningham  
**Subject:** Re: Desert Harvest

Dear Lynette,

We would also like to request that the BLM accept public comments at the Desert Harvest DEIS meetings. It is pointless to have a workshop where no people can make comments. Furthermore, public comments do not always have to be in written form. We had this problem for the scoping meeting for the Stateline Solar Project in Nipton, California. In spite of several requests from the public for the BLM to accept public spoken comments, no one was permitted to speak but the applicant. Some of us traveled for three hours to be there. Furthermore, not everybody may want to submit comments in writing. If the BLM will not accept public comments, you are being potentially negligent towards people with disabilities who could not submit written comments. Public comments can easily be given a 5 minute limit to keep things in control. We would like BLM to have a court reporter there as well.

If the BLM is going to have a public meeting, we want the meeting to be public this time. When the BLM only allows a project developer to speak at a meeting, it appears that the BLM is showing favoritism to the applicant. We believe that is potential discrimination.

Thank you,

Kevin Emmerich  
Basin and Range Watch

## Email: Desert Harvest Solar Project EIS

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From: [mermaid168@aol.com](mailto:mermaid168@aol.com) [<mailto:mermaid168@aol.com>]

Sent: Monday, May 14, 2012 11:02 AM

To: BLM\_CA\_Desert\_Harvest; [kkaufmann@desertsun.com](mailto:kkaufmann@desertsun.com)

Subject: Solar panels

In regard to the story in this morning's Desert Sun about solar panels on the desert floor:

Recently the Desert Sun printed my letter regarding this type of project. I suggested that solar panels on the the thousands of acres of rooftops of shopping malls, storage facilities, and industrial parks would be beneficial to all concerned while preserving the environment of the desert and our beautiful valley.

I assume that the editors of the Desert Sun considered my idea worthwhile or they would not have chosen to print it. I am hoping that you will also consider it as an option to covering the desert floor and using structures that already exist.

Ruth Lindemann  
760-218-7782

TRANSCRIPTION OF COMMENTS RE:  
BUREAU OF LAND MANAGEMENT  
PUBLIC SCOPING MEETING  
DESERT HARVEST SOLAR PROJECT EIS  
MAY 14, 2012

DATE: Monday, May 14, 2012

TIME: 2:05 p.m.

LOCATION: LAKE TAMARISK CLUBHOUSE  
26251 Parkview Drive  
Desert Center, California

REPORTED BY: Juliette L. Vidaurri  
CSR No. 11081

REFERENCE NO: 29519

1 APPEARANCES :

2 LYNNETTE ELSER, Bureau of Land Management

3 SANDRA ALARCON-LOPEZ, Aspen Environmental Group

4 HOLLY ROBERTS, Bureau of Land Management

5

6 THE PUBLIC :

7 MARGIT F. CHIRIACO RUSCHE, Observer

8 PATTIE GARCIA-TUAZ, Aqua Caliente Band of Cahuilla

9 SUSAN FLEMING, Resident

10 JASON NEUMAN, Riverside County Fire Department

11 ALFREDO FIGUEROA, La Cuna de Aztlan

12 LLOYD GUNN, Desert Committee

13 STEVE JONES, Resident

14 PATTY BELL, Resident

15 SUZANNE RUDA, Resident

16 ART RUDA, Resident

17 HEATHER GARCIA, Chiriaco Summit Water District

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1 DESERT CENTER, CALIFORNIA

2 MONDAY, MAY 14, 2012

3 2:05 P.M.

4 (Presentations given.)

5 \* \* \*

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7 MS. ALARCON-LOPEZ: Good afternoon. My name is  
8 Sandra Alarcon-Lopez. I'm a senior associate with Aspen  
9 Environmental Group, and I'm going to help with this session  
10 today.

11 And what we're going to do is we are going to take  
12 public comments; and as has been stated, we are going to  
13 record those comments so we have a record of anything that  
14 you mention or bring up.

15 The purpose of the meeting or these comments is --  
16 are for you to directly address anything that's been  
17 described or written about in the Draft Environmental Impact  
18 Statement that the Bureau of Land Management has released to  
19 the public.

20 Um, I'm going to call people's names based on  
21 speaker registration cards. I have three of them right now.  
22 So if you would like to speak, I will need to get one of  
23 these cards or sheets filled out; and if you would like to  
24 speak and you haven't turned one in, if you could give it to  
25 Jennifer who's back there, and she'll bring it up to me.

1           We do want to give everyone an opportunity to make  
2 a comment on this project or on any issues that you think  
3 are important; either the way a project is described,  
4 information that we put in about how we analyze the project,  
5 any mitigation measures that we identify. If you think  
6 there are other issues that we ought to consider or improve,  
7 please mention those as well. If there are issues that you  
8 have with any of the alternatives that you think we ought to  
9 consider and address in the document, please bring those up  
10 too.

11           We are going to limit any responses at this time  
12 because we really do want to hear your comments, and we want  
13 to get those comments recorded. Um, so when I call a  
14 person's name, if you can please repeat your name, tell us  
15 where you're from, and that would be recorded by the  
16 reporter for our further records, and it becomes a written  
17 document that we use in preparing the -- or revising the  
18 EIS, so please make sure that we get that information  
19 clearly.

20           We also want to make sure that we give everybody  
21 the opportunity to speak, and so we are going to limit your  
22 time. We are going to limit your time to three minutes, and  
23 we're doing that because we really do want to hear  
24 everybody's comments, and we want to give everybody the  
25 opportunity to come up and present any issues that are of

1 concern to them.

2 Um, we will give you a little bit of a grace  
3 period, but I will cut you off after three minutes, so don't  
4 make me do that. Just if you could -- I will give you a  
5 warning. If you could, um, stop talking. If there's an  
6 opportunity after everyone who has wanted to speak has  
7 spoken, we will give you an opportunity to come back up if  
8 there's other issues that you would like to present.

9 The other thing is that we are going to allow  
10 approximately one hour for the public-comment period,  
11 depending on who wants to speak, how many speakers we have  
12 coming up.

13 But there will be an opportunity for you to ask  
14 more questions. We do have some of the technical experts  
15 that actually worked on the EIS here that are here to answer  
16 your questions after the public-comment period.

17 And if you didn't notice, there is -- there is  
18 posters that we put all around the room. Please have an  
19 opportunity after the comment period to look at them, ask  
20 questions. We have staff from Aspen and as well as from the  
21 Applicant, and that's what they are here to answer and  
22 respond to any questions that you might have regarding the  
23 project.

24 The only other thing I wanted to mention real  
25 quickly is that there is an Executive Summary with a CD in

1 it, so please pick that up if you want more information  
2 about the document.

3 And then if you are shy and you don't want to  
4 speak today, we also have a sheet that you can fill out, and  
5 you can leave the comments here with us today or you can  
6 mail it in. So please feel free, if you want to talk or you  
7 can submit written comments.

8 Okay. We were going to pass out the microphone,  
9 but we're having some feedback with the microphone, so what  
10 we'll do is I'll call your name, if you can come up. Like I  
11 said, state -- repeat your name again, give us your  
12 location, and then you'll have to make your comments up  
13 here.

14 So the first speaker that we have is Alfredo  
15 Figueroa.

16 MR. FIGUEROA: Thank you. Thank you very  
17 much. My name's Alfredo Figueroa, F-i-g-u-e-r-o-a. I'm  
18 from Blythe, California. I'm the monitor -- one of the  
19 monitors for the Chemehuevi tribe, so we've been here  
20 before. Thank you.

21 And I just want to -- first of all, I just wanted  
22 to say, you know, this is a whole, uh, map of what the BLM  
23 has proposed or they sent us the map of how the I-10 is a --  
24 well, it's the most sacred place that there is, and then  
25 this is where they decided to have all those solar power

1 projects.

2 And we have gone to all these places, and we can  
3 tell you why we're truly against all these sites that are  
4 not here -- that are here, and this just makes a mockery out  
5 of any citizen of the United States that's here, especially  
6 if you're indigenous like us. We're from the Uto-Aztecan.  
7 That's why we can relate all these sites to the Aztec  
8 calendar, tonalmachotl.

9 That's why this mountain is called Eagle Mountain  
10 because it's where the sun descends. When? June the 21st  
11 is the longest day of the year, but every day the sun is a  
12 cycle and the codices -- the codices relate to that. These  
13 codices here right, Florentine codices. Miss Holly wanted  
14 to ... so we're going to have to sharpen her up and have her  
15 go to Chicano studies program UCR.

16 So the other thing that this whole thing is --  
17 this is -- the whole Aztec calendar is based here, right  
18 here from a hundred miles down to a hundred miles the other  
19 side of Blythe. So even the Mule Mountain is called Calli.  
20 That's where the name California comes from. Molcagate at  
21 the time.

22 We have a MOU with BLM. Me and my friend were  
23 there, George Klein, and we went to the sites, so they know  
24 we are not making up stories, and we can go here and run to  
25 the sites that's right here. It's called the 13 --

1 13-Acatl. This is the top of the Aztec Sunstone Calendar.  
2 It's just right here, three miles -- 4.7 miles.

3 An old friend of mine Francis Johnson made this  
4 report, and Francis I didn't know before, but when I read  
5 his book and I contacted him, he said, okay. So he gave me  
6 these old pictures, and I've got a new picture of us right  
7 here. Believe it or not, that's me, and this is Patricia  
8 and Francis Johnson made this. This is the 13-Acatl.

9 Likewise, with that mountain right over here, it's  
10 called West Bunny. Now they call it Alligator Ridge --  
11 Ridge, rather, and we call it also Chuckawalla. This is the  
12 fourth day of the Aztec Sunstone Calendar.

13 You are standing -- you are living here. People  
14 here in Desert Center are blessed because right there Corn  
15 Springs is call Tula.

16 We're about ready?

17 MS. ALARCON-LOPEZ: Yeah.

18 MR. FIGUEROA: Oh. Good golly, Miss Molly.

19 MS. ALARCON-LOPEZ: You can come back  
20 after.

21 MR. FIGUEROA: One more?

22 MS. ALARCON-LOPEZ: Five seconds.

23 MR. FIGUEROA: Five seconds.

24 Okay. They make this ground breaking in Blythe.  
25 They're ground breaking and all they do is take a tour of

1 part of the sun's -- the sun calendar, the geoglyph and the  
2 two north geoglyph, and they went and broke ground June the  
3 17th.

4 Thank you, everybody.

5 MS. ALARCON-LOPEZ: Thank you.

6 Lloyd -- Lloyd Gunn.

7 MR. GUNN: My name is Lloyd Gunn. In the  
8 last 25 years I've known many BLM employees, and I've talked  
9 to several of them about this fast-track process on  
10 occasion, solar and wind projects.

11 Several of the BLM employees are telling me they  
12 must give an official environmental report even though --  
13 even though they are not given adequate time to complete a  
14 professional study. There's tremendous pressures put upon  
15 BLM employees to go through these projects.

16 To me this fast-track process is not a legitimate  
17 process, and I hope there is truth in the future so people  
18 will believe -- believe in what they say when they approve  
19 these projects.

20 That's it.

21 MS. ALARCON-LOPEZ: Thank you. Matthew  
22 Johnson. And just one quick comment. This is the last  
23 speaker that I have, so if anybody wants to speak.

24 MR. JOHNSON: Good afternoon. My name is  
25 Matthew Johnson. Um, I'm a landowner here in the Desert

1 Center area. We have eleven hundred acres. I've been here  
2 since 2004, not for very long by most means, but been out  
3 here a lot.

4 I've developed stuff here in the desert, so I know  
5 the process that you have to go through a lot, and I've been  
6 watching the Enxco people and their process, and they've  
7 done a lot of community outreach, which I certainly  
8 appreciate as now being one of the semi-locals.

9 Um, I'm hopeful that this project is approved in a  
10 timely fashion such that they're allowed to move forward  
11 because jobs are important, especially to this area and  
12 especially to people of this area.

13 One other little side note on the -- we used to  
14 have an access. This area used to have access to the  
15 national park. There's a road that was paved at one point;  
16 and when it became a wilderness area, it got closed, and I  
17 was hopeful through this environmental process that people  
18 would be able to have that access returned once again so we  
19 could make the Desert Center area an access point for the  
20 Joshua Tree National Monument.

21 Thank you.

22 MS. ALARCON-LOPEZ: Thank you. Any other  
23 comments?

24 (No response.)

25 MS. ROBERTS: Chickens. This is -- this

1 is -- this is Desert Center. I'm -- I'm absolutely amazed.  
2 Nobody else would like to get up and fill out a card? Your  
3 comments are very important to us.

4 MR. JOHNSON: You've done such a good job.

5 MS. ALARCON-LOPEZ: If you think of something  
6 after -- after you've had an opportunity to talk to people,  
7 you can fill out one of these forms.

8 MS. ROBERTS: Well, whoever sees Donna and  
9 Larry Charpied next, I -- I always call them defenders of  
10 the desert. You let them know that I really missed them  
11 because they always make things so much lively for us, and I  
12 mean that. I -- I really enjoy working with Donna. She's  
13 never afraid to say what she thinks.

14 So but if no one else wants to get up, we've got a  
15 lot of really interesting people who worked on this project.  
16 They can answer detailed questions, um, you may have, and  
17 everybody from the Enxco folks, the BLM folks, and the Aspen  
18 folks are all here for more detailed questions.

19 So, guys, thank you.

20 (The Public Scoping Meeting held in Desert Center  
21 was concluded at 2:18 p.m.)

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CERTIFICATE OF DEPOSITION REPORTER

I, Juliette L. Vidaurri, Certified Shorthand Reporter in and for the State of California, Certificate No. 11081, do hereby certify:

That the foregoing Public Scoping Meeting was taken before me at the time and place therein set forth;

That the Public Scoping Meeting was recorded stenographically by me and thereafter transcribed through computer-aided transcription, said transcript being a true copy of my shorthand notes thereof and a true record of the statements given.

I do further certify that I am a disinterested person and am in no way interested in the outcome of this action, nor connected with or related to any of the parties herein.

IN WITNESS WHEREOF, I have subscribed my name this date: \_\_\_\_\_.

\_\_\_\_\_  
JULIETTE L. VIDAURRI  
CSR NO. 11081

1 REPORTER'S TRANSCRIPTION OF COMMENTS RE:  
2 BUREAU OF LAND MANAGEMENT  
3 DESERT HARVEST SOLAR PROJECT  
4 DRAFT EIS PUBLIC INFORMATION WORKSHOP  
5  
6  
7  
8  
9  
10

11 DATE: MONDAY, MAY 14, 2012  
12

13 TIME: 7:00 P.M. - 8:15 P.M.  
14

15 LOCATION: JOSHUA TREE COMMUNITY CENTER  
16 6171 Sunburst Avenue  
17 Joshua Tree, California  
18

19 REPORTED BY: JENNIFER BARNAKIAN-POLAND  
20 CSR NO. 13317  
21

22 REFERENCE NO: 29520  
23  
24  
25

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1 APPEARANCES:

2 SPEAKERS:

3 SANDRA ALARCON-LOPEZ, Aspen Enviromental Group

4 LYNETTE ELSER, Bureau of Land Management

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8 THE PUBLIC:

9 SETH SHTEIR, National Parks Conservation

10 Association

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1 JOSHUA TREE, CALIFORNIA

2 MONDAY, MAY 14, 2012

3 7:00 P.M.

4

5 (OPEN HOUSE)

6

7 (PRESENTATION)

8

9 -000-

10 MS. LOPEZ: Welcome. What we want to do is  
11 start the public comment period. It is a little, I  
12 think, stuffy in here. I just wanted to let you know if  
13 you want a drink of water, we do have a few little items  
14 up here, especially water, if it gets too warm for you.

15 What we want to do is start the public comment  
16 period, and we did have -- we have a set rule that we're  
17 going to follow. So far I only have one speaker slip.  
18 If you want to speak, you could fill out one of these  
19 forms and they're right up here, and I'll be right here,  
20 so that we know if there's anybody else that wants to  
21 provide a comment.

22 What we want to do is change it up a little bit  
23 because we now only have one person who filled out a  
24 form. What we're going to do is give Seth an  
25 opportunity to speak for five minutes, and then we are

1 going to cut you off at five minutes, and see if we can  
2 get anyone else who wants to make a comment, and if not,  
3 if there's anything else you want to add, we'll give you  
4 that opportunity to do that.

5 We do want to get your comments. We're very  
6 interested in hearing what opinions you have.

7 If you could keep your comments focused on EIS  
8 because that's the purpose of this meeting is for us to  
9 get your comments on that, but we do want to give you an  
10 opportunity to comment and to give us your input. We  
11 also have, over here on the table, this form so that if  
12 you decided you wanted to give us comments on a later  
13 date or you're shy and you don't want to speak, you  
14 could leave your comments here or mail them in as we  
15 noted earlier.

16 So with that I'm going to go ahead and let Seth  
17 go for about five minutes. Then we'll see if anybody  
18 else wants to speak.

19 Please give your name -- your full name and so  
20 that the court reporter can --

21 MR. SHTEIR: Okay. I'll try to speak slowly,  
22 if I can.

23 Well, good evening. My name is Seth Shteir. I  
24 work for National Parks Conservation Association. I'm  
25 the desert field rep. And the mission of our

1 organization is simple, it's to protect the national  
2 parks for present and future generations. So I'm going  
3 to give you comments about Desert Harvest tonight, and I  
4 thank you for the opportunity to do so. I'll try to  
5 keep the time on that.

6 Well, this is a large project, 1,208 acres,  
7 150-megawatt, 220-kilovolt of generation, a gen-tie  
8 line [Phoenetic] that consists of photovoltaic rays,  
9 structures, and fencing, and lighting to protect the  
10 facility. The preferred alternative would locate the  
11 project within two miles of Joshua Tree National Park's  
12 boundaries. This interception, which I believe, makes  
13 this project need to stand up to a higher level of  
14 scrutiny than would normally be afforded by a project in  
15 a different location.

16 We can't support this project at its current  
17 location because of this and would encourage project  
18 proponents to seek undisturbed land elsewhere in the  
19 California desert. We do support Alternative 1 which is  
20 no action or Alternative 3 which is no action, no  
21 project alternative with a planned site unsuitable for  
22 large scale solar development.

23 To really understand the context of our  
24 opposition, I think you have to understand a little bit  
25 about Joshua Tree National Park. Joshua Tree National

1 Park is designated a national monument in 1936 by  
2 Franklin Delano Roosevelt. This created the national  
3 park in 1994 with the passage of the California Desert  
4 Protection Act, and it is 794,000 acres, half of which  
5 are wilderness. This is a place where people come from  
6 all over the world to star gaze, to look at rocks, to  
7 picnic, to backpack, to rock climb, and it's a very  
8 special place, and in fact, in 2010, there were 1.4 --  
9 that's 1.4 million visits to Joshua Tree National Park.  
10 In fact, during the worst economic times since the Great  
11 Depression, from 2008 to 2010, visitation to  
12 Joshua Tree National Park actually rose.

13 So what you have really is a park that's a  
14 tourist destination, regionally, nationally, and  
15 internationally, and it's a significant source of  
16 economic revenue for the community that depend on it.  
17 So there's a professor, late professor, Daniel Stein of  
18 Michigan State University.

19 Has anyone heard of him?

20 So he has done this MPS generation model, and  
21 visitors in 2010 contributed about \$64 million to  
22 gateway communities and communities within a 30-mile  
23 radius of Joshua Tree National Park. So the park really  
24 is a powerful economic engine. There's a subsequent  
25 study, that maybe some of you are familiar with, that's

1 the 2010 University [inaudible] Visitor Use Study. This  
2 study looks at why people come to Joshua Tree National  
3 Park. So the two top values associated with  
4 Joshua Tree National Park, "views without development,"  
5 were 90 percent of people who stated that, and coming in  
6 third, I think, was, "wildlife." Interestingly enough,  
7 these are the very things that are impacted by projects  
8 like Desert Harvest and the type of development going on  
9 in the California Deserts, and so as a concern point  
10 there's a tipping point where people don't think of  
11 Joshua Tree National Park as a place to come to find  
12 unobstructed views, if they don't think of it as a place  
13 where they could find wildlife, we may lose a certain  
14 share of tourism revenue. So that's something to take  
15 into consideration when permitting these projects.

16 A few additional comments, you know, the  
17 project will have unavoidable adverse effects to air  
18 quality, vegetation, wildlife, night skies, wilderness,  
19 and of course recreation.

20 And I have one question for folks here tonight.  
21 There was some confusion about the cumulative impact  
22 section that I had, and perhaps, somebody could answer  
23 it for me today.

24 Was the Riverside East Solar Energy Zone  
25 evaluated in the cumulative impacts and was Paradise

1 Valley development evaluated in the cumulative impacts?

2 And not just -- not just the ones that were  
3 already displayed for development in Riverside East, but  
4 just the whole package.

5 Okay. Well, I'll finish up. I'll finish my  
6 five minutes.

7 In any event, there was some uncertainty as to  
8 whether those were included in the cumulative impacts.  
9 I would say it's essential that they are included in the  
10 cumulative impacts, Riverside East Solar Energy Zone,  
11 153,000 acres, over 80 percent would be developed as  
12 renewable energy in Paradise Valley, which is 35 miles  
13 away. It would expand the north and south of the  
14 10 Freeway, about a 6,000-acre development and possibly  
15 a large town.

16 So these are things that would affect  
17 Joshua Tree National Park's resources, and they should  
18 definitely be included in the cumulative impacts if they  
19 haven't been already. I'll --

20 MS. LOPEZ: Yes.

21 Does anybody else want to make a comment?

22 I'll give you another 30 seconds or so.

23 MR. SHTEIR: I think, if folks don't mind, I'd  
24 like to include my comments. I think the length of  
25 time for the project and from project construction to

1 decommissioning should allow me about 10 minutes. I  
2 think that's reasonable.

3           So let me just go on a second about air  
4 quality. Again, cumulative impacts of geographic scope  
5 for air quality. The cumulative impacts is a six-mile  
6 radius, according to the Draft DIR. And that strikes me  
7 as a slightly small radius, and the reason for that is  
8 when you think of Joshua Tree National Park's view  
9 sheds, you think about looking for Keys View, you're  
10 looking into the south and on a clear day, you could  
11 look across and see Signal Mountain over 50 miles away  
12 or you could see Mt. San Jacinto 50 miles away. So when  
13 you're thinking about cumulative impacts view shed, you  
14 must consider not only Desert Harvest and the immediate  
15 impacts there, but all of the proposed projects that  
16 might impact these view sheds at JOTR. And while we're  
17 concerned about that is -- very directly -- in October  
18 of 2011, the park did a foundation statement which  
19 basically analyzed resources, and they found that ozone  
20 levels within the park -- and Luke [Phoenetic] schooled  
21 me on this -- are non-obtainment status and are not  
22 improving, and dust, both natural, resulting from land  
23 use change, are impacting the park's air, and the park  
24 is in non-obtainment status for fine particulate matter  
25 PM-10 and PM-2.5.

1           So these are things that are going to be  
2     created by Desert Harvest, and they are going to be  
3     created by many other projects down to the south of the  
4     park. And in order to make really good decisions, we  
5     need to have good information, and in order to have good  
6     information, we need to have good data and good  
7     analysis.

8           Two other quick notes I'd like to enter into  
9     the record are, it's come to my attention that the first  
10    solar mitigation, the project to the north of this, has  
11    not been entirely effective. In other words, the ground  
12    has been scraped, and the workers are working on certain  
13    solar rays and mitigating that specific area, but the  
14    rest of the scraped area is currently creating small  
15    dust situations, so in that case, it's been a situation  
16    where the mitigation hasn't quite taken care of what it  
17    said it would and that needs to be improved.

18           The second question that is a concern for those  
19    of us who are looking at the water resources of the  
20    Chuckawalla Valley, will the water -- will it come from  
21    outside of the basin or a well for solar? Can anybody  
22    answer that in the audience?

23           MS. ELSER: Right now we're looking at both  
24    alternatives, and there isn't a final decision.

25           MR. SHTEIR: There are concerns about overdraft

1 of that aquaphor that are great.

2 So let me just go on a couple of other things,  
3 and I don't want to take too much of your time tonight.  
4 I guess, there's not too many people waiting, so there's  
5 some discussion in the Draft DIR that Alternative B  
6 could affect off-site vegetation, particularly desert  
7 dry wash woodland, down stream of work sites by altering  
8 water quality or surface hydrology, and so I'd like to  
9 see the figures of what could be effected including in  
10 the Draft DIR. And another interesting thing to point  
11 out is that the Draft DIR points out that projects  
12 within the city would impact over 35,000 acres of desert  
13 dry wash woodland, in extremely rare habitat.

14 The solution to that is compensatory  
15 mitigation, and I think we all know that is kind of an  
16 interesting slippery slope because the question arises  
17 is there adequate compensatory mitigation for things  
18 like desert tortoises and things for desert dry wash  
19 woodland? I think that should be entered into the  
20 record, and I think real consideration ought to be given  
21 to that.

22 The last comment I had is really about the  
23 desert tortoises and your table 4.4-4 shows cumulative  
24 impacts of the Colorado Desert Recovery Unit and desert  
25 tortoise habitat.

1           And so there's three columns. The first column  
2 is really the total amount of habitat, the second column  
3 is the existing project impact, and the third column is  
4 foreseeable project impact. The sum total, when you add  
5 that up, the foreseeable project's impact and existing  
6 project impact is also almost 400,000 acres of desert  
7 tortoise habitat. That's really a lot. So, again, when  
8 you talk about compensatory mitigation where will it  
9 come from? And when you talk about land-use plumbing,  
10 it just begs the question, how are we making good  
11 decisions with our wood land use plan?

12           So in conclusion, I would like to thank you  
13 all. I've taking enough of your time and thanks very  
14 much.

15           MS. LOPEZ: Okay. Anyone else that would like  
16 to speak before we close down here?

17           You know what might also be helpful if you  
18 could turn in the written comments, too.

19           MR. SHTEIR: Sure.

20           MS. LOPEZ: I noticed you had all those  
21 comments written down. I also wanted to let you know we  
22 have technical experts from Aspen as well as  
23 representatives from EnXco, so if there are any  
24 questions you would like to ask, they are here and will  
25 be around for a little while to answer any additional

1 questions that you might have. Thank you.

2 (Comments Concluded at 8:15 p.m.)

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1  
2 CERTIFICATE

3 OF

4 CERTIFIED SHORTHAND REPORTER

5  
6 I, Jennifer Barnakian-Poland, Certified  
7 Shorthand Reporter, in and for the State of California,  
8 do hereby certify:

9 That the foregoing meeting was taken before me  
10 at the time and place therein set forth;

11 That the public meeting was recorded  
12 stenographically by me and thereafter transcribed, and  
13 said transcript being a true copy of my shorthand notes  
14 thereof, and a true record of the statements given.

15 I do further certify that I am a disinterested  
16 person and am in now way interested in the outcome of  
17 this action, nor connected with or related to any of the  
18 parties herein.

19 IN WITNESS WHEREOF, I have subscribed my name  
20 this date: \_\_Wednesday, May, 16, 2012.

21  
22  
23  
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25 \_\_\_\_\_

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Jennifer Barnakian-Poland, CSR  
Certificate No. 13317

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**Email: Desert Harvest Solar Project EIS**

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**From:** Porter, Jim@SLC [<mailto:Jim.Porter@slc.ca.gov>]  
**Sent:** Friday, May 18, 2012 3:17 PM  
**To:** BLM\_CA\_Desert\_Harvest  
**Subject:** Desert Harvest project

I have searched through the DEIS and cannot seem to find the section, township and range description for the project site.  
Can you provide this information for me?  
Thank you.

Jim Porter  
Public Land Management Specialist  
California State Lands Commission  
100 Howe Avenue, Suite 100-South  
Sacramento, CA 95825  
Tel: (916) 574-1865  
Fax: (916) 574-1835



**Matthew Rodriguez**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

---

**Deborah O. Raphael, Director**  
5796 Corporate Avenue  
Cypress, California 90630



**Edmund G. Brown Jr.**  
Governor

May 18, 2012

Ms. Lynnette Elser, Project Manager  
California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, California 92553

### NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT STATEMENT/ DRAFT CALIFORNIA DESERT CONSERVATION AREA PLAN AMENDMENT FOR THE DESERT HARVEST SOLAR PROJECT, (SCH # 2011094004), RIVERSIDE COUNTY

Dear Ms. Elser:

The Department of Toxic Substances Control (DTSC) has received your submitted Draft Environmental Impact Statement/Draft California Desert Conservation Amendment (Draft EIS / Draft CDCA Amendment) for the above-mentioned project. The following project description is stated in your document: "The application for the proposed Desert Harvest Solar Project (DHSP) was filed with the Bureau of Land Management (BLM) for a right-of-way (ROW) authorization to construct, operate, maintain, and decommission a 1,208-acre, 150-megawatt (MW) solar energy project and 220-kilovolt (kV) generation-intertie transmission line (gen-tie line). The application also proposes to amend the California Desert Conservation Area (CDCA) Plan (BLM 1980), as amended (CDCA Plan) to find the site suitable for solar electricity generation and to allow a high-voltage transmission line outside of a federally designated utility corridor. The proposed project and alternatives would be located in the upper Chuckwalla Valley, on public lands administered by the BLM in unincorporated Riverside County, 6 miles north of Desert Center, California. The general area surrounding the proposed project contains existing transmission lines, telephone lines, and pipelines, as well as dirt roads. The Joshua Tree National Park is north, east, and west of the proposed project. The proposed project area is largely vacant, undeveloped and fairly flat land located in the Chuckwalla Valley of the Sonora Desert in eastern Riverside County. The DHSP is proposed in an area that has a variety of uses including open space, recreation and preserve, residential housing, and commercial businesses."

Ms. Lynnette Elser  
May 18, 2012  
Page 2

Based on the review of the submitted document DTSC has the following comments:

- 1) DTSC provided comments for the project Notice of Intent (NOI) on October 20, 2011; some of those comments have been addressed in the submitted Draft EIS/Draft CDCA Plan Amendment. Please ensure that all those comments will be addressed in the final Environmental Impact Statement for the project.
- 2) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see [www.dtsc.ca.gov/SiteCleanup/Brownfields](http://www.dtsc.ca.gov/SiteCleanup/Brownfields), or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

If you have any questions regarding this letter, please contact Rafiq Ahmed, Project Manager, at [rahmed@dtsc.ca.gov](mailto:rahmed@dtsc.ca.gov), or by phone at (714) 484-5491.

Sincerely,



Rafiq Ahmed  
Project Manager  
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P.O. Box 3044  
Sacramento, California 95812-3044  
[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov).

CEQA Tracking Center  
Department of Toxic Substances Control  
Office of Environmental Planning and Analysis  
P.O. Box 806  
Sacramento, California 95812  
Attn: Nancy Ritter  
[nritter@dtsc.ca.gov](mailto:nritter@dtsc.ca.gov)

CEQA # 3520

## Email: Desert Harvest Solar Project EIS

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**From:** Robert Clark [<mailto:rclark@freightcenter.com>]

**Sent:** Monday, May 21, 2012 9:40 AM

**To:** BLM\_CA\_Desert\_Harvest

**Subject:** Freight and Logistics

With the passage of the US Anti-Dumping Tariff, US Solar companies have gained a much needed advantage over their Chinese counterparts. With a 30% or more tariff imposed, US Solar companies need to take advantage of this and further reduce their costs enabling them to come to the forefront of the Solar Market in the US. A crucial step in this process will be to reduce their yearly Freight Spend. Production, Labor and Freight costs are probably the 3 areas of importance to focus on. Taking advantage of additional Freight resources can help decrease logistic costs up to 30% and add to your yearly bottom line, making your product more competitive globally.. Using out of network carriers and back haul lanes are a vital part of a companies logistic success.

FreightCenter.com has the ability to help reduce your companies yearly Freight Spend by analyzing your Freight needs and them utilizing our network of carriers to achieve lower overall rates. Not only do we have superior discounts with common carriers but we can find you those really discounted back haul lanes that are on average, 25-35% cheaper than a traditional common carrier. We at FreightCenter would welcome the opportunity to show your company the many options that are available. Please feel free to contact me via email 24/7 or by phone M-F 8:30am-5pm est. I look forward to your contact and welcome the opportunity to help another US Company grow. Attached is a brief pamphlet about our company.

Sincerely,

Robert R Clark  
National Account Manager

--



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Robert Clark

National Account Manager/Commercial Pricing Coordinator

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Fax [727-450-7808](tel:727-450-7808)

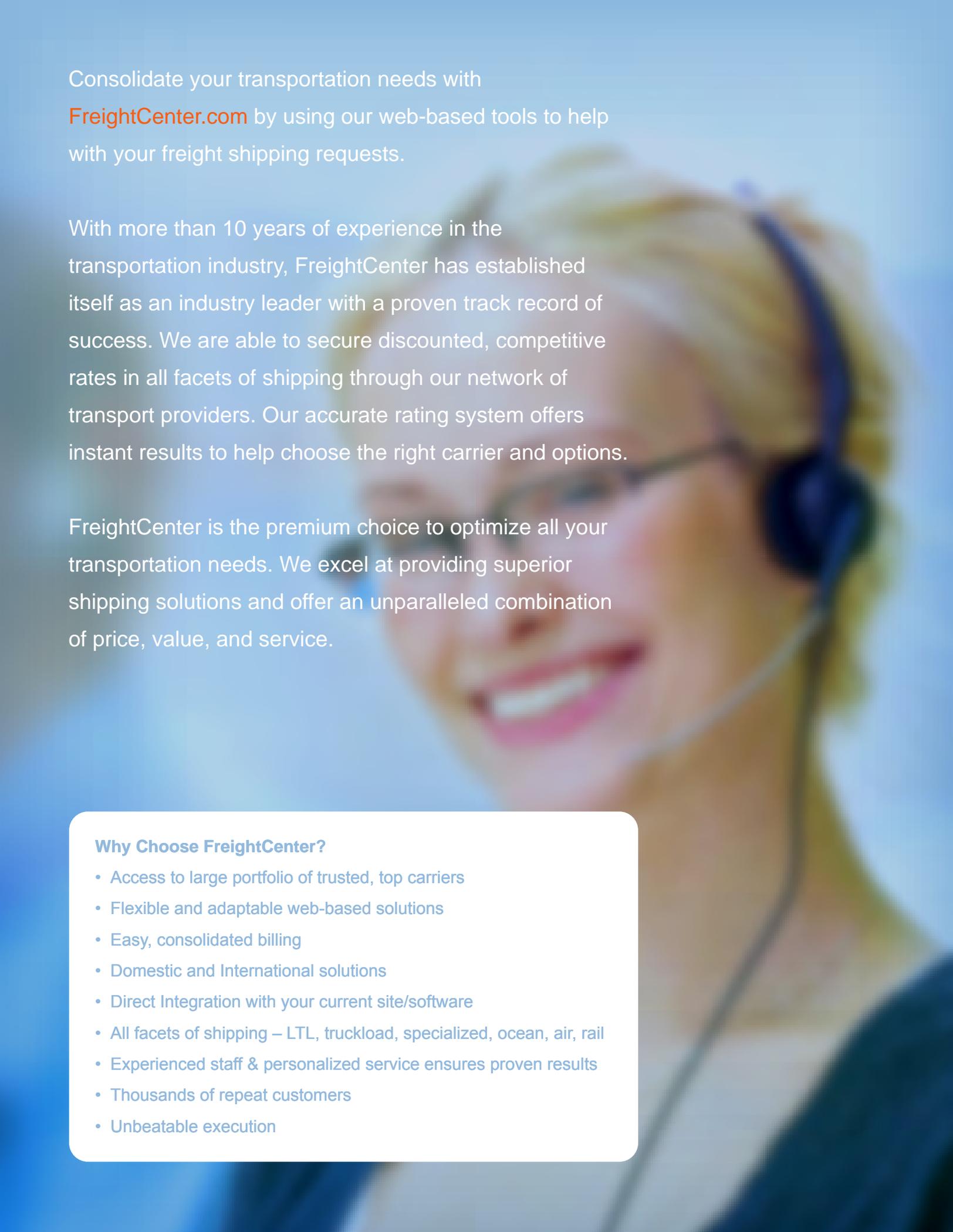
2049 Welbilt Blvd

Trinity FL 34655

[www.freightcenter.com](http://www.freightcenter.com)

The background of the entire page is a blurred photograph of a white commercial truck, likely a delivery van or small box truck, parked on a street. The truck is the central focus of the image, though its details are softened due to a shallow depth of field or motion blur. The background shows some greenery and a building, but they are also out of focus.

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**Email: Desert Harvest Solar Project EIS**

---

From: Sandra Fairchild [<mailto:sfairchild21@gmail.com>]  
Sent: Thursday, May 24, 2012 6:13 AM  
To: BLM\_CA\_Desert\_Harvest  
Subject: Request for Copy of the Desert Harvest Solar Farm DEIS

Please add me to your Project mailing list and send me a CD of the Desert Harvest Solar Farm DEIS.

Thank you.

Sandra Fairchild  
2175 Handel Avenue  
Henderson, NV. 89052  
(602) 810-2765



June 15, 2012

Tiffany Thomas, Archaeologist  
Bureau of Land Management  
Renewable Energy Coordination Office  
22835 Calle San Juan de los Lagos  
Moreno Valley, CA 92553

Re.: Native American Consultation for EnXco Development Corporation's Desert Harvest  
Solar Farm Project and Transmission Line, Riverside County, California  
LLCAD06000  
CACA-49491/2800(P)

Dear Ms. Thomas:

Thank you for contacting the Cabazon Band of Mission Indians regarding the above  
referenced project.

We remain an interested party and do appreciate the offer to consult on a Government-to-  
Government basis at any time in the future on this project.

We look forward to continued collaboration in the preservation of cultural resources or  
areas of traditional cultural importance.

Sincerely,

Judy Stapp  
Director of Cultural Affairs

Cc: David Roosevelt, Chairman  
Cabazon Band of Mission Indians

John R. Kalish, Field Manager  
Bureau of Land Management



Dust emissions generated by wind erosion in arid and semi-arid areas are the largest source of PM<sub>10</sub> pollution in USA [1]. Windblown fugitive dust from desert areas is a widespread problem in arid areas, which affects crops and native vegetation, obstructs visibility, results in traffic accidents, causes property damage, and contributes to violations of health-based air quality standards for PM<sub>10</sub>. PM<sub>10</sub> is a major component of air pollution and among the most harmful of all air pollutant because it can cause or aggravate a variety of cardiovascular and respiratory problems and illnesses, and weaken the immune system. PM<sub>10</sub> pollution is estimated to cause 22,000-52,000 premature deaths per year in the United States [2].

Dozens of large solar energy projects will be deployed in arid or semi-arid areas in USA within the next 30 years. The development of solar energy in these areas can significantly accelerate or decelerate wind speed, distort the wind velocity profiles, and redirect wind adjacent to the ground surface (see **Error! Reference source not found.**), which will result in significant changes in dust emissions generated by wind erosion [3-5], and dust transport and deposition. However, there has been a lack of methods and tools for the assessment of environment impacts and mitigation measures for the development of solar energy in arid and semi-arid areas. Fundamental and developmental research on environmental impact, especially on dust emission from deployment of utility scale solar power plants in deserts is urgent.

## References

- [1] "<http://www.gbuapcd.org/ovpm10sip.htm>."
- [2] A. H. Mokdad, J. S. Marks, D. F. Stroup, and J. L. Gerberding, "Actual causes of death in the United States, 2000," *Jama-Journal of the American Medical Association*, vol. 291, pp. 1238-1245, Mar 10 2004.

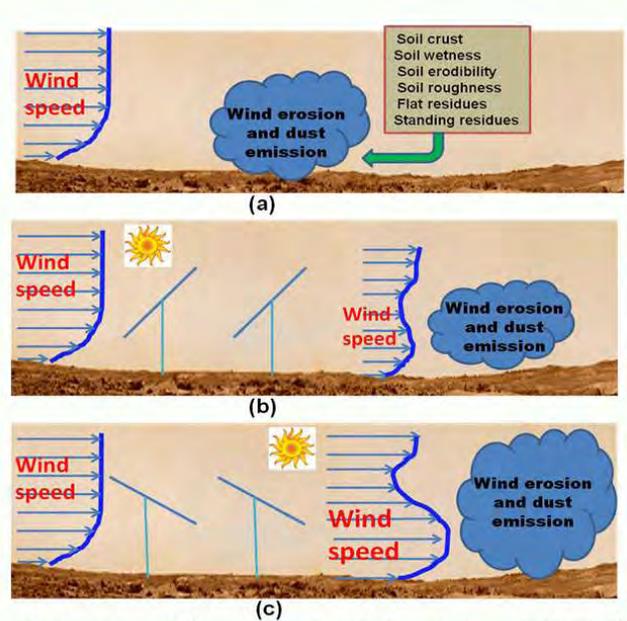


Figure 1. Schematic of wind erosion: (a) Wind erosion without solar panel array; (b) Frontal wind attack; (c) Rear wind attack.

# Environmental Impacts of Solar Energy Development in Arid and Semi-Arid Areas

## Executive Summary

Dozens of large solar energy projects will be deployed in arid or semi-arid areas in California within the next 30 years. However, there has been a lack of methods and tools to assess potential environmental impacts of these projects. This proposed project will explore environmental impacts, especially windblown PM<sub>10</sub> dust emissions, from large scale solar plants in arid and semi-arid areas. We propose a synergetic approach combining numerical modeling and field measurements to evaluate the impacts of solar panel arrays on dust emissions. An integrated wind erosion model, capable of modeling complex interactions between turbulent flows over solar panel arrays and soil physics in the early stage of windblown dust emissions, will be developed and validated with field measurements. The effects on PM<sub>10</sub> dust emissions from the solar farm will be investigated using the integrated wind erosion model and field measurements.

To study the effects on dust emissions from large scale solar plants in arid and semi-arid areas is a highly multidisciplinary effort, requiring integration of a broad range of technical advancements with fundamental understanding of fluid mechanics, aerodynamics, micro-particle dynamics, soil physics, air pollution, theoretical modeling, numerical simulation and experimental measurement. We have assembled a unique team consisting of leading researchers in aerodynamics and computational fluid dynamics (Professor Yanbao Ma, from the School of Engineering, UC Merced), and aerosol science and technology (Professor Yifang Zhou from the School of Public Health, UCLA). The UC Merced complex flow group has developed advanced numerical techniques which can be applied for modeling the wind erosion process in the presence of solar panel arrays. The UCLA environmental health group has extensive experience in particulate matter measurement and characterization. A 1 MW solar farm located on the UC Merced campus provides an ideal experimental site for field measurements of this project. The facilities management of UC Merced has already granted us access to this research facility (a supporting letter is attached in the supporting document).

In this study, we aim to a) develop an integrated wind erosion model to study the interaction among wind flow fields, solar panel arrays, and dust emissions from the land surface; b) validate the numerical model using the data collected at the solar farm; c) analyze the impacts of solar panel arrays on dust emissions based on numerical simulations and field measurements.

Participants and Roles		
Participants	Institution	Role
Yanbao Ma, Ph.D.	University of California, Merced	PI- Theoretical modeling and numerical simulations of wind erosion at the solar farm
Yifang Zhu, Ph.D.	University of California, Los Angeles	Co-PI- Field measurements of PM <sub>10</sub> dust emission at the solar farm



# RIVERSIDE COUNTY FIRE DEPARTMENT

IN COOPERATION WITH  
THE CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

**John R. Hawkins ~ Fire Chief**

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- BOB BUSTER  
DISTRICT 1
- JOHN TAVAGLIONE  
DISTRICT 2
- JEFF STONE  
DISTRICT 3
- JOHN BENOIT  
DISTRICT 4
- MARION ASHLEY  
DISTRICT 5

July 1, 2012

Bureau of Land Management  
California Desert District Office  
Lynnette Elser,  
Planning and Environmental Coordinator  
22835 Calle San Juan de Los Lagos,  
Moreno Valley, CA 92553

RECEIVED  
BUREAU OF LAND MGMT.  
MAIL ROOM  
2012 JUL 10 PM 5:29  
CALIF. DESERT DISTRICT  
MORENO VALLEY, CA

**RE: Environmental Impact Statement, Desert Harvest Solar Power Project. CACA-49491, DES 12-17, BM/CA/ES/2012-006+1793, DOI-BLM-CA-D000-2012-0004-EIS**

Dear Ms. Elser,

With respect to the above referenced project, the Riverside County Fire Department has the following comments for the Desert Harvest Solar Power project located in Desert Center, California.

The California Department of Forestry and Fire Protection (CAL FIRE), under contract with the County of Riverside and operating as the Riverside County Fire Department (RCFD), provides fire prevention, suppression, and paramedic services to the project site. The RCFD provides service to 21 cities on a contractual basis, and one community services district. In total, the RCFD's service area encompasses 7,004 square miles and contains approximately 2 million residents. The Fire Department's service area is organized into eight divisions, 17 battalions, 93 career staffed stations and 4 reserve volunteer staffed fire stations as part of the Cooperative Regional Integrated Fire Protection Response System.

The Desert Harvest Solar Power Project will have a cumulative adverse impact on the RCFD's ability to provide an acceptable level of service. These impacts include an increased number of emergency and public service calls due to the increased presence of structures, traffic, hazardous materials and construction service vehicles.

Due to the remote location and climate conditions, a response by the RCFD would require multiple units to respond. In the event of a fire, medical emergency, hazardous material or technical rescue incident, the RCFD will be required to cover or *back fill* stations left uncovered in order to meet service demands and support the region. If an incident were to occur, fire units would be dispatched from Blythe, Indio and the lower Coachella Valley as part of the regional integrated fire protection response system.

The land use for the proposed project would be categorized as – Outlying. The three closest fire stations that would respond to an incident are:

RCO Station # 49, Lake Tamarisk, 43880 Lake Tamarisk, Desert Center, CA 92239.

RCO Station # 45, Blythe Air Base, 17280 W., Hobson Way, Blythe, CA 92225

RCO Station # 43, Blythe, 140 West Barnard Street, Blythe, CA 92225

The onsite conditions create a high risk potential for a technical rescue, and a hazardous materials incident which would require specialized equipment and trained staff to respond. Extended response times from specialized equipment can be anticipated to the project area.

All water mains and fire hydrants providing required fire flows shall be constructed in accordance with local Laws, Ordinances, Regulations and Standards, the appropriate sections of the California Building/Fire Codes, Riverside County Ordinance No. 460, and No. 787, subject to review and approval by the Riverside County Fire Department.

Fire flow requirements within commercial projects are based on square footage, type of construction and intended use. The minimum fire flow for any commercial structure is 1500 gallons per minute, at a residual operating pressure of 20-psi, and can rise to 8000 gallons per minute.

The EIS outlines the use of above ground storage tanks for the purposes of fire protection. The use of above ground storage tanks is subject to review and approval by the Fire Marshal.

As partial mitigation for the cumulative adverse impacts on the RCFD, the RCFD will require the applicant to participate in the County's Development Impact Fee Program (Ordinance No. 659), which provides funding for capital improvements, such as land, equipment purchases, fire station construction, and staffing. In addition, the RCFD is requesting the applicant to provide a training prop at two of the regional training centers to prepare emergency responders for onsite EMS, technical rescue and HAZ MAT incidents that may occur during the construction and operation phases of the Desert Harvest Solar Power Project. The RCFD is also requesting on-site training to familiarize emergency responders with the hazards associated with solar power plant operations. With respect to the remaining cumulative impacts, the Fire Department reserves the right to negotiate agreements with the applicant to ensure that service demands are met.

Further, the Desert Harvest Solar Power Project is subject to Board of Supervisors' Policy B-29. Under Board of Supervisors' Policy B-29:

- No encroachment permit shall be issued for a solar power plant unless the Board of Supervisors first grants a franchise to the solar power plant owner.

- No interest in the County's property, or the real property of any district governed by the County, shall be conveyed for a solar power plant unless the Board of Supervisors first approves a real property interest agreement with the solar power plant owner.
- No approval required by the County's Zoning or Subdivision Ordinance shall be given for a solar power plant unless the Board of Supervisors first approves a development agreement with the solar power plant owner and the development agreement is effective.

Board of Supervisors' Policy B-29 requires that all such agreements shall include a term requiring a solar power plant owner to make an annual payment to the County of \$450 for each acre involved in the power production process and a term requiring a solar power plant owner to secure the payment of sales and use taxes. The purpose of the County's Solar Power Plant program, which includes General Plan Amendment No. 1080, Ordinance No. 348.4705, and Board of Supervisors' Policy No. B-29, is to ensure that the County can fully implement its General Plan; that the County does not disproportionately bear the burden of solar energy production; and that the County is compensated in an amount it deems appropriate for the use of its real property. Please be advised that because the Desert Harvest Solar Power Project proposes to use County road rights-of-way, the County is requiring the applicant to enter into a franchise agreement consistent with Board of Supervisors' Policy B-29.

In the event of an emergency, additional personnel will be necessary to staff required command and rescue specialist functions during an emergency incident and conduct a post incident analysis investigation, including writing incident reports required by OSHA and the Riverside County Fire Department.

New fire facilities may be needed in order to accommodate additional staffing and fire rescue apparatus. The specialized equipment will require proper storage and maintenance to ensure optimal performance in the event of an emergency.

The summary of adverse impacts indicates *none* to fire/fuels management, public health and safety. It is premature to rule-out the impacts from fire will be reduced with the implementation of ongoing maintenance and a fuel modification program. There will always be a fire risk from accidental and natural causes within the project area. In addition, in the event the Photovoltaic panels become damaged the products may enter the atmosphere creating a toxic environment for plant workers and emergency service personnel.

**Desert Harvest EIS**  
**Page 4 of 4**

The California Fire Code outlines fire protection standards for the safety, health, and welfare of the public. These standards will be enforced by the Fire Chief.

If I can be of further assistance, please feel free to contact me at (951) 840-8810 or e-mail at [jason.neumann@fire.ca.gov](mailto:jason.neumann@fire.ca.gov)

Sincerely,

***Jason Neuman***

Jason Neuman, Captain  
Strategic Planning Bureau  
Riverside County Fire Department

OFFICIAL CORRESPONDENCE BY ELECTRONIC MAIL  
NO HARD COPY TO FOLLOW

US DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
Pacific West Regional Office  
333 Bush Street, Suite 500  
San Francisco, California, 94104-2828

L7619 (PWR-PP)

July 9, 2012

Lynnette Elser  
Desert Harvest Project Manager  
Bureau of Land Management  
California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley, California 92553  
[cadesertharvest@blm.gov](mailto:cadesertharvest@blm.gov)

RE: *DES 12\0017 Desert Harvest Solar Project, Draft Environmental Impact Statement*

Dear Ms. Elser:

We would like to take this opportunity to thank you for your continuing efforts to produce a high quality document. As a cooperating agency, our goal is to provide both positive and practical feedback in order to mitigate potential impacts to the resources at Joshua Tree National Park. Many aspects of this project clearly indicate the applicant's commitment to resource protection. One example is the co-location of transmission lines with the project to the north. This will greatly minimize ground disturbance and impacts to other resources within close proximity to the Joshua Tree National Park. Another positive example is the applicant's willingness to work directly with the NPS to resolve issues of concern.

However, based upon our review of the Desert Harvest Solar Project (DHSP) Draft Environmental Impact Statement (DEIS), we believe the draft document fails to adequately analyze some foreseeable environmental consequences and cumulative impacts of the proposed utility-scale solar power project on the resources and values of Joshua Tree National Park. Our staff will continue to be available to confer with project planners on addressing our concerns as the development of the Final Environmental Impact Statement (FEIS) gets underway.

## Overall Comments

Joshua Tree National Park (Joshua Tree NP) was originally set aside as a National Monument in recognition of its historic and prehistoric resources and to afford protection of natural resources of the Colorado and Mojave Deserts. The natural resource preservation emphasis was so strong that the original name contemplated for the monument was Desert Plants National Park. The monument was also recognized as a biosphere reserve by the United Nations under its Man and the Biosphere Program. In 1994, the Desert Protection Act (PL 103-433) added 234,000 acres and changed National Monument status to National Park; and, an additional 163,000 acres was designated as Wilderness.

Today, Joshua Tree NP's nearly 800,000 acres protect the unique assembly of superlative natural resources brought together by the junction of two of California's ecosystems. The Colorado Desert, a western extension of the vast Sonoran Desert, influences the southern and eastern parts of the park. It is characterized by stands of spike-like ocotillo plants and "jumping" cholla cactus. The southern extent of the Mojave Desert reaches across the northern part of the park. It is the habitat of the park's namesake: the Joshua tree.

Unfortunately the DEIS fails to adequately characterize and analyze many potential impacts to the park resources associated with development of this project. The lack of clarity regarding the type of technology that will be erected, the potential impacts to visual resources (depending on the technology type) and potential issues related to groundwater need to be accurately defined and analyzed. Although attributes such as visual resources, natural sounds, night skies, and effects on Wilderness are referred to in the DEIS, the fundamental importance of these resources to the desert setting and sensitive areas such as Joshua Tree NP are either understated or overlooked in the analysis.

For example, on page 3.17-5 (referring to the Wilderness areas of Joshua Tree NP), "*This WA is approximately 17 miles to the west and 7 miles to the north of the DHSP site.*" This statement is inaccurate. The nearest Wilderness boundaries of Joshua Tree NP are 3.8 miles to the west and 1.8 miles to the northeast of the DHSP.

Additionally, the western and eastern flanks of the Desert Harvest project are within close proximity to congressionally designated Wilderness. A survey conducted by the Joshua Tree NP, in November of 2010, identified the most important protected attributes/resources valued by our visitors. Of the nearly 500 visitors polled, the top three protected attributes/resources valued by our visitors are, 1) Views without development; 2) Clean air; and 3) Natural quiet/sounds of nature. Other high ranking attributes/resources valued by visitors include solitude and dark night skies. The aforementioned attributes/resources are the epitome of "wilderness character" that the Joshua Tree NP is striving to protect. All of these valued attributes/resources are jeopardized resulting from the Desert Harvest project.

A paramount concern of Joshua Tree NP relates to the visual contrast between First Solar-to the north-and the DHSP. The applicant (enXco), and as reflected as the preferred alternative by the BLM, has proposed the use of taller panels with tracking capabilities. The NPS has had many comments/concerns relating to the visual impacts of the First Solar Desert Sunlight project,

which is currently under construction immediately to the north of the proposed DHSP. Through numerous discussions/comments relating to color and guise of the low lying framework at the First Solar project, we believe these efforts have resulted in a less visually intrusive utility scale solar farm adjacent to a National Park. This DEIS fails to adequately assess or analyze the impacts of this newly proposed highly contrasting solar project within the Chuckwalla Valley. The change in glare, reflectance and color throughout the day need to be modeled and analyzed before any decision is made relating to the use of tracking-type solar panels. Visual analysis should not be limited solely to the project; contrasting visual impacts need to be analyzed for cumulative impacts as well.

Summarized below are key concerns (more detailed comments are provided in the attached spreadsheet).

### Specific Comments

#### **Chapter 2: 2.5.4 Structures and Facilities, Photovoltaic and Generation Area**

In paragraph 2 *“If a tracking system is used, either high-profile or low-profile trackers could be used.”* The NPS is amenable to any alternative that is less visually intrusive. As mentioned above, visual resources or views without development are the highest valued attribute for park visitors. If low-profile tracking systems are readily available and would meet the purpose and need of the proposed project, low-profile trackers would like have less of an impact on visual resource. This would not preclude the necessity for further visual analysis or modeling, but offers a workable solution to mitigating visual impacts associated with tracking-systems.

**Chapter 2: 2.5.8 Design Features, BMPs and Other Conditions Included in the Proposed Project** - The Desert Harvest proposal is located in an area of notable night sky quality which is very sensitive. NPS data indicates that the eastern end of Joshua Tree NP possesses the highest quality night sky measured in the park. The NPS requests night sky conditions be maintained (during construction and operations) at the current natural ambient level (i.e., no increase in light pollution.)

In Table 2.5 (Applicant Measures), best management practices relating to night sky are omitted from this table. At a minimum the FEIS should include mitigation or applicant measures that specifically call out for the use of “full cut-off luminaries.” Often the words shielded and full cut-off are erroneously used interchangeably. The DEIS refers to the use of “...focused downward, shielded...” in the Site Security, Fencing and Lighting section of Chapter 2.5.4. The word shielded should be replaced with “shielded, full cut-off luminaries.”

Another applicant measure that should be included under a night sky heading is limited nighttime construction activity. If necessary to conduct work at night, white lighting (e.g., metal halide) should only be used when necessitated by work tasks. This source should not be used for general security lighting or for dusk-to-dawn lighting. White lighting should be less than 3500 Kelvin color temperature (warm white). Blue- white lighting (cool-white) has a much greater environmental impact and should be avoided.

If portable truck-mounted lighting is to be utilized frequently, it could have a significant visual impact if pointed in the direction of a natural area. It is recommended that such lighting be aimed within 45° of nadir (straight down) when utilized to minimize offsite impacts and reduce glare for workers, or alternatively be pointed away from park lands and Wilderness areas. This mitigation should be included in the FEIS.

**Chapter 3: Affected Environment, 3.2 Air Resources**

In Table 3.2-4 - Paragraph above Table says there are no Federal standards exceeded in the MDAB. However Table 3.2-4 shows the Federal 8 hour ozone standard was exceeded 17 times in 2008, 11 times in 2009 and 8 times in 2010. During the month May 2012, the Pinto Wells station located 9 miles north of DHSP has already recorded 3 days above 75ppb for ozone. Based on the data presented in Table 3.2-4, this area should be designated as non-attainment for 8 hour Ozone.

**Chapter 3: Affected Environment, Section 3.12.2, Existing Conditions, Noise** – The information about noise sensitive land uses does not address the Wilderness areas of Joshua Tree NP – a discussion of the Wilderness and the natural ambient sound level (see above) should be added to this paragraph.

Many units of the National Park System, and park Wilderness areas in particular, have natural ambient sound levels well below the 45 dBA  $L_{eq}$  referenced as the rural noise standard for solar energy development in the Riverside County. Application of a 45 dBA  $L_{eq}$  standard to areas of the Riverside County, adjacent to sensitive park lands and Wilderness areas such as Joshua Tree NP could result in adverse impacts on those park lands and Wilderness areas. The NPS requests that ambient natural sound levels be maintained during construction and operations (i.e. no increase in ambient sound as a result of the project). Should a detectable increase in noise pollution be recorded, noise attenuating fencing will be erected at the project boundary.

**Chapter 3: Affected Environment, Section 3.14.1, Recreation** – The Wilderness Act of 1964 section should also mention the BLM Palen/McCoy Wilderness to the east.

**Chapter 3: Affected Environment, Section 3.17, Special Designations** – The FEIS should include a map showing proximity of all Wilderness areas to the site. Additionally, for the first paragraph under the Wilderness section, change the section slightly to reflect the Big Wash Trail, which is identified approximately 8 ½ miles west of the project area as specified in the attached table.

**Chapter 3: Affected Environment, Section 3.19, Visual Resources** – Joshua Tree National Park would like to add a Key Observation Point (KOP) from which a visual analysis of the newly proposed “tracking system technology” can be modeled from. The UTM coordinates are Zone11; E 640617; N 3738874. This new KOP is accessed via a well maintained road that serves an access point to the “Big Wash” area of the park. This area serves as an easy ingress/egress staging area for night sky activity.

The description of the affected visual environment analysis process does not mention the impact of light pollution. Both direct forms of light pollution (e.g., glare) and indirect (e.g., skyglow)

cause impact to the visual environment. A development need not be within a line of sight as described in order to cause a visual impact via skyglow. This factor becomes increasingly important in darker environments, where even ground reflection from well-shielded lights can have an adverse impact. The visual resources analysis procedure is therefore incongruent with the need to protect dark night skies, though it may be adequate for daytime visibility issues.

The omission of dark night skies and the impacts associated with light pollution clearly understates the value of this critical resource. As mentioned above, dark night sky was among some of the high ranking attributes/resources valued by our visitors. A section relating to night sky should be included in the Affected Environment section. Data taken from Pinto Wells in Joshua Tree NP indicates that this area is the darkest measured in the park and is representative of the darkest sites found in the Mojave Desert. The site, which is periodically monitored by the NPS, is located approximately seven miles north of the project site.

#### **Chapter 4: Environmental Consequences, Section 4.2.3, Air Resources**

Page 4.2-6 of Air Resources, addresses night sky visibility and points out dust would not be present at night. It should also address impairment of night sky visibility due to light pollution during construction and operation activities.

Page 4.2-7-Air Resources, Are the regional and local "significance" thresholds based on project emissions before, or after, mitigation measures are applied? The report uses levels after mitigation. Decommissioning section states the area will be returned to original condition. This is unlikely and would take hundreds of years. This should be re-written so it does not mislead the public.

#### **Chapter 4: Environmental Consequences, Section 4.12, Noise and Vibration**

Page 4.12-9 Kaiser Road south of Lake Tamarisk will increase between 9.5 dBA (1 hour Leq) and 11.4 dBA (CNEL). When the cumulative effects of the Desert Sunlight project are added the noise in this area increases from 11.6 (Leq) to 13.6 (CNEL). A 10 dBA increase is generally perceived as a doubling of the loudness.

#### **Chapter 6: List of Preparers**

The NPS requests to be removed from the List of Preparers.

#### Conclusion

Given the range of alternatives as currently identified and analyzed, and uncertainty relating to groundwater issues and the technology that will be used at DHSP, the DEIS fails to fully analyze impacts to protected park resources and values adjacent to the proposed project. As a cooperating agency, the NPS welcomes the opportunity to provide further input and comments on a more complete document. Furthermore, after another opportunity to review more specific impacts in the next version of the EIS, the NPS may want to enter a cost recovery agreement with enXco (and future plant owners) for monitoring the construction- and operation-related direct effects on park resources. The NPS requests this agreement between the applicant and the NPS be a condition of the ROW grant and be entered as such into the anticipated Record of Decision.

Thank you for this opportunity to provide comments. Addressing each of these topics in depth, and with reassessment of the nature of the impacts to nearby Joshua Tree NP is necessary for assuring the utmost protection of resources and visitor experience. If you have any questions regarding our comments or concerns, or need additional information, please contact Mark Butler, Superintendent, Joshua Tree National Park at (760) 367-5502, or Andrea Compton, Chief of Resources at (760) 367-5560, [Andrea\\_Compton@nps.gov](mailto:Andrea_Compton@nps.gov).

Sincerely,

/s/ Christine Lehnertz  
(signed original on file)

Christine S. Lehnertz  
Regional Director, Pacific West Region

Attachment: 1

cc:  
JOTR-S  
WASO-GRD,EQD  
OEPC-SF

NPS comments DEIS enXco Harvest

Comment No.	Section/ Paragraph/Pag	Comment
1	2.5.4	The park service fully supports the use of low-height tracking systems.
2	2.5.8	<p>The Desert Harvest proposal is located in an area of notable night sky quality which is very sensitive. NPS data indicates that the eastern end of Joshua Tree NP possesses the highest quality night sky measured in the park. The NPS requests night sky conditions be maintained (during construction and operations) at the current natural ambient level (i.e., no increase in light pollution.) In Table 2.5 (Applicant Measures), best management practices relating to night sky are omitted from this table. At a minimum the FEIS should include mitigation or applicant measures that specifically call out for the use of “full cut-off luminaries.” Often the words shielded and full cut-off are erroneously used interchangeably. The DEIS refers to the use of “...focused downward, shielded...” in the Site Security, Fencing and Lighting section of Chapter 2.5.4. The word shielded should be replaced with “shielded, full cut-off luminaries.”</p> <p>Another applicant measure that should be included under a night sky heading is limited nighttime construction activity. If necessary to conduct work at night, white lighting (e.g., metal halide) should only be used when necessitated by work tasks. This source should not be used for general security lighting or for dusk-to-dawn lighting. White lighting should be less than 3500 Kelvin color temperature (warm white). Blue- white lighting (cool-white) has a much greater environmental impact and should be avoided.</p> <p>If portable truck-mounted lighting is to be utilized frequently, it could have a significant visual impact if pointed in the direction of a natural area. We recommend that such lighting be aimed within 45° of nadir (straight down) when utilized to minimize offsite impacts and reduce glare for workers, or alternatively be pointed away from park lands and Wilderness areas. This mitigation should be included in the FEIS.</p>
3	throughout (2.5, 3.3, 4.3,	NPS would like to review the integrated weed management plan prior to implementation.
4	3.2-4	Paragraph above Table says there are no Federal standards exceeded in the MDAB. However Table 3.2-4 shows the Federal 8 hour ozone standard was exceeded 17 times in 2008, 11 times in 2009 and 8 times in 2010.
5	3.12-1	The FEIS should add information about NPS Management Policies ( <a href="http://www.nps.gov/policy/mp/policies.html">http://www.nps.gov/policy/mp/policies.html</a> ). These Policies address noise impacts in Section 4.9 and also in Section 8.2.3, which states that the "natural ambient sound level—that is, the environment of sound that exists in the absence of human-caused noise—is the baseline condition, and the standard against which current conditions in a soundscape will be measured and evaluated." Further guidance can be found in NPS Director's Order #47
6	3.12-2	The discussion of noise sensitive land uses does not include a discussion the wilderness areas of Joshua Tree NP – a discussion of the Wilderness and the natural ambient sound level (see above) should be added to this paragraph.

7	3.12-2 continued	National Park Service Management Policies require all acoustic conditions be evaluated against the natural ambient sound level. Many National Park units and park Wilderness areas, in particular, have natural ambient sound levels well below the 45 dBA Leq referenced as the rural noise standard for solar energy development in the Riverside County. Application of a 45 dBA Leq standard to areas of the Riverside County, adjacent to sensitive park lands and Wilderness areas such as Joshua Tree NP could result in adverse impacts on those park lands and Wilderness areas. The NPS requests that ambient natural sound levels be maintained during construction and operations (i.e. no increase in ambient sound as a result of the project.) Should a detectable increase in noise pollution be recorded, noise attenuating fencing will be erected at the project boundary.
8	3.17-5	<i>"This WA is approximately 17 miles to the west and 7 miles to the north of the DHSP site."</i> This statement is clearly inaccurate. The nearest wilderness boundaries of Joshua Tree National Park are 3.8 miles to the west and 1.8 miles to the northeast of the DHSP.
9	3.19	Visual Resources- in the print version this is actually a repeat of the "Special Designations" section. The Webfiles CD is correct.
10	3.19	Joshua Tree National Park would like to add a Key Observation Point (KOP) from which a visual analysis of the newly proposed "tracking system technology" can be modeled from. The UTM coordinates are Zone11; E 640617; N 3738874. This new KOP is accessed via a well maintained road that serves an access point to the "Big Wash" area of the park. This area serves as an easy ingress/egress staging area for night sky activity.
11	3.19	Unfortunately, the description of the affected visual environment analysis process does not mention the impact of light pollution. Both direct forms of light pollution (e.g., glare) and indirect (e.g., skyglow) cause impact to the visual environment. A development need not be within a line of sight as described in order to cause a visual impact via skyglow. This factor becomes increasingly important in darker environments, where even ground reflection from well-shielded lights can have an adverse impact. The visual resources analysis procedure is therefore incongruent with the need to protect dark night skies, though it may be adequate for daytime visibility issues. The omission of dark night skies and the impacts associated with light pollution clearly understates the value of this critical resource. As mentioned above, dark night sky was among some of the high ranking attributes/resources valued by our visitors. A section relating to night sky should be included in the Affected Environment section. Data taken from Pinto Wells in Joshua Tree NP indicates that this area is the darkest measured in the park and is representative of the darkest sites found in the Mojave Desert. The site, which is periodically monitored by the NPS, is located approximately seven miles north of the project site.
12	4.2-6	Addresses night sky visibility and points out dust would not be present at night. It should also address night sky visibility impairment from light pollution during construction and operation activities.
13	4.2.7	Are the regional and local "significance" thresholds based on project emissions before or after mitigation measures are applied? The report uses levels after mitigation. Decommissioning section states the area will be returned to original condition. This is unlikely and would take hundreds of years. This should be re-written so it does not mislead the public.
14	4.2-8	MM-Air 1 Where do the wind speed numbers come from? WS of 25-30 mph seem like very high thresholds to trigger action.
15	4.2-8	MM-Air 1 Applicant shall install PM10 dust monitoring equipment where data triggers a response (to BLM/NPS) when particulate standards are exceeded. Realtime data shall be made available via the internet for offsite monitoring. Monitoring effort and dust abatement shall continue through the weekend and holidays.
16	4.2-8	MM-Air 2 Should state maximum amount of time idling is allowed <1 minute, or better yet, no idling at all should be allowed.
17	4.2-9	MM-Air 3 Is pavement necessary? What's worse more paved roads or dust?

18	4.2-10	Last sentence has a typo, it should be Alternative 4 not 5. (Change 5 to 4).
19	4.3.3/page 52	NPS requests to review applicant measures habitat compensation plan, Integrated weed management plan, etc...
20	4.4-35	MM WIL-5 (Please Add) Copies of trip reports and annual reports will be forwarded to the NPS as aoon as available.
		<b>Cultural Resources General Comments</b>
21		The park agrees that the project area needs to have a complete Class III inventory to identify cultural resources. The park would like to request a copy of these reports when completed.
22		The park is concerned that a thorough inventory and recordation of cultural resource be conducted within the project area and Determinations of Eligibility for the National Register of Historic Places completed prior to project design and implementation. This information will also provide context to sites located within the park. Of particular interest to the Park would be:
		1. Prehistoric and historic transportation corridors that might lead into the park. These likely exist in the project area as Pinto Basin would have been a natural corridor. These transportation corridors would have provided the network for goods being imported and exported to and from the park.
		2. Information on prehistoric lithic quarries would be important to the park because of the transport and trade implications.
		3. Information on rock art also has region-wide implications regarding style, population movements, and spread of ideas.
		4. Habitation sites with midden deposits could contribute significantly to a better understanding of prehistoric subsistence practices, lifeways, and land use within the park and the Colorado Desert.
		5. Early Holocene Pinto sites occur in the vicinity of the project and are of particular concern.
		6. The park contains some known but unrecorded unrecorded Patton WWII desert training center sites along the eastern base of the Coxcomb Mountains which should be considered in the District nomination (e.g. bombing range, target practice range). However, most of the eastern base of the Coxcomb Mountains has not been inventoried and virtually none of the park boundaries in the vicinity of the Desert Harvest project have been inventoried.
		7. California Aqueduct related sites.
		<b>Cultural Landscapes</b>
23		No studies regarding prehistoric or historic cultural landscapes have been done in the eastern half of the park and the impact of this project on the viewshed or other indirect impacts therefore cannot be assessed at this time, but is of concern to the park.
		<b>Traditional Cultural Properties</b>
24		No studies regarding traditional cultural properties have been done in the park and the impact of this project on the viewshed or other indirect impacts therefore cannot be assessed at this time, but is of concern to the park.



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

Office of the General Manager

July 12, 2012

**Via Fed Ex and Electronic Mail**

Lynnette Elser  
Bureau of Land Management  
California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, California 92553

To Whom it May Concern:

Notice of Availability of the Draft enXco Desert Harvest Solar Farm Project  
Environmental Impact Statement, Riverside County, CA and the  
Draft California Desert Conservation Area Plan Amendment (CACAA 49491)

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Draft Environmental Impact Statement (DEIS) for the Desert Harvest Solar Farm Project (Project or DHSP). The U.S. Bureau of Land Management (BLM) is the lead agency under the National Environmental Policy Act (NEPA) for the DEIS. In addition, Riverside County (the County) has discretionary authority to issue a Public Use Permit for any generation interconnection line (gen-tie line) alternative that crosses private lands subject to County jurisdiction. Riverside County would also require the Applicant to obtain an encroachment permit, a franchise route agreement, and a unified program facility permit. Riverside County has actively engaged in EIS planning and reviewing documentation relating to the proposed project and alternatives. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15221, the County of Riverside also intends to determine whether this EIS complies with the requirements of CEQA, and if so, to use this EIS to provide the environmental review required for its decision regarding the approval of a gen-tie action alternative under CEQA. Riverside County and BLM have signed a memorandum of understanding that defines their relationship and identifies the County as a Cooperating Agency.

Metropolitan is pleased to submit comments for consideration by BLM and the County during the public comment period for the DEIS. In sum, Metropolitan provides these comments to ensure that any potential impacts on its facilities or properties in the vicinity of the Project and on Colorado River water resources are adequately addressed. Metropolitan is pleased to submit these comments for consideration in preparing the final EIS.

## **Background**

Metropolitan is a public agency and regional water wholesaler. It is comprised of 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 conveyed via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. 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 over 1.2 million acre-feet of water annually to the southern California coastal plain, extends 242 miles from the Colorado River, through the Mojave Desert to Lake Mathews. 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 kilovolt (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. Metropolitan's CRA transmission line easements lie on federally-owned land, managed by the U.S. Department of the Interior, Bureau of Land Management (BLM). The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker projects 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 mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

## **Project Understanding**

The applicant, enXco, has requested a right-of-way (ROW) authorization to construct, operate, maintain, and decommission a solar photovoltaic (PV) generating facility with a proposed output of 150 megawatts (mw) and a facility footprint of approximately 1,280 acres. The proposed project would be located on a largely vacant, undeveloped, and relatively flat land area on BLM-administered lands in the Chuckwalla Valley in eastern Riverside County, California, about five miles north of the rural community of Desert Center, California and four miles north of Lake Tamarisk. The Project Area contains existing transmission lines, telephone lines, and pipelines, as well as dirt roads. Joshua Tree National Park is north, east, and west of the area; at its closest point, the Solar Farm site is approximately 1.4 miles southwest of the national park boundary. The inactive Eagle Mountain Mine is approximately one mile west of the Project Study Area. Metropolitan's Colorado River Aqueduct (CRA) and the Eagle Mountain Pumping Plant of the CRA are located approximately two miles west of the solar farm site.

The overall site layout and generalized land uses could include a substation, an administration building, operations and maintenance facilities, a transmission line, and temporary construction

lay down areas. The project's 220 kV generation interconnection transmission line would either be located on the previously approved First Solar Desert Sunlight project's 230-kV gen-tie (as a shared facility), or would be located on a combination of private and BLM-administered lands and would utilize a planned 230- to 500-kV substation (referred to as the Red Bluff Substation). Gen-tie line Alternatives B, C, D, and E would cross parcels owned in fee by Metropolitan. The Red Bluff Substation would connect the project to Southern California Edison's regional transmission grid. If the project is approved, construction would begin in late 2013 and would take 9 to 12 months to complete.

In sum, the Project proposes to use up to 500.51 acre-feet of water per year during construction, estimated to take two years, and up to 39.02 acre-feet per year for long-term operations. The proposed solar facility proposes to draw water from two new and/or existing local wells to meet construction water demands, one of which would continue to be used for project operations. Both wells would be available for use during construction to provide flexibility in the water supply and in the event of a well malfunction.

The potential locations for the construction of two new on-site wells are at the northeastern and northwestern areas of the project site. As an alternative to new wells, DHSP may use nearby (within 10 miles) off-site active wells that have a reported individual (per well) production capacity of between 800 and 2,200 acre-feet per year. If off-site wells are used, water would be trucked to the on-site water treatment facility described below. No new roads would be required and no new ground disturbance would occur as a result of using off-site wells.

enXco would perform the necessary studies and secure the necessary permit(s) to install the well(s). In addition, sampling and analysis in accordance with established protocols and with appropriate analytical test methods would be performed to assess water sufficiency and quality at each active well of appropriate capacity.

As noted above, during the 24-month construction period, an estimated total of between 400.51 and 500.51 acre-feet of water would be needed as indicated on page 3.20-6 of the DEIS for such uses as soil compaction, dust control, and sanitary needs for construction workers, depending on the configuration selected. The majority of the construction water use would occur during site grading operations. The daily water demand during construction of the project is estimated to range from a low of 125,000 gallons per day (gpd) to a peak of an estimated 600,000 gpd. The project's maximum well extraction rate over any 24-hour period is not expected to exceed 880 gallons per minute (gpm). Drinking water would be provided from an off-site commercial source during construction.

The project's total operational water requirement would be approximately 26.02 to 39.02 acre-feet per year. Operation of the project would require a water supply of 18 to 27 acre-feet per year for washing solar panels, assuming 1.1 gallons of water for each PV panel and a washing schedule of two to three times per year. As with construction of the project, it is anticipated that operational water would be pumped from the underlying basin using on-site supply wells, or it

would be pumped from off-site wells within the basin and trucked to the project site. (DEIS at 4.20-14 & -15)

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

Although Metropolitan has not yet identified any direct impacts from the solar facility which is adjacent to Metropolitan rights-of-way, there are land use impacts from Alternatives B, D and E where the gen-tie line crosses land owned by Metropolitan. As described above, 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 conveyance system. A map of the Project in relation to Metropolitan's Facilities is enclosed for reference. 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, Metropolitan requests that the final EIS include an assessment of potential impacts to Metropolitan's Facilities or properties with proposed measures to avoid or mitigate significant adverse effects consistent with the land use mitigation measures set forth in the DEIS (see 4.11-5 – 4.11-12 & MMLR – 1 Prior ROW Coordination).

Metropolitan is also 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. Metropolitan's Eagle Mountain Pumping Plant is one of five pumping plants along the CRA that receives power from Metropolitan's 230-kV transmission system. This power is needed to energize the pumps that supply water to Metropolitan's service area. Metropolitan is concerned the proposed Project may adversely impact its ability to deliver water if the proposed Project causes a disruption to Metropolitan's electric system. Construction activities and operation of any new facilities resulting from the proposed Project should not impede or increase the cost of any electrical operation or maintenance activities on the CRA and its related transmission system. 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. Metropolitan requests that the final EIS include an assessment of potential impacts to Metropolitan's transmission system with proposed measures to avoid or mitigate significant adverse effects.

### **Water Resources: Potential Impacts on Local Water Supplies**

Metropolitan is also concerned about the Project's potential direct and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies. As noted above, Metropolitan holds an entitlement to imported water supplies from the Colorado River. Water from the Colorado River is allocated pursuant to federal law and is managed by the Department of the Interior, Bureau of Reclamation (USBR). In order to lawfully use Colorado River water, a party must have an entitlement to do so. See Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 1501, et seq.; *Arizona v. California* (Consolidated Decree), 547 U.S. 150 (2006).

The Project proposes to use up to 500.51 acre-feet of water during construction and up to 39.02 acre-feet per year for long-term operations, from wells located on land which overlies the "Accounting Surface" area designated by U.S. Geological Survey (USGS) Scientific Investigation Report 2008-5113 as indicated on page 3.20-4 of the DEIS. The Accounting Surface is defined to represent the elevation and slope of the static water table in the river aquifer outside the flood plain and the reservoirs of the Colorado River that would exist if the water in the river aquifer were derived only from the river. The accounting surface extends outward from the edges of the flood plain or a reservoir to the subsurface boundary of the river aquifer. The USGS Report indicates that the aquifer underlying the lands is considered to be hydraulically connected to the Colorado River and groundwater withdrawn from wells located on these lands would be replaced by Colorado River water, in part or in total. Wells that have a static water-level elevation near (within  $\pm 0.84$  feet at the 95-percent confidence level), equal to, or below the elevation of the Accounting Surface are presumed to yield water that will be replaced by water from the Colorado River. Wells that have a static water-level elevation above the elevation of the Accounting Surface are presumed to yield water that will be replaced by water from precipitation and inflow from tributary valleys. This means that if it is determined that these wells are, in fact, pumping water that will be replaced by water from the Colorado River, the use of such water would need to be accounted for as consumptive use of Colorado River water as required under the Consolidated Decree in *Arizona v. California* as stated on page 3.20-4 of the DEIS.

Table 4.20-4, Estimated Water Requirements of Cumulative Projects, on page 4.20-43 of the DEIS indicates that annual construction water use for the projects listed would exceed 10,000 acre-feet per year for four years. All of California's apportionment to use of Colorado River water during normal, shortage, and Intentionally Created Surplus conditions is presently contracted, meaning that no new water entitlements are available for uses in California during these conditions. The project proponent would have to obtain imported water supplies from an existing contract holder or other non-Colorado river resource. The DEIS addresses these concerns in its mitigation measures, specifically, MM WAT-7 (Colorado River Water Supply Plan) (DEIS at 4.20-27 & -28). However, as explained in Metropolitan's detailed comment no. 32 enclosed with this letter, several of the alternatives identified in this measure are not feasible because most of the identified sources are already fully allocated.

Recognizing the limitations on alternate desert supplies, Metropolitan is willing to consider terms and conditions of a water sale agreement to furnish supplemental water to the proponent, if there is evidence of adverse impacts to local supplies consistent with MM WAT-7. Section 131(b) of the Metropolitan Water District Act provides Metropolitan with authority to enter into contracts to provide water to any private corporation or public agency for use in connection with generation of electric power at plants located outside of Metropolitan so long as a major portion of the power is used within Metropolitan's service area in Southern California. Any supplemental water sold for this Project would be an exchange of non-Colorado River water available to Metropolitan for Colorado River water available to Metropolitan.

Ms. Lynnette Elser  
July 12, 2012  
Page 6

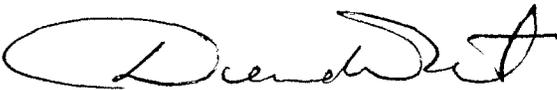
Consistent with MM WAT-3 (Groundwater Drawdown Monitoring and Reporting Plan), Metropolitan requests that the final EIS address the proponent's proposed method for offsetting use of Chuckwalla Valley groundwater that would be replaced by Colorado River water and any potential direct, indirect, or cumulative impacts from this offset.

Finally, Metropolitan requests that it be copied on all groundwater monitoring and reports for the Project because of the potential impacts to Metropolitan's supplies from use of water that would be replaced by Colorado River water.

Metropolitan's detailed comments on the DEIS are enclosed.

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 Mr. Michael Melanson at (916) 650-2648.

Very truly yours,

A handwritten signature in black ink, appearing to read "Deirdre West", written in a cursive style.

Deirdre West  
Manager, Environmental Planning Team

DD:dd

(J:\Environmental Planning Team\COMPLETED JOBS\July 2012\Job No. 2012071208)

Enclosures: Map  
Detailed Comments on DEIS

The Metropolitan Water District of Southern California's Detailed Comments on the April 2012 Desert Harvest Solar Project Draft EIS and Draft CDCA Plan Amendment

1. On page 9, delete the phrase "land owned by Metropolitan Water District of Southern California" from the sentence, "Access to private land and land owned by Metropolitan Water District of Southern California was an obstacle to performing cultural and paleontological surveys on all gen-tie alternatives." Metropolitan has provided access to its land.
2. On page 2-38, in the thirteenth line of the first bullet under the heading Alternative 7, revise "6" to "7" as this column of the table refers to Alternative 7 rather than Alternative 6.
3. On page 2-65, in the fourth line of the second full paragraph, revise "[new]" to "3".
4. On page 3.20-4, in the first line, revise the reference to the "Colorado River Account Surface Rule" to the "Colorado River Accounting Surface Rule" to be consistent with the title of this section of the DEIS.
5. On page 3.20-6, in the second line of the answer to question 4, revise "Coachella Valley Water Agency" to "Coachella Valley Water District" to reflect the proper name of the District.
6. On page 3.20-15, under the second bullet, delete the text:

"A conjunctive use project is proposed for this groundwater basin that would recharge the basin with Colorado River water at Fenner Gap during wet years and extract it down-gradient during drought years (DWR 2004c). This project, the Cadiz Project Groundwater Management Plan, would enable the Metropolitan Water District of Southern California (MWD) to: store Colorado River water in the Cadiz Valley Groundwater Basin; pump the quantity of stored Colorado River water and convey it to the Colorado River Aqueduct when needed; and transfer a portion of naturally occurring/evaporating groundwater from the Cadiz Valley Groundwater Basin to the Colorado River Aqueduct (CRBC 2000)"

as Metropolitan's Board of Directors voted on October 8, 2002 to not proceed with the Cadiz Groundwater Storage and Dry-Year Supply Program. BLM may wish to include information on the Cadiz Valley Water Conservation, Recovery and Storage Project proposed by the Santa Margarita Water District. Information on this project may be found at <http://www.smwd.com/operations/cadiz-valley-project.html>. The Draft EIR for this project may be found at <http://www.smwd.com/operations/the-cadiz-valley-project-ceqa-documents.html>.

7. On page 3.20-6, in the sixth line under the first bullet, revise "There are a few wells in the in the CVGB which provide reliable monitoring data from the past 20 years;" to "There

are a few wells in the CVGB which provide reliable monitoring data from the past 20 years;”.

8. On page 3.20-20, in the eighth line under the first heading, revise:

“Both analyses describe the Coachella Valley watershed as being comprised of the Palen sub-watershed and the Ford sub-watershed which receive total precipitation in the amounts of 156,000 afy and 159,000 afy, respectively; therefore, the Coachella Valley watershed receives a total precipitation amount of 315,000 afy.”

to:

“Both analyses describe the Chuckwalla Valley watershed as being comprised of the Palen sub-watershed and the Ford sub-watershed which receive total precipitation in the amounts of 156,000 afy and 159,000 afy, respectively; therefore, the Chuckwalla Valley watershed receives a total precipitation amount of 315,000 afy.”

as the text on page 3.20-10 states:

“The DHSP is located in the Colorado HR, and is within the Chuckwalla HU, and entirely within the Palen HA subdivision of the Chuckwalla HU.”

9. On page 3.20-20, revise the second to the last sentence from:

“As noted above, total precipitation in the Coachella Valley watershed equates to 315,000 afy; 3 percent of this estimate is 9,450 afy, as described in the Genesis analysis.”

to:

“As noted above, total precipitation in the Chuckwalla Valley watershed equates to 315,000 afy; 3 percent of this estimate is 9,450 afy, as described in the Genesis analysis.”

10. On page 3.20-21, revise the last two sentences under the first heading from:

“Therefore, return flows calculated using the 10 percent factor is and 1,090 afy from Tamarisk Lake. Therefore, return flows calculated using the 10 percent factor are approximately 800 afy. (BLM 2011a) 800 afy. (BLM 2011a)”

to:

“Therefore, return flows calculated using the 10 percent factor are approximately 800 afy. (BLM 2011a).”

11. On page 3.20-21, revise the sentence beginning on the sixth line under the second heading from:

“For the years 1998 through 2001, the California DWR Department of Planning and Local Assistance (CDWR-DPLA) reported that deep percolation of applied urban water in the Chuckwalla Planning Area (assumed to be wastewater return flow) was 500 to 800 afy.”

to:

“For the years 1998 through 2001, the California DWR Division of Planning and Local Assistance (CDWR-DPLA) reported that deep percolation of applied urban water in the Chuckwalla Planning Area (assumed to be wastewater return flow) was 500 to 800 afy.”

12. On page 3.20-21, revise the second sentence under the first heading from:

“All water in the Colorado River is appropriated, meaning it is designated for specific uses and may not be consumed beyond the conditions of designated appropriative rights and associated uses. Due to the hydrologic connection between the CVGB and the Colorado River, all groundwater production at the DHSP site could be considered Colorado River water.”

to:

“All water in the Colorado River is apportioned for use, meaning it is designated for specific users and uses and may not be consumed beyond the conditions of designated rights. Due to the hydrologic connection between the CVGB and the Colorado River, all groundwater production at the DHSP site from wells that have a static water-level elevation near (within  $\pm 0.84$  feet at the 95-percent confidence level), equal to, or below the elevation of the Accounting Surface are presumed to yield water that will be replaced by water from the Colorado River.”

based on the text in the second paragraph on page 5 and the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

13. On Page 4.1-6, in the row ID 7, revise “144-foot” to “438-foot lift” in the Project Description column. The 144-foot value is for Iron Mountain Pumping Plant, rather than Eagle Mountain Pumping Plant, the subject of this row.
14. On Page 4.1-17, in the row “Lands and Realty”, revise “reality” to “realty” in the “Elements to Consider” column.
15. On page 4-11.8, revise the first bullet from:

“Municipal Water District (MWD) ROW for canals and ditches;”

to:

“Metropolitan Water District of Southern California (MWD) ROW for canals and ditches;”

16. On page 4-18.5, revise the first sentence from:

“As discussed in Section 4.20, MM WAT-2 would require the applicant to transport water needed for construction of Alternative 4 by truck.”

to:

“As discussed in Section 4.20, MM WAT-2 could require the applicant to transport water needed for construction of Alternative 4 by truck.”

based on the text of MM WAT-2.

17. On Page 4.20-8, revise the first sentence of the third paragraph from:

“If all water required for construction of the project is pumped from saturated sediments above the Colorado River Accounting Surface, it could be concluded that the project would not consume any appropriated Colorado River water.”

to:

“If all water required for construction of the project is pumped from saturated sediments above the Colorado River Accounting Surface, it could be presumed the groundwater basin yields water that will be replaced by water from percolation of runoff from the surrounding mountains, and percolation of precipitation to the valley floor.”

based on the text in the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

18. On Page 4.20-8, revise the last sentence of the fourth paragraph from:

“Therefore, mitigation is required to avoid potential effects associated with use of appropriated Colorado River water.”

to:

“Therefore, mitigation is required to avoid potential effects associated with use of groundwater that is presumed to be replaced by water from the Colorado River.”

based on the text in the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

19. On Page 4.20-8, revise the last sentence on the page from:

“Construction of the project would include implementation of Mitigation Measure WAT-7, which is presented under the “Mitigation Measures” subheading and summarized below, as relevant to use of appropriated Colorado River water.”

to:

“Construction of the project would include implementation of Mitigation Measure WAT-7, which is presented under the “Mitigation Measures” subheading and summarized below, as relevant to use of groundwater that is presumed to be replaced by water from the Colorado River.”

based on the text in the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

20. On Page 4.20-9, revise the first sentence on the page from:

“MM WAT-7 (Colorado River Water Supply Plan) would ensure that if the project results in pumping of any Colorado River water, conservation actions would be implemented to ‘replace’ the Colorado River water on an acre-foot by acre-foot basis.”

to:

“MM WAT-7 (Colorado River Water Supply Plan) would ensure that if the project results in pumping of any groundwater that would be replaced by Colorado River water, conservation actions would be implemented to ‘replace’ the groundwater on an acre-foot by acre-foot basis.”

based on the text in the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

21. With respect to the first sentence in the second paragraph on page 4.20-15:

“The CVGB is not currently affected by long-term overdraft conditions, and the hydrologic budget presented in Table 3.20-2 indicates that sufficient groundwater supply is available in the CVGB to meet the project’s operational water requirements of 26.02 to 39.02 afy, which is roughly 176 percent lower than the project’s construction water requirements of 400.51 to 500.51 afy.”

it is unclear how the 176 percent value was determined as  $[(400.51-26.02)/400.51] \times 100=93.5$  percent lower and  $[(500.51-39.02)/500.51] \times 100=92.2$  percent lower.

22. On Page 4.20-15, revise the last sentence of the second paragraph from:

“As specified in MM WAT-3, annual groundwater monitoring data reports will be submitted by the Applicant to the BLM and the Colorado River Basin RWQCB, and if

corrective action(s) will be required if these reports indicate groundwater trends such as overdraft or drawdown.”

to:

“As specified in MM WAT-3, annual groundwater monitoring data reports will be submitted by the Applicant to the BLM and the Colorado River Basin RWQCB, and corrective action(s) will be required if these reports indicate groundwater trends such as overdraft or drawdown.”

23. On page 4.20-16, revise the last sentence of the first full paragraph from:

“Operation and maintenance would not substantially alter existing drainage patterns or result in substantial erosion, siltation, or flooding on or off site.”

to:

“Operation and maintenance would not substantially alter existing drainage patterns or result in substantial erosion, siltation, or flooding on or off site.”

24. On page 4.20-18, following the first two sentences of the fourth full paragraph:

“Although no water supply requirements have been identified for decommissioning of the project, it is reasonably assumed that water would be required for soil conditioning and dust control. The WSA included as Appendix E to this EIS indicates that sufficient water supply is anticipated to be available for the project, and the project would not result in adverse effects to water supply reliability.”

insert:

“If decommissioning results in pumping of any groundwater that would be replaced by Colorado River water, conservation actions would be implemented to ‘replace’ the groundwater on an acre-foot by acre-foot basis.”

25. On page 4.20-22, revise the third sentence of the first full paragraph from:

“Assuming the project used of 12,000 gallon trucks to transport the water, between 10 and 50 round trip truck trips would be required to transport the water to the site during construction.”

to:

“Assuming the project used 12,000 gallon trucks to transport the water, between 10 and 50 round trip truck trips per day would be required to transport the water to the site during construction.”

26. On page 4.20-23, revise the last sentence of the third paragraph and the first sentence of the fourth paragraph from:

“Therefore, the water truck trips would not result in an unavoidable adverse GHG effects.

If the project’s water supply is provided as groundwater pumped from an off-site well within the CVGB, or as some other off-site water source, it would trucked to the project site and stored in an on-site storage tank(s).”

to:

“Therefore, the water truck trips would not result in an unavoidable adverse GHG effect.

If the project’s water supply is provided as groundwater pumped from an off-site well within the CVGB, or some other off-site water source, it would be trucked to the project site and stored in an on-site storage tank(s).”

27. On page 4.20-23, with respect to the last sentence of the fourth paragraph:

“If an off-site non-groundwater supply is used for the water (such as purchased from MWD or another local purveyor), potential effects associated with transporting the supply to the project site would be comparable to as described for an off-site groundwater supply.”

The potential effects associated with water purchased from MWD would depend on the method of delivery (e.g. discharge to a spreading ground for recharge up-gradient of the Project site, or construction of a conveyance facility to the Project site.)

28. On page 4.20-26, revise the second to the last sentence of the first paragraph from:

“All be BMPs required by the SWPP shall be checked and maintained regularly and after all larger storm events.”

to:

“All BMPs required by the SWPP shall be checked and maintained regularly and after all larger storm events.”

29. On page 4.20-27, revise the second sentence of MM WAT-7 from:

“The purpose of the Colorado River Water Supply Plan is to ensure that if the project consumes any Colorado River water, an equal amount of water will be ‘replaced’ within the watershed through the implementation of conservation actions.”

to:

“The purpose of the Colorado River Water Supply Plan is to ensure that if the project consumes any groundwater that would be replaced by Colorado River water, an equal amount of water will be ‘replaced’ within the watershed through the implementation of conservation actions.”

based on the text in the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

30. On page 4.20-27, revise the first two bullets of MM WAT-7 from:

- “Identification of water offset activities and associated water source(s) to replace the quantity of water diverted from the Colorado River over the life of the project on an acre foot per acre foot basis;
- Demonstration of how water diverted from the Colorado River will be replaced for each identified activity;”

to:

- “Identification of water offset activities and associated water source(s) to replace the quantity of groundwater that would be replaced by Colorado River water over the life of the project on an acre foot per acre foot basis;
- Demonstration of how groundwater that would be replaced by Colorado River water will be replaced for each identified activity;”

based on the text in the first paragraph of page 6 of the U.S. Geological Survey’s Scientific Investigations Report 2008–5113.

31. On page 4.20-28, revise the fifth bullet from:

- “Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show that each identified activity is achieving the intended benefits and replacing Colorado River diversions.”

to:

- “Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show that each identified activity is achieving the intended benefits and replacing groundwater that would be replaced by Colorado River water.”

32. With respect to the measures of water conservation specified on page 4.20-28, several of them are not feasible because the supplies are already fully allocated. For example, irrigation improvements in the Palo Verde Irrigation District would not result in water becoming available to the proponent of the Desert Harvest Solar Farm, as any water unused by Palo Verde Irrigation District becomes available to Metropolitan in accordance

with the 2003 Colorado River Water Delivery Agreement executed by Metropolitan, the Secretary of the Interior, Imperial Irrigation District, Coachella Valley Water District, and San Diego County Water Authority. As the use of all Colorado River water available to California in shortage, normal, or Intentionally Created Surplus conditions is already allocated by the Department of the Interior and its use is limited to within each entity's service area under executed water delivery contracts, no water allotments within the Colorado River Basin are available for purchase by the proponent of the Desert Harvest Solar Farm under those conditions. Implementation of conservation programs to conserve Colorado River water in the floodplain communities would not make water available to the proponent of the Desert Harvest Solar Farm as all water unused by holders of higher priorities becomes available to Metropolitan in accordance with the water delivery contracts which have been executed by the Department of the Interior. Participation in the U.S. Bureau of Land Management's Tamarisk Removal Program would not make Colorado River water available to the proponent of the Desert Harvest Solar Farm as use of Colorado River water by phreatophytes such as tamarisk is not charged as a use of water for U.S. Supreme Court Decree accounting purposes by the U.S. Bureau of Reclamation. Thus, each of these measures of water conservation should be removed from the Colorado River Water Supply Plan.

33. With respect to the first sentence of the second full paragraph on page 4.20-28:

“If the Applicant has filed an application to the U.S. Bureau of Reclamation (USBR) to obtain an allocation of water from the Colorado River, this allocation(s) can be used to satisfy some or all of the water conservation offsets on an acre-foot per acre-foot basis.”

it would be legally insufficient for the proponent to merely file an application with USBR as a request for an allocation would not guarantee that an allocation would be granted. Indeed, all of California's apportionment to use of Colorado River water during shortage, normal, and Intentionally Created Surplus conditions has already been allocated by the Department of the Interior.

34. On page 4.20-28, revise the first clause of the fourth full paragraph from:

“If the project does not result in diversion of Colorado River water (via pumping groundwater from below 234 feet amsl) it will not be necessary to implement the Colorado River Water Supply Plan;”

to:

“If the project does not result in use of groundwater which would be replaced by Colorado River water (via pumping from near (within  $\pm$  0.84 feet at the 95-percent confidence level), equal to, or below 234 feet amsl) it will not be necessary to implement the Colorado River Water Supply Plan;”

35. On page 4.20-30, revise the first clause of the fourth full paragraph from:

“Table 3.20-2 identifies that the safe yield of the CVGB is estimated to be 2,623;”

to:

“Table 3.20-2 identifies that the safe yield of the CVGB is estimated to be 2,623 acre-feet per year;”

36. On page 4.20-31, revise the fifth sentence of the fifth paragraph from:

“The estimated safe yield of the CVGB is to be 2,623;....”

to:

“The estimated safe yield of the CVGB is estimated to be 2,623 acre-feet per year;....”

37. On page 4.20-33, revise the fourth sentence of the third paragraph from:

“The estimated safe yield of the CVGB is to be 2,623;”

to:

“The estimated safe yield of the CVGB is estimated to be 2,623 acre-feet per year;....”

38. On page 4.20-37, revise the fifth sentence of the fifth paragraph from:

“Decommissioning of Alternative C involve the removal of gen-tie infrastructure, including all towers and transmission cables.”

to:

“Decommissioning of Alternative C involves the removal of gen-tie infrastructure, including all towers and transmission cables.”

39. On page 4.20-43, revise the value in the “Combined Western and Eastern Chuckwalla Valley Groundwater Basin” row in the column labeled “2013” from “2,948.85” to “1,948.85” to correct an addition error.

40. On page 4.20-44, revise the first sentence of note 3 from:

“The Colorado River Substation Expansion project would pump 300,000 gallons per day (gpd) over the first four to six months, or a total of 110.5 to 165.7 acre-feet, and 120,000 gpd over the following 18 months, or 198.9;....”

to:

“The Colorado River Substation Expansion project would pump 300,000 gallons per day (gpd) over the first four to six months, or a total of 110.5 to 165.7 acre-feet, and 120,000 gpd over the following 18 months, or 198.9 acre-feet;...”

41. On page 4.20-48, revise the second sentence of the second full paragraph from:

“This does not mean that such flooding potential does not exist, but rather that it has not been quantified or mapped.”

to:

“This does not mean that such flooding potential does not exist, but rather that it has not been quantified or mapped.”

42. On page 4.30-51, revise the third sentence of the third full paragraph from:

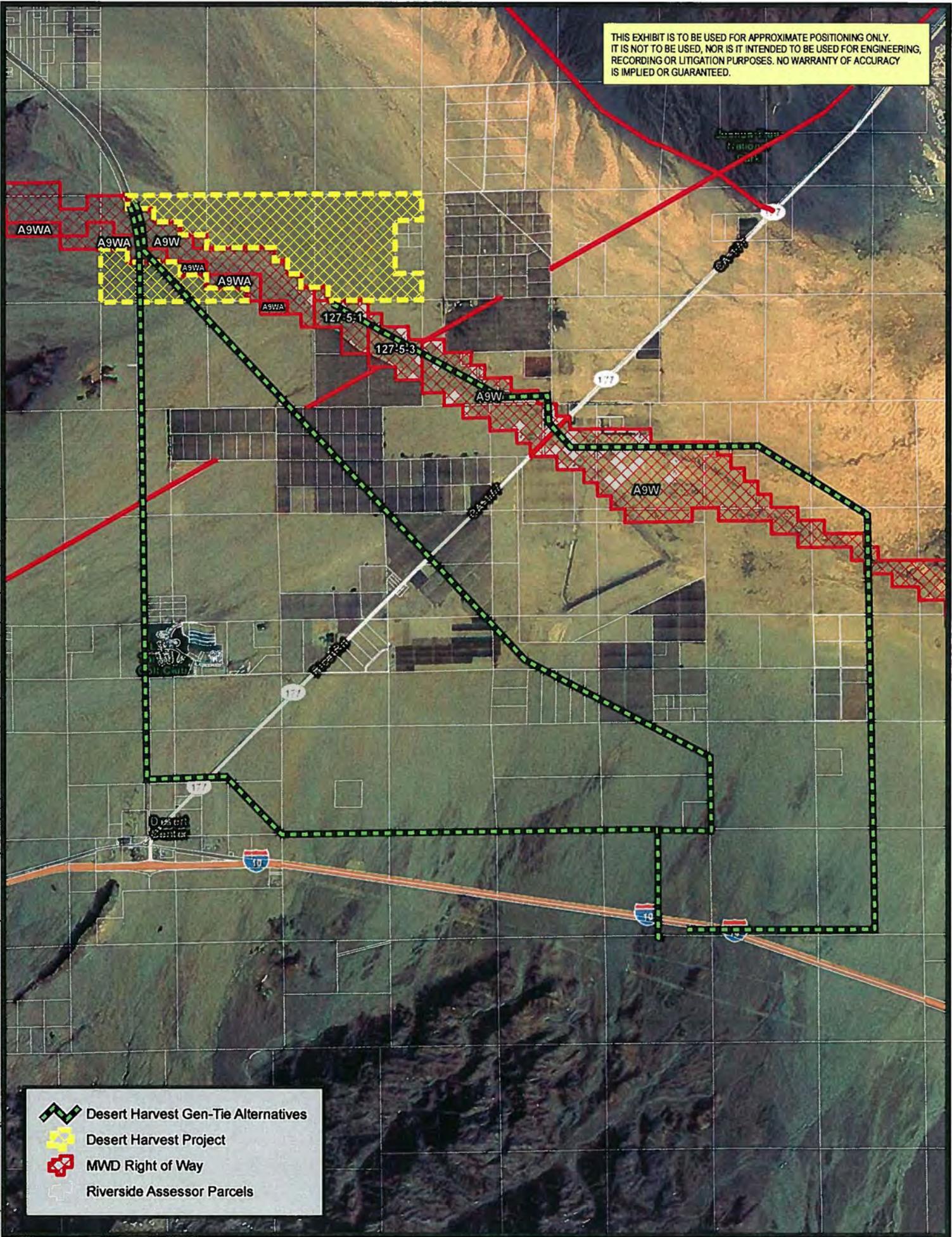
“Alternative B would require a water supply of 6.25 afy, is accounted for in the water availability projections included in the WSA provided as Appendix E. ”

to:

“Alternative B would require a water supply of 6.25 afy, and is accounted for in the water availability projections included in the WSA provided as Appendix E. ”

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.

J:\Projects\Renewable\_Energy\_Transmission\_Initiative\enXco\_DesertHarvest.mxd [Printed 7/12/2012] Photography Date: None Prepared by: Enrique Chen (Engineering Survey Team) Checked by: Lilia Martinez Job#: GIS12-07-20



-  Desert Harvest Gen-Tie Alternatives
-  Desert Harvest Project
-  MWD Right of Way
-  Riverside Assessor Parcels

**COLORADO RIVER BOARD OF CALIFORNIA**

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July 13, 2012

Ms. Lynnette Elser  
Desert Harvest Project Manager  
California Desert District Office  
U.S. Bureau of Land Management  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553

Regarding CACA-49491: Notice of Availability of the Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment for the Desert Harvest Solar Project (DHSP), Riverside County, California

Dear Ms. Elser:

The Colorado River Board of California (CRB) has received and reviewed a copy of the Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment (Draft EIS and Draft CDCA Plan Amendment) for the Desert Harvest Solar Project (DHSP), north of the unincorporated community of Desert Center in Riverside County, California.

The project applicant, enXco Development Corporation, proposes to construct and operate the Desert Harvest Solar Project (DHSP), a 150-megawatt solar photovoltaic facility located on 1,208 acres of BLM-managed lands, and an associated 220-kilovolt generation-intertie transmission line (within a 204-acre right-of-way on Bureau of Land Management (BLM)-managed land and 52 acres of non-BLM managed land), which would extend from the DHSP solar facility site to the planned Red Bluff Substation. The BLM authorization of a right-of-way grant for the project would require an amendment to the California Desert Conservation Area (CDCA) Plan, as amended, to find the site suitable for solar electricity generation and to allow a high-voltage transmission line outside of a federally designated utility corridor.

#### Specific Comments

Page 3.20-6 of the Draft EIS indicates that the total estimated water requirements during the construction activities at the DHSP site could range between approximately 400 and 500 acre-feet per year over 24 months. In addition, during the DHSP operations it is estimated that up to an additional approximately 25 to 40 acre-feet per year, would be required for non-potable uses. With an expected operation lifetime of 30 to 50 years, a total water use of up to about 2,200 to 3,000 acre-feet will be needed. The Draft EIS suggests that this water supply for the DHSP project will be pumped from two groundwater wells on-site and/or existing off-site wells.

The lands proposed for the DHSP project and identified in the Draft EIS overlie a portion of the "Accounting Surface" area designated by U.S. Geological Survey Scientific Investigations Report

Ms. Lynnette Elser

July 13, 2012

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2008-5113. That report indicates that the aquifer underlying such lands is considered to be hydraulically connected to the Colorado River and groundwater withdrawn from wells located on such lands would be replaced by Colorado River water, in part or in total. This means that if it is determined that these wells are, in fact, pumping groundwater which would be replaced by Colorado River water, the use of such water would need to be accounted for as a consumptive use of Colorado River water by the Secretary of the Interior.

According to the Consolidated Decree of the Supreme Court of the United States in the case of *Arizona v. California, et al.* entered March 27, 2006, (547 U.S. 150, 2006), the consumptive use of water means "diversion from the stream less such return flow thereto as is available for consumptive use in the United States or in satisfaction of the Mexican treaty obligation" and consumptive use "includes all consumptive uses of water of the mainstream, including water drawn from the mainstream by underground pumping." Also, pursuant to the 1928 Boulder Canyon Project Act (BCPA) and the Consolidated Decree, no water shall be delivered from storage or used by any water user without a valid contract between the Secretary of the Interior and the water user for such use, i.e., through a BCPA Section 5 contract.

Prior to the issuance of the Decree in *Arizona v. California, et al.*, BCPA Section 5 contracts had been entered into between users of Colorado River mainstream water in California and the Secretary of the Interior for the use of water in amounts that exceed California's apportionment under a normal condition as set forth in the Consolidated Decree. Thus, no additional Colorado River water is available for use by new project proponents near the Colorado River under shortage, normal, or Intentionally Created Surplus conditions, except through an agreement with an existing BCPA Section 5 contract holder, through an exchange of non-Colorado River water for Colorado River water.

As a result of discussions associated with the provision of water for use by other solar power projects, including the Blythe Solar Power Project and the Genesis Solar Energy Project, the CRB suggests that a mechanism exists for obtaining a legally authorized and reliable water supply for these projects. Currently, that option involves obtaining water through an existing BCPA Section 5 contract holder, The Metropolitan Water District of Southern California. Although other options may be available, it is the Board's assessment that these other options may not be implementable in a timely manner and address the requirement that Colorado River water consumptively used must be through a valid BCPA Section 5 contractual entitlement.

If you have any questions or require further information, please feel free to contact me, or Dr. Jay Chen of my staff, at (818) 500-1625.

Sincerely,



Christopher S. Harris  
Acting Executive Director



## AUGUSTINE BAND OF CAHUILLA INDIANS

P.O. Box 846 • Coachella, CA 92236 • (760) 398-4722 • Fax (760) 398-4252

Tribal Chairperson: MaryAnn Green

July 13, 2012

Lynnette Elser, Project Manager  
United States Department of the Interior  
BUREAU OF LAND MANAGEMENT  
California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553

RE: Comments to Draft Environmental Impact Statement/Draft California Desert Conservation Area Plan Amendment for the Desert Harvest Solar Project

Dear Ms. Elser:

The Augustine Band of Cahuilla Indians ("Augustine Tribe") has reviewed the Draft Environmental Impact Statement (Draft EIS) for the proposed Desert Harvest Solar Project (Project), which may include an amendment to the California Desert Conservation Area Plan. Here are our comments to the Draft EIS.

The Augustine Tribe supports increasing the development of renewable energy resources through appropriately sited large-scale projects that avoid environmental impacts to Native American cultural resources. While renewable energy projects offer many environmental benefits, appropriate siting and design of such facilities is of paramount importance. We recognize the Bureau of Land Management's (BLM) interest in addressing the federal management objectives as stated in *The Energy Policy Act of 2005*, *Executive Order 13212*, and *Secretarial Order 3285*. These objectives identify developing a certain number of megawatts of renewable energy on so many acres of public lands, within a certain designated time period. However, it should be noted, none of these cited authorities waived environmental protection in order to meet their respected renewable energy goals. It's critical that these objectives be attained in an environmentally responsible manner.

The Augustine Tribe is concerned that the Draft EIS was released prematurely. The full extent of the Native American cultural resources that may be impacted by the Project has not yet been thoroughly researched, evaluated and documented. There are also further studies that should have been conducted prior to the release of the Draft EIS. These studies would have more accurately and more thoroughly identified and evaluated the significance of the cultural resources that are in danger of being

impacted by the Project. Furthermore, the cumulative impact section of the Draft EIS is flawed and should be revised in order to make the analysis more meaningful and more useful.

### **Incomplete Research**

Throughout the Draft EIS references are made to how identification efforts have not yet been completed; how determinations as to findings and eligibility for listing in the National Register of Historic Places (National Register) are still pending; how tribal consultations are ongoing and may identify additional cultural resources or raise issues that cannot be resolved through mitigation measures. The Draft EIS acknowledges that at the time of its publication the full extent of the Project's impact on Native American cultural resources is still unknown. E.g. Draft EIS, pp. ES-3, ES-9, 4.6-2, 4.6-6, 4.6-10, 4.6-13, 4.6-15.

The Native American Heritage Commission (NAHC), the agency designated to protect California's Native American cultural resources, noted in their comments to the neighboring Desert Sunlight Project, that the area is considered a culturally sensitive area. NAHC advised BLM that in many cases the existence of Native American cultural resources can only be known through consultations with local tribes and Native Americans or tribal elders. Often this is the only way of learning of the significance of a cultural resource. Yet consultations with Native American tribes had not been completed prior to issuance of the Draft EIS.

The research, consultations and the process of identification of cultural resources should have been completed prior to the issuance of the Draft EIS. Only then could the Draft EIS provide a full and fair discussion of significant environmental impacts the Project poses to our cultural resources. Only then could the Draft EIS be a useful tool to inform decision makers and the public of the appropriate action that should be taken to protect these resources and come up with reasonable alternatives which would avoid or minimize the adverse impacts the Project exposes them to. This is the purpose of environmental impact statements, and BLM had an obligation to have completed this necessary environmental analyses. 40 C.F.R. Sec. 1502.1. Only then can an adequate consideration of the effects of the Project be ascertained.

### **Additional Studies Needed**

There are also additional studies, not addressed in the Draft EIS, that should have been conducted in order to more fully understand the significance of the Native American cultural resources that exist within the Project site, as well as in the region as a whole. These additional studies are necessary in order to accurately evaluate the significance of the cultural resources that will be impacted by the Project. These studies include: 1) an ethnographic study, and 2) a cultural landscape study. During meetings between tribes, BLM and renewable energy project developers, tribes repeatedly requested that these studies be conducted early on in the project. Too often determinations are made declaring a cultural artifact to be insignificant, and thus, ineligible for listing in the National Register. These

determinations are made blindly, devoid of any historical background or context upon which the artifact(s) should have been judged.

Had an ethnographic and cultural landscape study been conducted, different conclusions relating to the cultural resources found on the Project site may have very well been reached. During the above mentioned meetings tribes were able to get BLM to acknowledge publicly that the results from these studies could result in a finding that the same cultural artifact, once considered insignificant, should now be deemed significant and declared eligible for listing in the National Register. The conclusions reached concerning the significance of cultural artifacts have a drastic impact on the Project and how, or even whether, it should proceed. The results from the studies are also critical in developing proposed mitigation measures, measures that should also include avoidance. Absent these additional studies it's impossible to accurately analyze the significance of the cultural resources and the potential impact the Project will have on them.

In addition, the Draft EIS included a deferred study in the form of a mitigation measure. Mitigation measure "MM CUL-1" provides for the future preparation of a cultural resources Monitoring and Treatment Plan. Draft EIS, p. 4.6-7. Why was this study not completed prior to issuance of the Draft EIS? How can environmental impacts and reductions be adequately assessed without this plan in place prior to environmental review?

Furthermore, it should be recognized that the lack of surface evidence of archeological resources does not preclude their subsurface existence. Due to the fact that the Project site is considered a wash area, it's quite possible years and years of flooding could have washed away or buried cultural artifacts. In order to ascertain the potential impact of the Project on all the cultural resources that could be damaged or destroyed, it's necessary to conduct subsurface testing. Waiting to discover subsurface artifacts until after construction has begun can be too late. By the time a bucket or loader of a backhoe ploughs into the earth with 15,000 pounds of force, the damage to a cultural artifact is irreparable. A significant resource that had been preserved for thousands of years beneath the earth's surface, is now lost forever.

The main purpose of a Draft EIS is to try to avoid the destruction of such valuable resources. They should present an analysis of potential impacts and then identify measures to reduce or eliminate those impacts. To accomplish this a draft EIS must "to the fullest extent possible" integrate all necessary "surveys and studies." 40 C.F.R. Sec. 1502.25. Therefore, presenting the Draft EIS prematurely, before it is complete, and in the absence of important studies, is counter to the basic disclosure purposes. This makes it virtually impossible to completely identify the affected environment and whether adverse impacts can be reduced.

#### **Flawed Cumulative Impact Analysis**

In addition, several renewable energy projects have been approved and are being proposed for development within the Riverside East Solar Energy Zone. The proposed Project is one of these. The

Tribe is concerned that in light of this large influx of projects, and other non-energy projects already developed and in operation in the area, the direct and cumulative impact of these projects on the area's Native American cultural resources has not been sufficiently analyzed and evaluated.

The cumulative impact analysis of the Draft EIS is flawed. It is limited to estimating the number of cultural resources that have been destroyed by past projects and attempting to extrapolate from this estimation the potential number of cultural resources that may be destroyed by the current Project. The Draft EIS also estimated, based on past projects, the number of those cultural resources that will probably be deemed significant and eligible for listing in the National Register.

The focus of this analysis is wrong. It fails to consider the big picture in the cumulative impact analysis. By "big picture" we mean that each cultural resource should be viewed and analyzed as a piece of a larger puzzle, a puzzle that covers the entire region – not simply one particular project. Rather than taking the percentage of "eligible" cultural resources found on one project, and applying that same estimated percentage on this project and future projects, the cultural resources must be analyzed as a whole -- the entire region. While an artifact discovered in "Project A" may have been deemed insignificant when viewed in isolation, that same artifact when analyzed along with the artifacts found in "Project B," "Project C," and "Project D" could potentially take on a whole new meaning and suddenly become quite significant. This is the focus the cumulative analysis should have taken – not project-by-project.

It was this flawed analysis of the Draft EIS that led it to conclude that while development of the Project "may result in permanent adverse effects to cultural resources related to construction activities... these adverse effects would be expected to contribute only a small amount to the possible permanent cumulative impacts related to cultural resources because relatively few resources may be eligible for the CRHR or NRHP." Draft EIS, p. 4.6-26. This conclusion, and the whole analysis upon which it was based on, is flawed because it was based on a project-by-project analysis. The cumulative impact analysis must consider each cultural resource and how it relates to all the other cultural resources discovered throughout the entire region – not in isolation, not project-by-project.

Although the Draft EIS identifies a substantial number of existing and proposed land use activities that have and would add to the cumulative loss of significant cultural resources, it failed to look at the big picture. It failed to analyze each cultural resource and how it relates and fits in with the cultural resources found, and potentially could be found, on other projects of the region. We believe this level of analysis is necessary to determine whether or not, on a regional scale, the cultural resources are being impacted, and what is the cumulative significance of each of those resources.

The Draft EIS does not adequately examine the cumulative impact to cultural resources of the numerous proposed and approved development projects in the area, and how they relate to those found on the current Project. Therefore the capability of the Draft EIS analysis to clearly inform the public and decision maker of the potential for significant levels of impact associated with those projects is insufficient. What's needed is a comprehensive examination of regional planning to ascertain the true

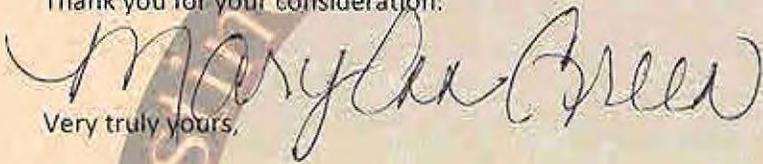
impacts of projects like the Desert Harvest Project on cultural resources. The Tribe requests that a more detailed examination of the cumulative impacts of all proposed and approved projects in this area be conducted consistent with the points made in these comments.

### Conclusion

Unlike other resources, cultural resources are non-renewable. Once they're destroyed they're gone forever. Let's not risk destroying any more of our precious cultural resources. Conduct the further studies, complete the research, analysis and documentation. Let's do it the right way!

Therefore, the Augustine Tribe respectfully requests that BLM revise and recirculate the Draft EIS consistent with the points made in these comments.

Thank you for your consideration.



Mary Ann Green

Very truly yours,

Augustine Band of Cahuilla Indians

Mary Ann Green  
Tribal Chairperson





13 July 2012

Lynnette Elser  
Desert Harvest Project Manager  
22835 Calle San Juan de los Lagos  
Moreno Valley, CA 92553

and

Frank McMenimen  
Desert Harvest Project Manager  
1201 Bird Center Drive  
Palm Springs, CA 92262

Dear Ms. Elser and Mr. McMenimen,

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) prepared by the Bureau of Land Management (BLM) for the Desert Harvest Solar Project, dated April 2012. As the applicant for the project, we applaud the effort that BLM has taken to work with enXco, the local community, stakeholders, and cooperating federal, state, and local agencies, and that BLM allowed all interested parties an opportunity to provide input on the proposed action. enXco appreciates the work that went into the review and analysis of the project pursuant to the National Environmental Policy Action and applicable federal, state, and local laws and regulations.

To assist the BLM in the preparation of the Final EIS for the project, we have prepared and provided the enclosed written comments on the DEIS. We organized our comments by chapter and by page number. Our comments span much of the DEIS, with our primary comments focusing on enXco's preferred alternative; rare plants, specifically Emory's crucifixion thorn; cultural resources; and water resources.

Please let us know if you have any questions regarding the enclosed comments. We look forward to continuing to work with the BLM in completing the NEPA process and related project review, and with the local community and other federal, state, and local agencies.

Sincerely,

*Ian Black*

Ian Black

Solar Development

Enclosure

## **Executive Summary**

**Pages ES-7 through ES-8.** In some instances, Table ES-1, CEQA Significant Impacts and Mitigation does not correspond with the conclusions of Chapter 4 of the EIS. enXco recommends the following revisions to conform Table ES-1 to the conclusions of Chapter 4 of the EIS:

Impact Criterion AR-2 does not pertain solely to emissions that would have residual impacts but rather directs the analysis to consider whether project emissions contribute to an existing or projected air quality violation. As such, the CEQA Significance Determination concludes that the proposed project would have temporary significant and unavoidable NO<sub>x</sub> and PM<sub>10</sub> impacts during construction [DEIS at pg. 4.2-26]. VOC and CO should be deleted from Tables ES-1 and 4.24-2.

Table ES-1, Significance Criterion VEG-1 understates the mitigation value of off-site compensation by failing to note that it offsets a net loss of habitat by permanently preserving otherwise unprotected habitat. Please refer to enXco's comment on page 4.3-36, below.

Table ES-1, Significant Criterion WIL-2 does not correspond with the cumulative analysis in Section 4.4.16 which concludes that because the DHSP project site is modeled as low habitat value and has low density of tortoises and their sign, "... the contribution of the proposed project or its alternatives would be relatively minor." [DEIS at 4.4.62]. Please see our corresponding comment regarding page 4.4-65, below.

Table ES-1, CR-1 and CR-2. enXco has submitted extensive comments on the Cultural Resources section of the EIS and requests revision of this table to reflect the NRHP status of each resource and include only those that are NRHP-eligible or unevaluated in the analysis of Project effects. The total of newly discovered resources has increased from 21 to 25, but 16 of those are isolated artifacts, not considered eligible for the NRHP. Additionally, this section refers to MM CUL-1 through MM CUL-9 and discusses an MOA and HPTP. MM CUL-8 and CUL-9 were not introduced in Section 4.6.16 and we presume that they have been eliminated. More important, none of the other Mitigation Measures discusses an MOA or HPTP, but perhaps should. MM CUL-2 (page 4.6-7) describes a Monitoring and Treatment Plan. Typically if a project is determined under Section 106 to have an adverse effect on historic properties, the resolution of adverse effects is memorialized in an MOA document and treatments are detailed in an HPTP. If the BLM anticipates a Finding of Adverse Effect for the project, reference to the agreement and treatment documents should be made within MM CUL-2.

Table ES-1, Significance Criterion NZ-4 threshold of significance is specific to "long-term impacts on noise sensitive land uses by increasing long-term ambient CNEL levels by 10dBA or more". As a physical matter, this standard should not trigger a significant and unmitigable impact north of Lake Tamarisk Road because there are no sensitive receptors located north of

Lake Tamarisk Road where the short-term impact (two years during construction) would occur. The description of the threshold should note that this is a conservative conclusion based on the 10 dBA standard rather than on actual sensitive receptors.

Table ES-1, Significance Criterion V-5 for Visual Resources should be stricken from Table ES-1 and Table 4.24-2. As noted in the Draft EIS [DEIS at page 4.19-44], “The low-to-high degrees of visual change that would be caused by Alternative 4 would be allowed under the applicable Interim VRM Class IV management objective. ... Therefore, the resulting visual impact would be less than significant under this criterion.”

Because of the inconsistencies, Table ES-1 and Table 4.24-2 should be revised as follows [DEIS at page ES-6]:

**Table ES-1. CEQA Significant Impacts and Mitigation**

<b>Impact Area</b>	<b>Sig. Criterion</b>	<b>Significant Unavoidable Impact</b>	<b>Description</b>
Air Resources	AR-2	Construction emissions	Construction of the project would generate emissions of particulate matter (PM2.5 and PM10), VOC, CO, and NOx. Mitigation Measures AIR-1 through AIR-4 would limit these emissions to the extent possible, but residual impacts from PM10, VOC, CO, and NOx <del>would persist after mitigation</del> could cause localized exceedances or contribute to existing exceedances of State and federal air quality standards. Significant, unavoidable impacts would be temporary; these impacts would be limited to the duration of construction activities.
Biology – Vegetation	VEG-1	Cumulative impacts to sensitive natural communities	Even with implementation of Mitigation Measures VEG-1 through VEG-10, the project would represent a considerable contribution to the cumulatively significant regional impacts to sensitive natural communities. <u>Although acquisition does not address the net loss of habitat in the immediate future (a temporal net loss of habitat), it is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural, or energy development.</u>
Biology – Vegetation	VEG-2	Cumulative impacts to jurisdictional streambeds	Even with implementation of Mitigation Measures VEG-1 through VEG-10, the project would represent a considerable contribution to the cumulatively significant regional impacts to state-jurisdictional streambeds.
Biology - Wildlife	WIL-1	Cumulative impacts to special-status species	Even with implementation of mitigation, the residual impacts of the project would represent <u>an individually-minor but cumulatively</u> considerable contribution to reduced wildlife movement and connectivity in the upper Chuckwalla Valley.

**Table ES-1. CEQA Significant Impacts and Mitigation**

<b>Impact Area</b>	<b>Sig. Criterion</b>	<b>Significant Unavoidable Impact</b>	<b>Description</b>
Biology - Wildlife	WIL-2	Cumulative impacts to wildlife movement	Even with implementation of mitigation, the residual impacts of the project would represent an <u>individually minor but cumulatively</u> considerable contribution to reduced wildlife movement and connectivity in the upper Chuckwalla Valley.
Cultural Resources	CR-1 and CR-2	Adverse change to historic and archaeological resources	The project would result in direct and indirect impacts during construction, operation, and decommissioning to cultural resources, including adverse change to the significance of historic and archaeological resources. Mitigation Measures MM CUL-1 through MM CUL-9 would reduce impacts by developing and implementing a Memorandum of Agreement and Historic Properties Treatment Plan, requiring monitoring and training for all construction personnel, and treating/curating inadvertent discoveries. However, some impacts, particularly to the setting of the North Chuckwalla Petroglyph District (CA-RIV-1383, NRHP-listed), may be significant and unavoidable under CEQA.
Noise and Vibration	NZ-4	Increase in noise levels along Kaiser Road	The project would result in a substantial increase in traffic noise levels during construction and decommissioning along Kaiser Road north of Lake Tamarisk Road. <u>This impact would result from an increase in more than 10 dBA rather than impacts to sensitive receptors as there are no sensitive receptors along Kaiser Road north of Lake Tamarisk Road.</u> Mitigation Measure NOI-1 would limit construction activities to daylight hours; however, there would still be a significant unavoidable impact from project construction.
Visual Resources	V-1	Scenic vistas	Project would be prominently visible from elevated vantage points in the area, and the introduction of industrial character and structural visual contrast would result in significant unavoidable impacts to these scenic vistas.
Visual Resources	V-3	Degrade visual character of the landscape	Project would introduce a prominent built facility with considerable industrial character into an existing landscape presently absent such features, causing a substantial degradation of the existing visual character or quality of the site and its surrounding landscape when viewed from the elevated viewpoints in the wilderness areas.
Visual Resources	V-5	Long-term inconsistency with established BLM VRM class objectives	<del>The moderate to high degree of visual change that would be caused by the project (as viewed from I-10) would result in a long-term (greater than five years) inconsistency with the applicable Interim VRM Class III.</del>
Visual Resources	V-6	Inconsistency with local policies	The moderate to high degree of visual change that would be caused by the proposed solar farm would not be consistent with the following Riverside County General Plan policies: LU 4.1, LU 13.1, LU 13.3, LU 13.5, LU 13.8, LU 20.1, LU 20.2, LU 20.4, DCAP 2.3, DCAP 9.1, and DCAP 10.1.

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**Table ES-1. CEQA Significant Impacts and Mitigation**

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<b>Impact Area</b>	<b>Sig. Criterion</b>	<b>Significant Unavoidable Impact</b>	<b>Description</b>
Visual Resources	V-7	Cumulative visual alteration	The presence of the project would substantially contribute to cumulative visual alteration. There are no mitigation measures available to reduce this impact.

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**Page ES-9.** enXco suggests the following edit to match our comments on Pages 4.20-20 through 4.20-23, below:

"Finally, the Lead Agencies must decide whether to adopt a mitigation measure for groundwater resources that would protect the Chuckwalla Valley Groundwater Basin from overdraft conditions attributed to the DHSP. Such a measure ~~would~~could also contribute to unavoidable adverse air quality effects and adverse effects on noise and traffic."

### **Chapter 1 – Introduction and Purpose and Need**

**Page 1-4.** We recommend the following correction regarding Secretarial Order 3285A1:

"Secretarial Order 3285A1, dated ~~February 22, 2010~~March 11, 2009, and amended on February 22, 2010, ~~which~~ establishes the development of renewable energy as a priority for the Department of the Interior."

**Page 1-5.** Please correct the applicant objectives list as follows in order to render it consistent with the version submitted to BLM by enXco on 13 February 2012: "To maximize operational efficiency and provide low-cost renewable energy by locating the project on ~~contiguous~~ lands with high solar insolation values."

### **Chapter 2 – Description of the Proposed Action and Alternatives**

**Page 2-6.** Chapter 2 of the DEIS describes the proposed project as using "either high-profile or low-profile trackers". [DEIS at 2-6]. enXco does not propose to use low-profile trackers. Instead, enXco proposes to develop both the northern and southern parcels of the proposed project with high-profile trackers as submitted by enXco since 5 October 2011. This arrangement is the same as Alternative 7 of the DEIS, which assumes high-profile (15-foot) trackers, but includes high-profile trackers on the southern parcel as well, consistent with the footprint of proposed project Alternative 4 of the DEIS. enXco's preferred alternative would produce more renewable energy in the acreage requested than any of the alternatives considered in the DEIS. Using the more efficient high-profile tracking system would allow the project to produce greater megawatt hours than using a low-profile tracking system. As such, enXco's preferred is more efficient and produces more electricity than any of the alternatives considered

in the DEIS and therefore best helps BLM meet its national energy policy goals, as set forth in the Energy Policy Act of 2005.

This change in height of single-axis trackers is a minor variation of Alternative 4 that is within the spectrum of alternatives considered by the DEIS, namely, the high-profile Alternative 7. (*See*, BLM NEPA Handbook [H-1790-1] pgs. 29-30). It does not result in environmental effects significantly different from those analyzed in the DEIS. (*See*, 43 C.F.R. 46.120). enXco's preferred alternative therefore does not require supplementation of the DEIS. To substantiate this conclusion, enXco considered the NEPA Adequacy Criteria of Appendix 8 of the BLM NEPA Handbook, as follows:

*1. Is the new proposed action a feature of, or essentially similar to, an alternative analyzed in the existing NEPA document(s)? Is the project within the same analysis area, or if the project location is different, are the geographic and resource conditions sufficiently similar to those analyzed in the existing NEPA document(s)? If there are differences, can you explain why they are not substantial?*

Yes. enXco's preferred alternative is essentially similar to alternatives analyzed in the DEIS. The Draft EIS notes that the proposed project would use either high-profile or low-profile trackers [DEIS at 2-6]. enXco's preferred alternative would use the same project footprint as Alternative 4 with a high-profile tracking system. Alternative 7 describes and analyzes the impacts of high-profile trackers in detail.

The alternative would be in the same analysis area as the proposed action. It would use the project boundary identified for Alternative 4 and would impact the same geographic and resource conditions as those described in and Chapter 3 of the DEIS. Additionally, Alternative 4 assumed the solar field would cover 1,208 acres in extent and 100 percent of the solar field would be impacted by some form of soil disturbance, either from compaction, micro-grading, or disc-and-roll grading [DEIS at 2-6]. As such, enXco's preferred alternative would not result in additional ground disturbance outside of that already analyzed in the DEIS.

The only noteworthy difference is the installation of 15-foot panels on the southern parcel of the proposed project. This difference is not substantial. The DEIS analyzed the effects of a 15-foot tracking system under Alternative 7 and analyzed the relative difference in the visual impacts of a low- versus high-profile tracking system by analyzing both Alternative 6 and Alternative 7. In addition, the DEIS shows (in Figures 3.19-1a, Project Viewshed: Low Profile Tracking Panels, and 3.19-1c, Project Viewshed: High Profile Tracking Panels) that there is no noticeable difference between the viewshed impacts of the low-profile tracking panels and the high-profile tracking panels when assumed for both parcels of Alternative 4. The difference between high- and low-profile tracking panels is also barely discernible (if at all) from all but one relevant Key Observation Point of the DEIS (i.e., KOPs 1, 2, 4 and 8). While the higher panels would result in a larger impact to viewers along Kaiser Road (KOP 3), this impact was already considered under

Alternative 7 within the existing analysis [DEIS at 4.19-24]. Mitigation was provided in the analysis to reduce the visual effects to the extent feasible. The DEIS concluded that visual impacts of all action alternatives were unavoidable and adverse. This conclusion would remain valid with enXco's preferred alternative.

*2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the new proposed action, given current environmental concerns, interests, and resource values?*

Yes. enXco's preferred alternative is within the range of alternatives evaluated in the DEIS. The DEIS identifies the use of high-profile trackers for the proposed project [DEIS at 2-6] and enXco's preferred alternative would combine the footprint of Alternative 4 with the high-profile tracking system of Alternative 7. The environmental concerns, interests and resource values evaluated in the DEIS have not changed nor will any adverse impacts result from the use of the high-profile trackers that were not already disclosed in the DEIS.

*3. Is the existing analysis valid in light of any new information or circumstances? Can you reasonably conclude that new information and new circumstances would not substantially change the analysis of the new preferred alternative?*

Yes. No new information or circumstances have developed that would substantially change the analysis of the project since publication of the DEIS in April 2012.

*4. Are the direct, indirect, and cumulative effects that would result from implementation of the new agency preferred alternative similar (both quantitatively and qualitatively) to those analyzed in the existing NEPA document?*

Yes. Because enXco's preferred alternative would remain within the footprint of Alternative 4, no new resources would be affected. Chapter 4 of the DEIS analyzed 100 percent disturbance of the ground due to the project so the direct, indirect, and cumulative effects that would result from the implementation of the new alternative would not change. As noted above, visual effects of the high-profile tracking system would be greater than for the low-profile panels from Kaiser Road and were considered in Alternative 7. The DEIS concluded that visual impacts of all alternative actions were unavoidable and adverse. This conclusion would remain valid with enXco's preferred alternative.

*5. Are the public involvement and interagency review associated with existing NEPA document(s) adequate for the current proposed action?*

Yes. The public has had numerous opportunities to review and provide written and public comments on the proposed action and alternatives to the proposed action and the public's comments on DEIS Alternatives 4, 6 and 7 will meaningfully inform the BLM of the public's attitudes towards a high-profile version of Alternative 4. When the Notice of Availability of the

FEIS is published in the Federal Register, a 30-day public availability period for the FEIS begins. During this time period, the BLM may receive comments on the FEIS, including enXco's preferred alternative. If the BLM receives any comments on the FEIS, those comments may be addressed in or prior to the Record of Decision (ROD).

**Page 2-11.** Due to continued engineering of the project, enXco is providing additional information regarding the construction schedule and phasing of the project. The phasing revision does not alter the construction vehicles and equipment estimates of Tables 2-2 and 2-3. For ease of review, we have provided this information as direct edits to Chapter 2, as follows:

### **2.5.5 Construction Activities**

#### **Construction Schedule and Phasing**

Construction is anticipated to commence during the ~~3<sup>rd</sup>~~2<sup>nd</sup> quarter of ~~2012~~2013, and continue through the ~~4<sup>th</sup>~~3<sup>rd</sup> quarter of ~~2014~~2015, in ~~two~~three phases. Commercial operation would also be phased and the first phase of operation would commence during the ~~3<sup>rd</sup>~~2<sup>nd</sup> quarter of ~~2013~~2014, with commercial operation of the final phase commencing during the ~~4<sup>th</sup>~~3<sup>rd</sup> quarter of ~~2014~~2015. The construction schedule would be as follows:

- Phase 1 Construction (10 acres): ~~Sept 2012 to November April 2013~~ (15 to July 2013 (3 months))
- Phase 2 Construction (1,043 acres): ~~November~~September 2013 to August 2014November 2014 (14 months)
- ~~Substation construction: late~~Phase 3 Construction (155 acres): November 20122014 to late February 2013 (3-May 2015 (6 months))

Construction of Phase 1 would include pre-construction surveys, exclusion fencing around a 10-acre area in the northwest corner of the DHSP site, desert tortoise exclusion (if tortoise are present), clearing and construction of a laydown yard, parking area, and pad mounts for transformers.

Construction of Phase 2 would include site fencing, installation of temporary power, site grading and preparation over an ~~800a~~ 1,043-acre area, construction of the O&M building (if necessary) and on-site roads, construction of the on-site wells, construction of the project substation and switchyard, and assembly and installation of panel blocks and wiring for ~~90~~137 MW of solar power.

Construction of Phase ~~2~~3 would include site grading and preparation over an ~~400a~~ 155-acre area, assembly and installation of panel blocks and wiring for ~~60~~13 MW of solar power. Panel blocks and would not be installed within the FERC exclusion area crossing the southern parcel.

Construction would generally occur between 7 a.m. and 7 p.m., two (2) hours before sunrise and two (2) hours after sunset, Monday through Friday. Additional hours may be necessary to

correct Desert Harvest Solar schedule deficiencies or to complete critical construction activities. For instance, during hot weather, it may be necessary to start work earlier to avoid pouring concrete during high ambient temperatures. ~~To protect workers' health and safety (to avoid heat-related health hazards) 7 a.m. to 3 p.m. would be used as an alternative construction schedule on a case-by-case basis, based on weather restrictions.~~ During the startup phase of the project, some activities may be performed over the weekend.

**Page 2-12.** Please incorporate the following edits to the first paragraph of the "Site Access and Circulation" section of the page:

“Access to the northern portion of the project site would be from the existing Kaiser Mine Road along the western boundary of the project area. This road is off of Rice Road, which has an on-ramp/off-ramp to Interstate 10 at Desert Center. A lane for truck turn-off ~~would likely~~ will be required on Kaiser Mine road, and new roads would be required within the project area. Components would be delivered by this road, on a schedule to be determined by the EPC contractor. Access to the southern portion of the project site would be from Kaiser Mine Road as well. Please see Figure 2-3 in Appendix A for more details on the access roads.”

**Page 2-12.** Please incorporate the following edits to the first paragraph of the "Construction Workforce" section of the page:

“The on-site workforce would consist of laborers, craftsmen, supervisory personnel, supply personnel, and construction management personnel. The maximum number of on-site personnel is 250 individuals at any one time. An average workforce of 100 is anticipated. The construction workforce would largely be recruited from within Riverside County & San Bernardino Counties from enXco-hosted job fairs.”

**Page 2-14.** Please incorporate the following edits to the second paragraph of the "Site Preparation, Surveying, and Staking" section of the page:

“Security fencing will be put in place in sequence with project phasing, ~~as described in Section 2.5.4,~~ would be erected around the entire perimeter of the project area, with an access gate in the southwest corner, prior to beginning construction.”

**Page 2-14.** Please incorporate the following edits to the first and second bullet points of the "Vegetation Removal and Treatment" section of the page:

- Soil disturbance in support of construction would increase the possibility of introduction of invasive species. Regular monitoring and weed management would be required during construction. Ongoing maintenance in the solar field may include treatment of noxious weeds by targeted spraying with Roundup<sup>®</sup> ~~(a common formulation~~ formulations of the BLM accepted herbicide glyphosate).
- Where temporary access is needed to install facilities, such as along the perimeter fencing, no removal of existing vegetation or grading would occur. Instead, equipment would drive over or around existing desert scrub vegetation without direct removal. Crushed vegetation is much more likely to show a rapid recovery than where vegetation is removed and reseeded, or where soils are disturbed. The Applicant is not expecting that final plans would require any disturbance outside the final perimeter fencing and internal engineered berms.

**Page 2-14.** Please incorporate the following edits to the second paragraph of the "Solar Array Assembly and Construction" section of the page:

“The laydown area is shown Figure 2-3 in Appendix A, as Phase 1. In general, material delivery for the solar field would maintain a constant flow, and panels and framing structures would be delivered throughout the solar field adjacent to the 1.44 MW subunit locations. These areas would be subsumed by the solar field as it is built out. Construction would proceed in an assembly-line fashion as each task is completed throughout the solar field.”

**Page 2-25.** Section 2.8 asserts that Alternative 7 would have a nominal capacity of 150 MW. This is incorrect. Please revise according to enXco's comment on page 2-65, below, that the capacity will be 125 – 135MW.

**Page 2-32.** For clarification, enXco recommends a more detailed explanation in the first paragraph of Section 2.11.1 that the 60-foot extension of the Alternative C ROW into the adjacent Chuckwalla DWMA is required solely to accommodate intermittent "wind sway" of overhanging conductors over the DWMA boundary.

**Page 2-38.** Table 2-11 compares the solar facility action alternatives by environmental discipline. The table compares the alternatives' relative effects on Emory's crucifixion thorn, among other categories. However, the proposed project's site plan avoids almost all effects to Emory's crucifixion thorn by virtue of most of the plants being located within a setback from the SCE 161kV line transecting the southern parcel. As explained in our extensive comment on page 4.3-30, below, enXco could avoid the remaining plants through minor adjustments to the proposed project's site plan with a setback of 100 feet. We therefore recommend revising Table 2-11 and Section 4.3 of the DEIS to indicate that the proposed project design will for the most part avoid all identified Emory's crucifixion thorn, with implementation of Mitigation Measure MM VEG-7 requiring mitigation for any project impacts to Emory's crucifixion thorn that could not be avoided.

**Page 2-64.** Table 2-13 compares the relative severity of the effects of certain combined solar field and gen-tie alternatives by environmental discipline based on the conclusions from Tables

2-11 and 2-12. The values shown in Table 2-13 for visual effects do not reflect the conclusions drawn in Tables 2-11 and 2-12 and consequently overstate the visual impacts of Alternative 7. enXco recommends the following revisions to conform Table 2-13 to Tables 2-11 and 2-12. Please note that enXco did not revise the shading of the DEIS, but conforming edits in the FEIS will need to.

Environmental Discipline	7-B 7-C 7-D 7-E															
	4-B	4-C	4-D	4-E	5-B	5-C	5-D	5-E	6-B	6-C	6-D	6-E				
Visual Resources	2	3	4	4	2	3	4	4	1	2	2	2	<del>3</del>	<del>5</del>	<del>5</del>	<del>5</del>

The edits above are consistent with the visual resources analysis of the DEIS, which concludes that the unavoidable visual effects of Alternative 6 are only slightly less than those of Alternative 7 for 7 of the 8 KOPs analyzed, with views from Kaiser Road being the only exception where the higher-profile Alternative 7 would be more noticeable.

**Page 2-65.** Section 2.15 states that Alternative 7 is the agency preferred alternative because it would accommodate sufficient panels to generate 150 MW of renewable energy on fewer acres than the propose project. This statement is incorrect and did not come from the applicant; as noted in Comment Page 2-25 above, Alternative 7 would accommodate sufficient panels to hold 125 - 135 MWs. As noted in the applicant’s submission to BLM dated 7 May 2012, in addition to a difference in capacity between alternatives, there is a significant difference in the efficiency of the racking used in each alternative. A fifteen-foot racking system has a higher efficiency rating and produces more energy per acre than a six-foot racking system. Please see the applicant’s analysis of the relevant efficiencies of BLM’s chosen alternatives, as follows:

	Alternative 4	Alternative 5	Alternative 6	Alternative 7
	150MW, 6’ racking	145MW, 6’ racking	125-135MW, 6’ racking	125-135MW, 15’ racking
Power Efficiency	16-18%	16-18%	16-18%	22-26%
Maximum Annual MWh	236,000	228,000	212,000	307,000

Please note that the financial viability of this project will depend on enXco’s ability to use the most efficient racking (15-feet) and produce the maximum capacity of the site (150 MW). If Alternative 4 included enXco’s proposed 15 foot racking, the maximum annual MWh would be

341,000 MWh per year, greater than any other alternative considered in the DEIS, but using the same footprint as Alternative 4. Installing 15-foot racking on both the northern and southern parcels of the proposed project is therefore the best alternative to help BLM meet its national energy policy goals, as set forth in the Energy Policy Act of 2005.

**Page 2-68.** Please add the following to the end of the last paragraph of the "Private Land within Chuckwalla Valley" section of the page: "Finally, a private lands alternative would have substantially similar effects to a public lands project."

**Page 2-70.** Please add the following to the end of the second paragraph of the "Alternative BLM-Administered Land" section of the page: "In addition, the use of alternative BLM-administered land would have substantially similar effects, or possibly greater effects due to the decreased potential for shared ancillary facilities."

**Page 2-72.** enXco is a highly experienced wind developer and has determined that the project site is unsuitable for utility-scale wind development. Please revise the second paragraph of Section 2.17.5, as follows:

"The use of wind energy at the project locations ~~may be feasible~~ at the scale of the project ~~but it~~ would not eliminate significant impacts caused by the project; specifically, there would still be impacts on biological and cultural resources, and visual effects would be greater than with the proposed project. In addition, as shown in BLMs 2005 Programmatic EIS on Wind Energy Development, wind assessments in the area generally show less than commercially-viable wind speeds in the Chuckwalla Basin and wind energy at the project site would likely be economically infeasible."

**Page 2-75.** enXco recommends clarifying the third sentence of the "Environmental Impacts" paragraph on page 2-75 as follows: "~~Of the 30 miles of~~Among the gen-tie line Alternatives illustrated in Figure 2-1 in Appendix A, about 6 miles would parallel a paved roadway (Kaiser Road).

### **Section 3.3 Biological Resources – Vegetation**

**Page 3.3-8,** Section 3.3.3, last sentences of first paragraph under Vegetation, Habitat, and Jurisdictional Streambeds

"Vegetation mapping of gen-tie alignment Alternative E was completed by Aspen biologists in October 2011, ~~and the but the jurisdictional delineation of gen-tie alignment Alternative E has not yet been completed at the time of publication of this Draft EIS. J~~ jurisdictional delineation for Alternative E was ~~is scheduled to be completed~~ in spring of 2012."

**Page 3.3-9,** Section 3.3.3, first two paragraphs under Special-status Plant Species

“Field surveys for special-status plants have been conducted during spring and fall throughout the proposed solar facility site, and ~~during fall~~ along gen-tie Alternative E. Botanical surveys on the other gen-tie alternative alignments were conducted for the DSSF project EIS (BLM 2011b), and this document incorporates by reference those survey results as described above. ~~Follow-up botanical surveys of gen-tie Alternative E will be completed during spring 2012.~~”

Surveys were conducted throughout the larger, northeastern parcel by AMEC during spring 2010; throughout both parcels by Aspen Environmental Group (Aspen) during fall 2010; throughout the smaller southwestern parcel by Aspen during spring 2011; and along the eastern gen-tie line alignment (Alternative E) by Aspen during fall 2011 and spring 2012. In addition, incidental observations of flora, including special-status species, were recorded during all field work for the vegetation, habitat, and jurisdictional wetlands, described above. The following descriptions of methods and results of botanical surveys are summarized from AMEC’s botanical report, with additional information from Aspen’s field work. Details of these surveys are included in the Biological Resources Technical Report (BRTR) and BRTR Supplement for Generator Tie-line Alignment Alternative E, both located in Appendix C.”

**Page 3.3-12**, Section 3.3.3, Special-status Plant Species, first (partial) paragraph of page

“Additional late summer field surveys of gen-tie alignment Alternative E were completed in 2011 and spring surveys were ~~will be~~ completed during spring 2012, ~~and these surveys will be included in the Final EIS.~~ Details of these surveys are located in Appendix C.”

**Page 3.3-14**, Section 3.3.5, Vegetation Communities, first paragraph under Creosote Bush Scrub (Sonoran Desert Scrub) on Partially Stabilized Sand Fields

“This area is located at the western margin of a much larger dune system ~~associated with Pinto Wash,~~ at the base of the Coxcomb Mountains.”

**Page 3.3-15**, Section 3.3.5, Vegetation Communities, first paragraph under Active Sand Dunes

“These dunes are at the western margin of the larger ~~Pinto Wash / Coxcomb Mountains~~ dune system described above.”

**Beginning on page 3.3-16**, Section 3.3.7, Special-status Plant Species, Table 3.3-2,

Please update special-status plant occurrences on gen-tie alignment alternative E according to the BRTR Supplement. Please add *Cryptantha costata* to the table.

**Page 3.3-21**, Section 3.3.7, Special-status Plant Species, first (partial) paragraph of page (Coachella Valley milk-vetch)

“Specimens resembling Coachella Valley milk-vetch have been collected from the Pinto Wash and Palen dune system, northeast of Desert Center. However, the USFWS (2009; 2011) regards these as the related species, speckled milk-vetch (*A. lentiginosus* var. *variabilis*), which has no

special conservation status. The only portion of the proposed project or alternatives that would affect suitable habitat for Coachella Valley milk-vetch would be gen-tie Alternative E, which would cross some areas of dunes and partially stabilized aeolian sand habitat. Speckled milk-vetch occurs on the Alternative E alignment (Appendix C. [BRTR Supplement]). However, because the project study area is well outside the recognized geographic range, ~~this species~~ Coachella Valley milk-vetch is not expected to occur in the project area.”

**Page 3.3-21**, Section 3.3.7, Special-status Plant Species, middle of page (Chaparral sand-verbena)

There is some possibility that habitat adjacent to the solar facility site may support chaparral sand-verbena, especially along the access road margins near Highway 95. On gen-tie alignment Alternative E, there is a high probability that chaparral sand verbena could be found in sandy areas, particularly dunes and partially stabilized aeolian sand, along the alignment. It also could occur, with lower probability, along road or wash margins on the alignment.

**Page 3.3-21**, Section 3.3.7, Special-status Plant Species, lower part of page (Harwood’s woolly-star)

~~Gen-tie Alternative E would pass through suitable habitat for Harwood’s woolly-star, which consists of areas of dunes and partially stabilized aeolian sand habitat. Spring botanical surveys will be conducted along gen-tie Alternative E in 2012 to determine presence or absence of this species. Harwood’s woolly-star was documented at multiple locations along portions of gen-tie alignment Alternative E crossing dunes and partially stabilized sand (see Figure 4 of Appendix C. [BRTR Supplement]). Because it is an annual plant, Harwood’s woolly-star plants could be found in future years in other locations within the dunes or partially stabilized sand portions of the alignment.~~

**Page 3.3-22**, Section 3.3.7, Special-status Plant Species, first (partial) paragraph of page (Mesquite nest-straw)

The only potential habitat in the project study area is along gen-tie alignment Alternative E, on valley floor drainages. Mesquite neststraw was not located during field surveys of gen-tie alignment alternative E and is not expected to occur in the project study area due to its apparent extirpation in California.

**Page 3.3-23**, Section 3.3.7, Special-status Plant Species, new paragraph following Desert unicorn-plant

Ribbed cryptantha (*Cryptantha costata*): Ribbed cryptantha is an annual species found on windblown and stabilized sands, in the eastern Mojave and Sonoran Deserts in California, eastward into Arizona and south into Baja California. It flowers in spring. It is ranked as CRPR 4.3 (limited distribution, “watch list”). It is not managed by BLM as a sensitive species (BLM 2010a). It occurs throughout the dune habitat along gen-tie alignment alternative E (see Figure 4

of Appendix C. [BRTR Supplement]). In addition to these dunes, small patches of marginal habitat are present throughout the project study area on roadsides, washes, and other sandy areas. However, it has not been located on the proposed solar facility site or on gen-tie alignment Alternatives B, C, or D. Because it is an annual plant, ribbed crypantha plants could be found in future years in other locations within the dunes or partially stabilized sand portions of the alignment.

**Page 3.3-24**, Section 3.3.9, Jurisdictional Resources, second paragraph under heading

The episodic system in the upper Chuckwalla Valley is within the closed Palen Dry Lake drainage basin. Due to the absence of a surface water connection to a traditional navigable waterway, or other jurisdictional criteria, stream channels in the area do not appear to fall within jurisdiction of the USACE as defined by Section 404 of the federal Clean Water Act. Consistent with this interpretation, the USACE determined that it does not hold jurisdiction on DHSP (Appendix C. [Corps confirmation letter]) or the adjacent DSSF project site ( BLM 2011b). The USACE and Colorado River Basin Region (Water Quality Control Board Region 7) have not issued jurisdictional determinations on the proposed solar facility site at the time of publication of this ~~Draft~~ EIS.

### **Section 3.4 Biological Resources – Wildlife**

**Page 3.4-1**, Section 3.4.1, Bald and golden Eagle protection Act, last paragraph of page

The Bald and Golden Eagle Protection Act of 1940 (BGEPA) (16 USC, 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this act. The BGEPA defines ‘take’ to include “pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing.” The USFWS (2007) further defines ‘disturb’ as Under BGEPA, take includes “disturb,” which means “to agitate or bother a bald eagle or a golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

The USFWS (2009) can authorize take of bald and golden eagles according to specific regulations. Authorized take must be associated with, but not the purpose of, an otherwise lawful activity, and cannot practicably be avoided (50 CFR § 22.26). In order to authorize take, the USFWS must determine that the proposed action is consistent with the goal of maintaining stable or increasing breeding eagle populations. That is, any authorized take must be offset or mitigated by the proposed action.

US Fish and Wildlife Service (USFWS). 2007. Protection of eagles; definition of “disturb.” Federal Register 72:31132-31140 (5 Jun).

US Fish and Wildlife Service (USFWS). 2009. Eagle permits: take necessary to protect interests in particular localities. Federal Register 74:46836-46879 (11 Sep).

**Page 3.4-8**, Section 3.4.3, Wildlife methodology, partial paragraph beneath Table 3.4-1

Biological resources surveys were conducted within the proposed generation facility site and ~~certain~~ gen-tie line Alternative E alternatives from January ~~to October~~ 2011 through May 2012. Biological resource surveys for gen-tie line Alternatives B and C and D were conducted in connection with the adjacent DSSF project (see below for more details). Field surveys specific to wildlife resources include general reconnaissance, desert tortoise surveys, a Mojave fringe-toed lizard habitat evaluation, and avian point-count surveys. A Biological Resources Technical Report (BRTR) and a BRTR supplement addressing gen-tie line Alternative E (Appendix C) has been prepared that incorporates the results of all field surveys and literature reviews conducted for the proposed project and alternatives to characterize the biological resources that could be directly or indirectly impacted by implementation of the DHSP. The methodology and results for assessing baseline conditions with regard to biological resources are summarized here. Please see the BRTR and BRTR Supplement (Appendix C) for further details.

**Page 3.4-9**, Section 3.4.3, Wildlife methodology, several paragraphs on page

Focused desert tortoise surveys were conducted during spring 2011 within the proposed solar facility site (both parcels) and spring 2012 on gen-tie line alignment Alternative E. The surveys were conducted in accordance with the current USFWS survey protocol “Preparing for Any Action That May Occur within the Range of the Mojave Desert Tortoise” (USFWS 2010a).

A Mojave fringe-toed lizard habitat evaluation was conducted within the proposed solar facility site boundaries and development footprint on February 25, March 5, and March 12, 2011, and on gen-tie line alignment Alternative E on June 25, 2012 to identify potential habitat, individuals, and/or sign that would indicate potential occupancy of the project site by this species.

Focused breeding season surveys for Gila woodpeckers were conducted throughout potential habitat (desert dry wash woodland) on the proposed solar facility site during spring 2012 by AMEC biologists (Appendix C).

The descriptions of regional golden eagle habitat, nest sites, ~~and~~ territory occupancy, and winter occurrence in this document are based on the data provided in the DSSF EIS and supporting documents (BLM 2011b), winter 2011-12 field surveys by Bloom Biological Inc. (Appendix C.7), and BLM records of 2012 golden eagle activity. Theat DSS FEIS document addressed active and inactive golden eagle nests within a 10-mile radius of the DSSF project and the Red Bluff Substation. This 10-mile radius fully encompasses all alternatives of the DHSP project and a corresponding 10-mile radius. The 2012 golden eagle data were provided by Dr. L.F. LaPre, Wildlife Biologist, BLM California Desert District.

**Beginning on page 3.4-11**, Section 3.4.5, Special-status Wildlife Species, Table 3.4-2

Update special-status wildlife occurrences on gen-tie alignment alternative E, according to the BRTR Supplement. Add black-tailed gnatcatcher.

**Page 3.4-18**, Section 3.4.5, Special-status Wildlife Species, desert tortoise, second full paragraph of page

The nearest documented desert tortoise locations are on the DSSF Solar Farm project site, north of the proposed DHSP solar facility site, and at the Red Bluff Substation site (BLM 2011b). Tortoises and recent sign were found on the DSSF site, about 0.3 miles north of the proposed solar facility site, and along the gen-tie Alternatives B and C (BLM 2011b). In addition, a road-killed desert tortoise was observed at the Eagle Mountain off ramp on eastbound Interstate 10 approximately 7.5 miles southwest of the site (see the BRTR in Appendix C for more details).

**Page 3.4-19**, Section 3.4.5, Special-status Wildlife Species, desert tortoise, last (partial) paragraph of page

No live desert tortoises or recent sign were observed within the survey area for the proposed solar facility or gen-tie alignment Alternative E. However, several desert tortoise burrows, designated as Class 2 (good condition) and Class 3 (deteriorated condition), and several disarticulated bone fragments, possibly originating from a desert tortoise, were located ~~on the site~~. None of the burrows or other sign exhibited any evidence of recent use or corroborating sign.

**Page 3.4-21**, Section 3.4.5, Special-status Wildlife Species, Mojave fringe-toed lizard, first (partial) paragraph of page

However, portions of gen-tie Alternative E would cross occupied Mojave fringe-toed lizard habitat along the western margin of the dune system at the bases of the Coxcomb Mountains. ~~Formal surveys for Mojave fringe-toed lizards were not completed in this area, but~~ The animals were observed there during field surveys for the DSSF project (BLM 2011b) and for the DHSP (Appendix C.6, C. Biological Resources Technical Report Supplement).

**Page 3.4-21**, Section 3.4.5, Special-status Wildlife Species, rosy boa, first full paragraph of page

Habitat at the proposed solar facility site and gen-tie alignment alternatives is generally suitable for rosy boa, but lacks the boulders or rock crevices of its primary habitat. The ~~site~~project study area is within its geographic range and could be occupied at low density.

**Section 3.4.5**, Special-status Wildlife Species, page 3.4-21, golden eagle, last paragraph of page

In any given year, the eagles may initiate nesting behavior (e.g., “nest decorating”) at one nest, without any activity at the other nests. The eagles may complete breeding by laying eggs and raising chicks, or may abandon the nest without laying eggs or successfully raising young. In any given year, all or most nests in a territory may be inactive, but eagles may return in future years

to nest at previously inactive sites. Eight inactive golden eagle nests ~~have been~~ were documented in the DSSF EIS and its appendices within a 10-mile radius of the DHSP site, to the northwest, northeast, and south of the proposed solar facility site. The nearest inactive nest was about 5 miles to the northeast. Additionally, one active but non-reproductive nest was reported in the Coxcomb Mountains, about 5 miles northeast of the site (BLM 2011b). Updated BLM records (L.F. LaPre, personal communication) indicate a total of 10 nests within a 10-mile radius of the DHSP solar facility site. There was early breeding season activity at one of these nests in 2012 but there was no reproduction and no golden activity there by late May, 2012.

**Page 3.4-22**, Section 3.4.5, Special-status Wildlife Species, burrowing owl, last paragraph of page, continuing to 3.4-23

Concurrent with the desert tortoise surveys for the solar facility site and gen-tie alignment Alternative E (conducted during spring 2010 on the larger northwestern parcel, ~~and~~ spring 2011 on the small parcel, and spring 2012 on the gen-tie alignment), biologists examined all potentially suitable burrows for sign of burrowing owls. These field surveys correspond to 100 percent coverage Phase II surveys for burrowing owls, according to the CBOC protocol (CBOC 1993). No burrowing owls or their sign were observed during these spring season surveys or during the winter and breeding season avian point count surveys. However, two incidental burrowing owl observations were recorded during streambed delineation field work on the proposed solar facility site. In one observation, a burrowing owl was briefly seen perching and flying, but was not at a burrow. The other observation was a burrowing owl seen in the mouth of an inactive desert kit fox burrow; no burrowing owl sign (e.g., whitewash, prey remains, or owl pellets) was found on the proposed solar facility site or on gen-tie alignment Alternative E. Based on these field surveys and incidental observations, it was determined that the ~~solar facility site has~~ project study area provides suitable habitat for burrowing owls during winter or breeding seasons. Breeding burrowing owls were not present ~~on the site~~ during the desert tortoise surveys, but they could nest in the project study area on the site in future years. During fall and winter, the proposed solar site and the proposed and alternative gen-tie alignments appear to serve as low-density seasonal burrowing owl habitat.

**Page 3.4-24**, Section 3.4.5, Special-status Wildlife Species, Gila woodpecker, second paragraph of page

A Gila woodpecker was observed in the southeastern part of the project site in December 2010, but was not seen again during the BLM protocol winter season or breeding season avian point counts. In spring 2012, all desert dry wash woodland habitat was surveyed to determine presence or absence of breeding Gila woodpeckers, but no further Gila woodpecker observations were recorded (AMEC in prep [enXco will submit final report as soon as available]). Although no Gila woodpecker observations were made in the project study area during BLM protocol point counts or during focused breeding season surveys, there is at least a low probability that they may nest in desert wash woodland habitat on or near the solar facility site or gen-tie alternatives.

**Page 3.4-25**, Section 3.4.5, Special-status Wildlife Species, upland perching birds, lower part of page

Several special-status upland perching bird species are present or have the potential to occur in the project study area. These include loggerhead shrike, Le Conte's thrasher, Vaux's swift, black-tailed gnatcatcher, and vermilion flycatcher. Of these, Vaux's swift, black-tailed gnatcatcher, and loggerhead shrike were recorded in the project study area during surveys. A Vaux's swift was observed over the site during migration season. This species occurs in the area only during migration; it nests well to the north. Loggerhead shrikes were observed on the solar facility site routinely throughout the winter and breeding season avian point count surveys and on gen-tie alignment Alternative E during spring 2012. Black-tailed gnatcatcher was observed on gen-tie alignment Alternative E during April 2012. Le Conte's thrasher has not been reported on site, but habitat is suitable and there are records for this species 6.5 miles south of the proposed solar facility site near the gen-tie alternatives. Vermilion flycatchers have not been reported on site, but nest in similar habitat to the south and could nest in Blue Palo Verde–Ironwood Woodlands (Desert Dry Wash Woodland) in the project study area in future years. The Eagle Mountains scrub jay population resides year round in pinyon woodlands in the Eagle Mountains to the west and northwest of the proposed solar facility site. It is disjunct from other scrub jay populations, and is on CDFG's "watch list" but has no other special conservation status. A scrub jay was observed on the project site in October 2011; presumably, it was wandering or dispersing from habitat in the Eagle Mountains. However, no suitable scrub jay habitat is found in the project study area.

**Page 3.4-26**, Section 3.4.5, Special-status Wildlife Species, Coachella Valley round-tailed ground squirrel, lower part of page

Gen-tie Alternative E crosses suitable habitat over a portion of its length, but was not observed on the alignment during field surveys in spring 2012. Based on the foregoing, Palm Springs round-tailed ground squirrel may occur in low numbers on the solar facility site or gen-tie alternatives, but primary habitat would only be intersected by Alternative E over a the portion of its length crossing aeolian sands.

**Page 3.4-27**, Section 3.4.5, Special-status Wildlife Species, desert kit fox, first full paragraph of page

Numerous desert kit fox burrows were recorded in the proposed solar facility site and on gen-tie alignment Alternative E, and suitable habitat occurs through-out the project study area, including all the gen-tie alternative alignments.

**Section 3.4.5**, Special-status Wildlife Species, page 3.4-30, wildlife movement, last sentence, first full paragraph of page, regarding BLM connectivity research report:

"The final report will be made available to the public in spring 2012." enXco recommends updating the publication date of this report, and providing a citation if available.

### **3.6 Cultural Resources**

**General Comment:** This section and Section 4.6 state throughout that at the time of the circulation of the DEIS, multiple tasks needed to inventory cultural resources, evaluate their status as historic properties, and assess the potential effects of the proposed Project were incomplete, but would be finished prior to release of the FEIS. Those statements suggest that large portions of the project had not been investigated and that, after circulation of the DEIS, the potential to discover significant historic properties that would be affected adversely was high. But, in fact, at the time of the DEIS circulation, 100 percent of the solar fields (1,208 acres) had been surveyed intensively, revealing only one archaeological site. Only small portions of the Gen-tie Alternative corridors on MWD and private land remained to be surveyed because of denied access; the corridors crossing BLM and state-owned land had been surveyed. Only 218 acres of MWD land remained to be surveyed after circulation of the DEIS, while 98.3 acres (only 4 % of the project APE) of privately owned property are still not accessible.

More overstated in the DEIS than the proportion of the project footprint that remained to be surveyed, is the suggestion that very significant cultural resources could be found during the subsequent archaeological surveys. Surveys that occurred after circulation of the DEIS did indeed record three additional historic-era archaeological sites in gen-tie alternatives. Importantly, though, these site types lack significance and are similar to many sites that have been determined by the BLM to be not eligible for the National Register of Historic Places (NRHP) for the Desert Sunlight Solar Farm project. The total of newly discovered resources has increased from 21 to 25, but 16 of those are isolated artifacts, not considered eligible for the NRHP. As well, geomorphological research conducted after circulation of the DEIS suggests that the project area may not be as universally sensitive for undiscovered buried archaeological sites as was stated in the DEIS. Further, the research shows that the potential for significant ancient remains, such as those found recently adjacent to Ford Dry Lake is very low, contrary to statements in the DEIS.

This section should be revised, throughout, to update all information and to incorporate data presented in two reports provided to the BLM in June, 2012. A BLM Class III Archaeological Resources Inventory for the Desert Harvest Solar Farm Project (Chambers Group and Applied EarthWorks, 2012) and Assessment of Indirect and Cumulative Effects to Historic Properties (Smallwood et. al. 2012) provide complete inventories and evaluations of historical and prehistoric archaeological resources within areas of direct effect and assessment of the indirect effects of the proposed Project on historic properties (National Register Archaeological Districts and built environment properties) within a five-mile radius, respectively. New surveys have confirmed a paucity of archaeological resources within the Project's areas of direct effect. Further, the Class III inventory report includes a geomorphological study that refines the analysis regarding the potential for discovering significant and intact buried archaeological sites during construction.

**General Comment:** Information should be added indicating that the BLM has initiated Section 106 consultation with Native Americans regarding potential effects of the Project on historic properties. Progress and results of that consultation should be incorporated into this chapter.

**Section 3.6.1, p. 3.6-2, paragraph 4:** This paragraph discussing requirements of treatment of human remains under the NAGPRA does not clearly state that no human remains have been discovered in the Project area, nor have any prehistoric sites of the type that would contain human remains been identified.

**Section 3.6.1, p. 3.6-4, paragraph 3:** Under provisions of Public Resources Code Section 5097.98 only one Most Likely Descendant (MLD) would be identified by the Native American Heritage Commission. Again, it should be stated there has been no discovery of human remains in the Project area.

**Section 3.6.2, p. 3.6-6:** This section of the DEIS should be updated to reflect the geomorphology study carried out specifically for the Desert Harvest Project and reported in A BLM Class III Archaeological Resources Inventory for the Desert Harvest Solar Farm Project (Chambers Group and Applied EarthWorks, 2012). The preliminary assessment in the DEIS of geomorphology and the potential for subsurface archaeological resources was based on a geoarchaeological study conducted for the Desert Sunlight Project (Chandler et al. 2010). The DEIS suggests that, because the sediments in the region were deposited during the Holocene, the period of human occupancy in the Chuckwalla Valley, it is likely that significant archaeological deposits are buried within those sediments. This is incorrect. This DEIS section further draws a false comparison between the potential for buried sites in the Desert Harvest/Desert Sunlight area and areas to the east where multiple buried sites have been found during construction of the Genesis Solar Energy Project.

When developing sensitivity models to predict the presence of significant and intact buried archaeological sites, a number of factors need to be considered. These include the geomorphological factors of age of sediments and their energy of deposition. It is extremely unlikely that archaeological deposits would be buried by sediments that were deposited prior to the Holocene. Further, archaeological deposits within fluvial settings, such as the Desert Harvest Project area, are unlikely to retain contextual integrity, an important factor in determining NRHP eligibility of archaeological sites. Another factor in modeling sensitivity for buried sites is the suitability and attractiveness of a particular locality for habitation or intensive use by prehistoric populations. Areas surrounding, but outside the Project vicinity were more attractive and suitable because of the presence of springs and toolstone, especially to the south, and lakes (the now dry lakebeds of Ford and Palen lakes) to the east. Neither water (which also would have sustained plants and animals for food) nor high quality toolstone would have been available in the Project

area, thus limiting the attractiveness of the area for intensive use. Multiple habitation, rock art, and quarry sites in the Chuckwalla Mountains and buried sites along the margins of Ford Dry Lake are testimony to this distribution of necessary and sought after resources. While some prehistoric material may occur in the Holocene sediments within the Desert Harvest Project area, environmental and geomorphic conditions suggest that they would not represent sustained prehistoric use of the area, and that prehistoric deposits would retain only low to moderate integrity if they are present at all.

**Section 3.6.2, p. 3.6-28, Class I Inventory:** In order to characterize the nature of known archaeological resources in the mile surrounding the Project, this section provides little detail of the types and age of the 352 cultural resources that are reported. The majority of these are from the historic era and the vast majority are isolated artifacts, not archaeological sites. Isolated artifacts rarely qualify for management consideration under Section 106 because of a lack of context and no significant data potential.

**Section 3.6.2, p. 3.6-28 and 3.6-29, BLM Class III Survey:** The total area of the APE is 2520.4 acres, 2422.1 acres (96 %) of which has been surveyed intensively. All of the two solar fields and all of Gen-tie Alternatives B/C and E have been surveyed completely. Only 98.3 acres of the Gen-tie Alternative D have not been surveyed because access to 15 privately owned parcels on that route has been denied.

The total of newly discovered resources has increased from 21 to 25, but 16 of those are isolated artifacts, not considered eligible for the National Register of Historic Places (NRHP).

The indirect effects inventory has been completed and a report, *Assessment of Indirect and Cumulative Effects to Historic Properties* (Smallwood et. al. 2012) submitted to BLM.

**Section 3.6.2, p. 3.6-29, Resources Identified within DHSP Components:** Please add a statement that archaeological sites themselves found not eligible for the NRHP do not qualify for further management consideration under Section 106 is appropriate.

In addition, the North Chuckwalla Mountains Quarry District is listed on the NRHP, under Criterion D for its research value. Research values are not NRHP qualities that are subject to indirect visual, auditory, or atmospheric effects. Therefore, the Project would have no adverse effect to that resource.

**Section 3.6.2, p. 3.6-29, Resources Associated with all Project Components—Historic Districts:** The DEIS states that all project components are within the boundaries of two potential historic districts currently being studied. Neither the proposed Prehistoric Trails Network Cultural Landscape (PTNCL) nor the Desert Training Center California-Arizona Maneuver Area (DTC/C-AMA), proposed as the Desert Training Center Cultural Landscape (DTCCL) has been found eligible for the NRHP. Unless or until there is a formal eligibility determination for these

two proposed districts, they have no legal standing. Importantly, a determination will be required to establish boundaries of the two landscapes and to determine which sites/components of each actually contribute to their eligibility. In the meantime, DTC-C/AMA resources must be evaluated in the context of an earlier evaluation of a discontinuous district (Bischoff 2000). Prehistoric sites must be evaluated individually, not as contributing elements of a proposed district.

**Section 3.6.2, p. 3.6-29 and 3.6-30, Solar Farm Site:** This section should be updated to indicate that none of the archaeological resources in the 1208 acre solar farm, including the “pot drop” appear to be eligible for the NRHP. It should also state that the entire solar farm has been surveyed intensively.

**Section 3.6.2, p. 3.6-30, Transmission Line Corridors:** The summary of the number of sites and their NRHP eligibility in this section and Table 3.6-1 should be updated using revised data from the Class III archaeological inventory report (Chambers Group and Applied EarthWorks 2012). Because of previous inaccuracies in mapping and analysis, the DEIS overstates the number of cultural resources within each alternative corridor. It also understates the portion of each alternative that has been intensively surveyed.

Alternative B/C: This corridor includes only 18 archaeological sites. NRHP determinations made for the Desert Sunlight Project include one site that is eligible, eleven that are not eligible, and six that were not evaluated because they could be avoided and protected during construction. This alternative was completely surveyed.

Alternative D: This corridor includes eight archaeological sites, including three in the section of Alternative D that overlaps Alternative B/C. One site has been determined eligible, one has been determined not eligible, one has been recommended ineligible, two were not evaluated for Desert Sunlight because they could be avoided and protected, and the remaining three have not been evaluated. Only 98.3 acres of the Gen-tie Alternative D have not been surveyed because access to 15 privately owned parcels on that route has been denied.

Alternative E: This corridor includes seven archaeological sites and has been completely surveyed. Six of the sites have been recommended not eligible for the NRHP, while one has not been evaluated.

Table 3.6-1: The location of the final two entries should be clarified because they are not within the area of direct effects and the Red Bluff Substation is not being evaluated in this DEIS.

### **Section 3.20 Water Resources**

**Pages 3.20-6 and 3.20-7.** The second paragraph under the first bullet point on page 3.20-6 and the "Senate Bill 267" paragraph of page 3.20-7 assert that the proposed project is not subject to SB 267's wind and photovoltaic solar exemption because the proposed project will require more

than 75 acre-feet of water per year during its 24-month construction period. The text of SB 267 provides that SB 610 does not apply to a wind or solar PV facility "if the facility would demand no more than 75 acre-feet of water annually". enXco construes the word "annually" to mean annual water demand averaged over the life of the project. Because the Desert Harvest project's average annual water consumption is less than 75 afy over the 30-50 years of the project's life (500.51 afy in 2013 and 2014; 39.02 afy each year thereafter), enXco is of the opinion that the project did require a water supply assessment, although it respects the discretion of Riverside County to require one as a cooperating agency under NEPA and as lead agency under CEQA. This interpretation is consistent with SB 610's definition of projects based on operational characteristics (e.g., dwelling units, square feet) rather than their one-time construction water demand or actual water use in a single year.

**Page 3.20-16.** To reflect enXco's comments on pages 4.20-7 and 4.20-8, below enXco recommends revising the "Groundwater Level Trends" paragraph of the page as follows:

***Groundwater Level Trends***

Groundwater levels in the Hayfield Planning Area range from the ground surface to 400 feet below ground surface (bgs) (Colorado River Basin RWQCB 2006b). Specific to the CVGB, data show stable groundwater levels in the basin in 1963, and groundwater contours in 1979 indicate that groundwater moves from the north and west toward the gap between the Mule and McCoy Mountains at the southeastern end of the valley (DWR 2004a). The direction of groundwater movement is not anticipated to have changed since the aforementioned 1979 data; however, groundwater level trends may have changed substantially since 1963, due to development of the area and expanded groundwater uses. For example, data from wells within the Desert Center area show a period of water level decline in the mid-1980s during periods of expanded agricultural operations when combined pumping exceeded 20,000 afy. Agriculture operations were reduced during the late 1980s and more recently (2000) water levels in the Desert Center have been measured at levels similar to the 1960s (AECOM, 2011). AECOM, 2011. Accounting Surface Technical Memorandum. Appendix O to the Desert Sunlight Solar Farm EIS is attached.

**Page 3.20-23.** enXco disagrees with and requests deletion of the opinion expressed under "Colorado River Accounting Surface" that "Due to the hydrologic connection between the CVGB and the Colorado River, all groundwater production at the DHSP site could be considered Colorado River water." Deletion of this sentence is appropriate because it ignores the Colorado River Accounting Surface Standard developed by USGS.

**Section 4.1 Environmental Consequences**

**General.** Please include a general provision specifying that the project owner shall be copied on all third party (e.g., biological monitor) agency reporting requirements established by the mitigation measures of the DEIS.

## **4.2 Air Resources**

**Page 4.2-26.** The "Past, Present, and Reasonably Foreseeable Future Projects" section lists "projects under development". However, the listing should distinguish between cumulative projects that are actually approved and under construction and cumulative projects that are undergoing environmental impact review.

## **4.3 Biological Resources - Vegetation**

**Page 4.3-4,** 4.3.7 Alternative 4, Construction, first paragraph of section

Most construction impacts to vegetation resources would occur during Phases 2 and 3 (September 2013 through May 2015)~~1 (September 2012 to July 2013)~~, which would include site fencing, installation of temporary power, site grading and preparation ~~over an 800-acre area~~, and other facilities.

**Page 4.3-7.** Please revise the last complete paragraph on the page to reflect USACE's 29 May 2012 Jurisdictional Determination as follows.

The USACE and Colorado River Basin Region (Water Quality Control Board Region 7) have not has issued its jurisdictional determinations, concluding that no waters of the United States on the proposed solar facility site (Appendix C. [USACE May 29 2012]) at the time of publication of this Draft EIS. The Colorado River Basin Regional Water Quality Control Board (Region 7) has indicated that 401 Water Quality Certification is not necessary (Appendix C. [Jay Mirpour email June 26 2012]).

**Page 4.3-12.** Please insert the following at the end of the first paragraph of MM VEG-1: "Minimum qualifications shall be as follows:"

**Page 4.3-14 and 15,** 4.3.7 Alternative 4, MM VEG-2, first paragraph of the measure

... The Designated Biologist or a Biological Monitor will be present during all ground-disturbing activities and, to the extent practicable, will actively or passively (i.e., without handling the animals) relocate wildlife out of harm's way. Relocated animals will be moved to a suitable location ~~within 500 meters of~~ as near as feasible to the animal's original location, on BLM lands outside of the project footprint. Desert tortoises will only be handled according to provisions approved by USFWS and CDFG, to be specified in the Desert Tortoise Translocation Plan (see MM WIL-2).

**Page 4.3-21.** MM VEG-6, Table 4.3-3 and the preceding text. Please reconcile acreage discrepancies between the text and table.

**Page 4.3-23.** MM VEG-6, selection criterion i. iii.

The primary focus area for acquiring parcels to maintain/improve connectivity will be along the I-10 corridor between Desert Center and Cactus City with a priority on parcels that connect conserved lands on either side of the I-10 through large culverts or bridges; the habitat compensation ratio for mitigation lands along the I-10 corridor will be 1:1 for each acre of total long-term and permanent disturbance. If acquisition of sufficient acreage within the I-10 corridor is not feasible, then the Project Owner will coordinate with Resource Agencies to identify other suitable lands to compensate for the project's impacts to desert tortoise habitat connectivity.

**Page 4.3-29.** Please delete a typographical error from paragraph "h" of the page, as follows: "... or long-term maintenance and management of the compensation lands ~~by funding~~, or any combination of these requirements, by providing funds..."

**Page 4.3-30.** Please replace references to "SB 34" in paragraph "j" of MM VEG-6 with "AB 13". AB 13 superseded SB 34 on 29 August 2011.

**Page 4.3-30. Emory's crucifixion thorn.** Alternatives 6 and 7 both would avoid impacts to the Emory's crucifixion thorn plants located in the southern parcel (by avoiding the parcel altogether) and by removing a 9-acre rectangle near the southern boundary of the northern parcel. enXco does not believe that the crucifixion thorn occurrences or the project's anticipated impacts to these plants are sufficient grounds for either of these project area reductions. Emory's crucifixion thorn is not listed as threatened or endangered under state or federal law, it is not managed by BLM as a "sensitive species," and the DEIS concludes that loss of all Emory's crucifixion thorn in the Alternative 4 ROW configuration could be appropriately mitigated and would be less than significant. enXco believes that the BLM can achieve the best balance of renewable energy production and resource protection through adoption of the ROW configuration described in Alternative 4, but with the use of the high-profile solar panels analyzed in Alternative 7. In the case of Emory's crucifixion thorn, actual impacts of Alternative 4 would be less than described in the DEIS, and the minor benefits of Alternatives 6 or 7 are not warranted.

In contrast with Alternatives 6 and 7, Alternative 4 would include the southern parcel and the 9-acre exclusion area. Section 4.3.7 of the DEIS describes the impacts of Alternative 4 to Emory's crucifixion thorn and recommends mitigation for those impacts, as follows: "Implementation of Mitigation Measure MM VEG-7 (Mitigate Direct Impacts to Special-Status Plants) would reduce project impacts to Emory's crucifixion thorn by requiring the project owner to either (1) salvage individual plants from the site prior to construction; (2) introduce greenhouse-raised plants into suitable off-site habitat; or (3) to provide compensation lands with extant Emory's crucifixion thorn," and concludes that "MM VEG-7, in combination, with other measures, is expected to appropriately minimize or mitigate the majority of the project's adverse impacts to special-status plants, though some residual impacts [i.e., the net loss of special status plants, p. 4.3-37] would remain." The DEIS also concludes that "these impacts to vegetation resources would be mitigated to less than significant levels under CEQA" (page 4.3-67). enXco agrees with the

DEIS that the impacts of Alternative 4 to Emory's crucifixion thorn would be adverse but would be appropriately mitigated and would be less than significant.

The actual impacts of the Alternative 4 ROW configuration to Emory's crucifixion thorn would be considerably less than described in the DEIS. Many of the crucifixion thorn locations in the southern parcel are within a 400-foot transmission line corridor crossing the parcel from northwest to southeast. With the exception of an access road across the corridor, enXco does not propose to construct project facilities within that corridor (see DEIS Figures 2-3 and 3.3-1a). Thus, Alternative 4 would avoid the majority of crucifixion thorn locations. If project design cannot effectively avoid 75 percent of the plants, then enXco is prepared to implement one or more of the other strategies recommended in the DEIS (i.e., off-site compensation, salvage, or horticultural propagation / off-site introduction).

Section 2.7 of the DEIS states that the 9-acre removal area "...contains a sensitive plant species, crucifixion thorn..." but does not describe the BLM's rationale for delineating the specific avoidance area described in Section 2.7 and shown on Figure 2-10. In MM VEG-7 of the DEIS, a 250-foot buffer for Emory's crucifixion thorn is recommended as a mitigation option, but not as a requirement. The 9-acre exclusion area in Alternatives 6 and 7 does not correspond to the 250-foot buffer described in VEG-7. A circle of radius 250 feet covers an area of 4.5 acres (half the size of the exclusion area in Alternatives 6 and 7). Further, a 250-foot radius buffer area around the actual Emory's crucifixion thorn locations in the northern parcel would affect only about 3 acres within the ROW boundaries, because a part of the circle would fall within MWD lands outside the ROW.

enXco believes that a smaller buffer area may be suitable to protect this species in this environment, should avoidance be employed. The purpose of a buffer area surrounding special-status plants such as Emory's crucifixion thorn is to avoid or minimize adverse off-site or indirect "edge effects" from surrounding land uses, such as vehicle use, foot traffic, increased recreation uses, pets, invasive or weedy species, herbicide overspray, or altered surface hydrology. These effects are difficult to quantify for any land use, but they are most characteristic of residential and commercial developments where adjacent natural areas are subject to substantially increased edge effects of surrounding development. In the case of the Desert Harvest project, these edge effects would be controlled or prevented by enXco, subject to BLM compliance monitoring. For example, enXco will control all vehicle access within the project area; on-site personnel with access to sensitive areas will be limited; no new recreational visitors or opportunities will be present; pets will be prohibited; weeds and herbicide use will be controlled through the IWMP; surface hydrology will be protected through BMPs; and the project boundary will be fenced. All of these protections are either components of the project design or are recommended in DEIS mitigation measures.

Because these measures impose greater control over use of the private energy facility than over a commercial or residential development, the project's edge effects to surrounding habitat are

minimized. enXco recommends a reduction of buffer areas for Emory's crucifixion to 100 feet because of these reduced edge effects.

Based on this discussion, enXco recommends the following revisions:

**Page 4.3-30, 4.3.7 Alternative 4, MM VEG-7**

The project Owner will mitigate impacts to Emory's crucifixion thorn (CRPR 2) on the solar generator site and direct impacts to any other CRPR 1 or 2 ranked plants that may be impacted by gen-tie line construction, including impacts to Harwood's woolly-star (CRPR 1) on plants that may be discovered during spring 2012 field surveys of gen-tie Alternative E, through one or a combination of the following strategies. ~~No CRPR Rank 1 plants have been reported from the site or are expected to occur (Section 3.3) but if a CRPR Rank 1 species is located during future field work, the Designated Biologist will coordinate with BLM botanists to determine appropriate mitigation, commensurate with the measures described below.~~

**1. Avoidance.** Project design will avoid at minimum 75 percent of the Emory's crucifixion thorn, Harwood's woollystar, and other CRPR 1 or 2 ranked plants occurrences within the project boundaries or other work areas, including the gen-tie line, and will provide a minimum 100 250-foot buffer area surrounding each avoided occurrence, where no project activities will take place.

**2. Off-site compensation.** The project Owner will provide compensation lands consisting of occupied Emory's crucifixion thorn, Harwood's woollystar, or other CRPR 1 or 2 ranked plants...

**Page 4.3-32.** BMP 3 of the page should be revised to state that the project proponent "shall prevent" rather than "will not allow" water containing pollutants from entering ephemeral drainages or being placed in high storm flow locations, in the off-chance spills occur even after good faith best efforts.

**Page 4.3-35. MM VEG-10, second numbered paragraph of MM**

2. A qualified botanist or plant physiologist will develop a sampling protocol to be carried out in desert dry wash woodland at each sampling zone (above) and the control site to monitor stress and mortality of target plants once operations begin. The protocol will include a measure of pre-dawn water potential or other appropriate indicator of water stress, as measured by standard plant physiology techniques.

**Page 4.3-36, 4.3.7 Alternative 4, MM VEG-10, first full paragraph of page**

If results of the groundwater monitoring program under MM WAT-3 indicate that the project pumping has resulted in water level decline of 1 foot or more below the baseline trend, and

vegetation monitoring for plant stress, mortality, and water potential have documented one or more of the sampling sites for the ~~four~~two groundwater-dependent plant species...

**Page 4.3-36**, 4.3.7 Alternative 4, Residual Impacts and Unavoidable Adverse Effects (note that the recommended replacement text is from 4.3-63 of the DEIS and it is consistent with the statement on page 4.3-67, “With implementation of Mitigation Measures MM VEG-1 through MM VEG-10, these impacts to vegetation resources would be mitigated to less than significant levels under CEQA.”

... This measure, while compensating for impacts to vegetation resources, would not prevent those impacts from occurring. ~~Even with off-site compensation at recommended ratios, there would be a~~The net loss of the native vegetation and related resources (including habitat and streambed values) of 1,208 acres. would be reduced over time through habitat compensation, which is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural, or energy development.

**Page 4.3-41**. The second sentence of the first paragraph of Section 4.3.12 states that analysis for the EIS commenced in November 2011. This is incorrect. As stated elsewhere in the EIS, analysis commenced upon publication of the NOI on 15 September 2011.

Page 4.3-45. Alternative B Residual Impacts and Unavoidable Adverse Effects

This measure, while compensating for impacts to vegetation resources, would not prevent those impacts from occurring. With the implementation of Mitigation Measures MM VEG-1 through MM VEG-9 (excluding MM VEG-7) residual impacts to vegetation resources would be (1) the net loss of vegetation and habitat on the alignment (2) the direct effects of dust and other disturbances to adjacent off-site habitat during construction, operation, and decommissioning of the gen-tie line; and (3) the net loss of state-jurisdictional streambeds on the alignment. These impacts are described above, under direct impacts of project construction. The net loss of the native vegetation and related resources (including habitat and streambed values) would be reduced over time through habitat compensation, which is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural, or energy development.

**Page 4.3-47**. Alternative C Residual Impacts and Unavoidable Adverse Effects.

With the implementation of Mitigation Measures MM VEG-1 through MM VEG-9 (excluding MM VEG-7), residual impacts to vegetation resources would be (1) the net loss of vegetation and habitat on the alignment; (2) the direct effects of dust and other disturbances to adjacent off-site habitat during construction, operation, and decommissioning of the gen-tie line; and (3) the net loss of state-jurisdictional streambeds on the alignment. These impacts are described above, under direct impacts of project construction. The net loss of the native vegetation and related

resources (including habitat and streambed values) would be reduced over time through habitat compensation, which is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural, or energy development.

**Page 4.3-51.** Alternative D Residual Impacts and Unavoidable Adverse Effects

With the implementation of Mitigation Measures MM VEG-1 through MM VEG-9, residual impacts to vegetation resources would be (1) the net loss of vegetation and habitat on the alignment; (2) the direct effects of dust and other disturbances to adjacent off-site habitat during construction, operation, and decommissioning of the gen-tie line; (3) the net loss of special-status plant occurrences on the alignment; and (4) the net loss of state-jurisdictional streambeds on the alignment. These impacts are described above, under direct impacts of construction. The net loss of the native vegetation and related resources (including habitat and streambed values) would be reduced over time through habitat compensation, which is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural, or energy development.

**Page 4.3-51.** Please update Section 4.3.15 to reflect the results of enXco's 2012 rare plant surveys for Alternative E.

**Page 4.3-52,** 4.3.15 Alternative E, Special-status plants

One Emory's crucifixion thorn was located near the alignment and 65 desert unicorn-plant occurrences were documented on or near the alignment of gen-tie Alternative E during fall field surveys for the DHSP (Section 3.3). Due to the natural history of desert unicorn-plant (perennial herb; sprouts above-ground every few years in response to warm season rains), it is likely that additional, undocumented locations exist along the alignment. Spring surveys of the alignment ~~will be~~ conducted during spring 2012, ~~and the results will be incorporated into the Final EIS.~~ Two additional special-status plants were documented have the potential to occur on the Alternative E alignment: Harwood's milk vetch, Abrams's spurge, Harwood's woollystar and ribbed cryptantha, and Jackass clover (see Section 3.3).

Depending on the placement of poles and other work sites, construction of Alternative E could remove known special-status plant occurrences, or occurrences not yet documented. Harwood's woollystar is ranked as CRPR 1B; ~~erueifixion thorn, Harwood's milk vetch, jackass spurge, and Abrams's spurge are ranked as CRPR 2;~~ ribbed cryptantha and desert unicorn-plant ~~is~~ are ranked as CRPR 4. Of these species, only Harwood's woollystar is a BLM Sensitive Species (see Section 3.3). Impacts to ~~any of these species, excluding desert unicorn-plant,~~ Harwood's woollystar would either be avoided by placement of project components, or would be mitigated through implementation of ~~required~~ recommended Mitigation Measure MM VEG-7 ...

**Page 4.3-56,** 4.3.15 Alternative E, Residual Impacts and Unavoidable Adverse Effects

With the implementation of Mitigation Measures MM VEG-1 through MM VEG-9, residual impacts to vegetation resources would be (1) the net loss of vegetation and habitat on the alignment; (2) the direct effects of dust and other disturbances to adjacent off-site habitat during construction, operation, and decommissioning of the gen-tie line; (3) the net loss of special-status plant occurrences on the alignment; and (4) the net loss of state-jurisdictional streambeds on the alignment. These impacts are described above, under direct impacts of project construction. The net loss of the native vegetation and related resources (including habitat and streambed values) would be reduced over time through habitat compensation, which is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural, or energy development.

**Page 4.3-63**, 4.3.16 Cumulative Effects, Native Vegetation Including Sensitive Natural Communities, first full paragraph of the page

The solar facility site is mapped as Sonoran Creosote Bush Scrub (661 acres) and Desert Dry Wash Woodland (547 acres) in the NECO plant communities dataset. A total of 3,829,999 acres of Sonoran Creosote Bush Scrub and 682,027 acres of Desert Dry Wash Woodland are mapped within the NECO planning area. Existing and foreseeable projects would impact 172,551 acres of Sonoran Creosote Bush Scrub and 44,300 acres of Desert Dry Wash Woodland. The proposed project or its alternatives would contribute at most about 0.4 percent at least incrementally to of the cumulative loss of Sonoran Creosote Bush Scrub and between 0.9 and 1.2 percent of the cumulative loss of Desert Dry Wash Woodland.

**Page 4.4-65.** The DEIS states that Alternatives 4 through 7 would "contribute considerably to the cumulatively significant impacts of habitat loss for special-status wildlife species in the NECO planning area, and reduced wildlife movement and connectivity in the upper Chuckwalla Valley." Please reconcile this conclusion with the statement on page 4.4-63 of the DEIS under "Wildlife Movement and Habitat Connectivity" that "the contribution of the proposed project or its alternatives would be relatively minor."

**Page 4.3-65**, 4.3.16 Cumulative Effects, Special-status Plants, last paragraph of the page, continuing to p 4.3-66

A variety of special-status plant species have ranges that extend through the Mojave and Colorado Deserts of the NECO planning area, and several are endemic to the planning area. ~~Three (3)~~ Five (5) special-status plants occur on the solar facility site and gen-tie alternative alignments: crucifixion thorn (CRPR 2.3), Harwood's woollystar (CRPR 1B.2), Utah vine milkweed (CRPR 4.2), ribbed cryptantha (CRPR 4.3), and desert unicorn-plant (CRPR 3.3). ~~Several other special-status plants may occur on gen-tie alignment Alternative E, but spring season botanical surveys have not yet been conducted.~~

**Page 4.3-66.** Special-status Plants, second full paragraph of the page

Mitigation Measure MM VEG-7 (Mitigate direct impacts to special-status plants) would reduce the incremental contribution of the proposed project or its alternatives to cumulative impacts to Emory's crucifixion thorn, Harwood's woollystar, and other CRPR 1 or 2 special-status plants.... The project's effects on the ~~two~~-three CRPR 4 species, while adverse, would not warrant further mitigation due to the higher regional abundance and the very low density of these species on site.

**Page 4.3-67.** Please revise the last sentence of the "Alternative 3" paragraph, which inadvertently refers to "Alternative 2" instead of "Alternative 3."

#### **4.4 Biological Resources – Wildlife**

**Page 4.4-1.** Please update the first paragraph of the page to reflect enXco's 2011-2012 golden eagle surveys, 2012 nesting surveys for Gila woodpecker, and 2012 surveys of gen-tie Alt E for desert tortoise, burrowing owl, desert kit fox, and Mojave fringe-toed lizard as follows:

This analysis is based on information from the focused wildlife surveys, habitat assessments, recon-naissance surveys, and avian point-count studies conducted for the Desert Harvest Solar Project (DHSP), as well as information found in the CNDDDB and lists of special-status species for the region (see Chapter 3.4). As discussed in Chapter 3.4, ~~and~~ the Biological Resources Technical Report (BRTR) and the BRTR Supplement for Gen-Tie Alternative E ~~;(both~~ located in Appendix C), focused wildlife surveys were conducted concurrently for desert tortoise (*Gopherus agassizii*) and burrowing owl (*Athene cunicularia*), a habitat assessment was conducted for the Mojave fringe-toed lizard (*Uma scoparia*), ~~and~~ winter and spring avian point counts were conducted according the Bureau of Land Management (BLM) protocol for solar energy developments, a focused survey for Gila woodpecker (*Melanerpes uropygialis*) was conducted on the proposed solar facility site, and winter surveys for golden eagle (*Aquila chrysaetos*) were conducted throughout a 10-mile radius surrounding the project site. A discussion of the vegetation resources currently present in the project area is provided in Chapter 3.3, and impacts to vegetation resources are addressed in Chapter 4.3.

**Page 4.4-1.** Please revise the fourth paragraph of the page to as follows: " Alternatives 3-4 and B, the ~~Applicant's~~ proposed solar project and gen-tie line (proposed project),".

**Page 4.4-5.** last paragraph of page, continuing to 4.4-6, Wildlife Mortality

...This direct adverse impact to wildlife ~~would~~-could be substantial but can be somewhat reduced through Mitigation Measure MM WIL-1 (Wildlife Impact Avoidance and Minimization)... Even with implementation sof MM WIL-1, initial clearing and site preparation work ~~would~~ likelycould cause mortality among most small mammals and reptiles ~~which would be~~ unable to escape.

**Page 4.4-7.** Please qualify the analysis of potential desert tortoise impacts on the page by summarizing the low habitat quality values assigned to the project site by the 2009 USGS Desert Tortoise Habitat Model (Nussear et al. 2009), which, from a scale of 0.0 to 1, assigns a value of "0" to 718.6 acres of the proposed project's solar field, a value of "0.1" to 484 acres of the proposed project's solar field, and a value of "0.2" to the remaining 4.6 acres of the solar field. enXco recommends the following language:

Desert Tortoise. Desert tortoises have not been documented within the solar facility site, but are expected to be present based on nearby known occurrences and desert tortoise sign located on the site during field surveys (see BRTR, Appendix C). None of the burrows or other sign observed on the site exhibited any evidence of recent use. The proposed solar facility site is relatively low value habitat for desert tortoise. –The USGS Desert Tortoise Habitat Model (Nussear et al. 2009), using a scale of 0.0 to 1.0, assigns a value of 0 to 718.6 acres of the proposed project's solar field, a value of 0.1 to 484 acres of the proposed project's solar field, and a value of 0.2 to the remaining 4.6 acres of the solar field. Desert tortoises are found throughout the region and are mobile during their active seasons. Based on the presence of active desert tortoises on the adjacent Desert Sunlight Solar Farm Project (Desert Sunlight) site, it was determined that the entire solar facility site may be occupied by desert tortoises at any time, albeit only in low numbers. Extrapolations from the Desert Sunlight site are conservative, however, given the fact that the Desert Sunlight Solar Farm Project has a higher habitat quality value under the USGS Desert Tortoise Habitat Model (Nussear et al. 2009) than the Desert Harvest project site Implementation of Alternative 4 would result in the permanent and long-term loss of 1,208 acres of desert tortoise habitat, presumed to be occupied, and located within a geographic region that is occupied by desert tortoises. Project construction would also prevent desert tortoises from crossing the solar facility site to access habitat elsewhere in or around the Chuckwalla Valley.

**Page 4.4-8.** Please revise the second sentence of the first paragraph of the "Translocation" section as follows to better reflect the possibility of observational error: "...or tortoise eggs, ~~would~~ could be overlooked..."

**Page 4.4-10.** Please make the following addition to the second sentence of the first paragraph of the page: "Upon completion of a final Desert Tortoise Translocation Plan and issuance of the Biological Opinion from USFWS and Incidental Take Permit or Consistency Determination from CDFG, the Applicant shall adopt measures to either translocate tortoises into the wild or to permanently place them in approved facilities."

**Page 4.4-10.** enXco recommends drawing from Section 3.4 of the DEIS to explain in the "Special-Status Reptiles and Amphibians" section why the project site does not provide suitable habitat for Mojave fringe-toed lizard as follows:

Based on habitat and geographic range, desert tortoise and rosy boa are the only special-status reptile or amphibian species with a moderate or greater probability of occurring on the project

site (Section 3.4). The Mojave fringe-toed lizard, a BLM Sensitive Species known from the area, is not expected to occur on the site due to absence of suitable aeolian sand habitat. No other BLM-designated Sensitive reptile or amphibian species are known from the project study area (see Section 3.4 and Appendices C.6 and C.13). Project impacts and mitigation for desert tortoises are described above.

**Page 4.4-12 through 4.4-13.** Please revise the "Golden Eagle" section to reflect nesting data obtained since publication of the DEIS:

**Golden Eagle.** ... These territories comprise eight golden eagle nests that were inactive in 2010, and one nest where eagle activity was observed but no young were fledged in 2010 (BLM 2011b; see Section 3.4). Since preparation of the DEIS, the 10-mile radius surrounding the project area was re-surveyed for golden eagle nesting activity during spring 2012. Early nesting activity ("nest decoration") was observed at one nest, but there was no subsequent activity; no eggs or young were present in the nest, and the adult golden eagles did not remain at the site (personal communication, Dr. L.F. LaPre, BLM Wildlife Biologist, Moreno Valley, Calif.).

**Page 4.4-14.** Second full paragraph of page, Gila woodpecker (note missing hard return)

...Gila woodpecker was observed within the project area while setting up the winter point count locations, but was not observed during the subsequent 2011 winter or spring point counts. In spring 2012, all desert dry wash woodland habitat was surveyed to determine presence or absence of breeding Gila woodpeckers, but no further Gila woodpecker observations were recorded (AMEC in prep [enXco will submit final report as soon as available]).

**Page 4.4-17.** The second sentence of the first paragraph of the "Wildlife Movement" section states that analysis for the EIS commenced in November 2011. enXco recommends revising as follows:

The DHSP solar facility site is immediately south of the recently approved Desert Sunlight site. At the time of commencement of analysis for this EIS in ~~November~~September 2011...

**Page 4.4-17.** enXco recommends adding a sentence to the second paragraph of the page that further substantiates the proposed project's limited effect on wildlife movement based on its occupying less than 0.6 percent of the Chuckwalla Valley, its limited movement value due to adjacency to the approved Desert Sunlight project under construction as of September 2011, and the fact that many potential impediments to movement – such as fencing along highways, canals, human habitation – already exist in the Chuckwalla Valley. Finally, the project site is located in the vicinity of significant agricultural disturbance at the southern extreme of the mountains forming the western and eastern boundaries of the Chuckwalla Valley. Intermountain movements are more likely to occur in the less disturbed northern reaches of the Chuckwalla Valley. enXco recommends the following language, so as to take into consideration the

alternative to facilitate wildlife movement that was identified but eliminated from further analysis on pages 2-67 and 2-68 of the DEIS

... Project construction would further limit connectivity by eliminating movement opportunities across the site for most wildlife species, but the actual consequence to wildlife movement would be minor due to the land uses and movement barriers described above. Intermountain movements are more likely to occur in the less disturbed northern reaches of the Chuckwalla Valley. The project description (Chapter 2) does not propose to specify or designate wildlife corridors. The limited wildlife connectivity value of the project site is also explained in Section 2.17, which assesses a proposal to specify or designate a wildlife movement route through the abovementioned small corridor to the east of the proposed solar facility site.

**Page 4.4-18.** Please supplement the "Wildlife Management Areas" paragraph with language explaining that, while the Palen-Ford WHMA does overlap the northeastern parcel of proposed project site, the Palen-Ford WHMA was specifically established to protect dunes and playas (BLM and CDFG 2002), features which – along with the Mojave fringe-toed lizard they support – do not exist on the project site. While the proposed project may affect the map depicting the Palen-Ford WHMA boundary, the proposed project does not affect the resources the Palen-Ford WHMA was created to protect (*see, e.g.*, pages 3.4-20 and 3.4-21 of the DEIS). As stated in the DEIS, "The solar facility and most of the alternative gen-tie alignments would not affect Mojave fringe-toed lizard or its habitat." (page 4.4.-59). enXco recommends the following language:

... The western edge of the southwestern parcel is adjacent to the Chuckwalla DWMA, and 46 acres of the Palen-Ford WHMA are included within the northern portion of the northeastern parcel (see Table 4.4-1 and Figure 3.4-1 in Appendix A). The Palen-Ford WHMA was established to protect dunes and playas (BLM and CDFG 2002), which are not present on the project site. Additionally, the 46 acres of the WHMA that are within the DHSP project site are isolated from the remainder of the WHMA, and from the dunes and playa system to the east, by the intervening DSSF project now under construction (see Figures 3.1-1 and 3.4-1). This portion of the WHMA no longer functions in its intended purpose. While the DHSP would affect the mapped WHMA boundary, it would not affect the resources the WHMA was created to protect (e.g., Mojave fringe-toed lizard, Section 3.4.5).

**Page 4.4-21.** The "Solar Panel Light, Glare and Collision Risk" paragraph should distinguish between the potential glare effects of heliostats (mirrors) and solar PV panels, which have a reflectivity substantially lower than that of window glass. *See, e.g.*, Appendix B of Kern County's RE Distributed Solar Project (July 2011), which enXco incorporates by reference:

Large-scale solar facilities present a relatively new and un-researched risk for bird collisions. Studies conducted at the Solar One facility, a central receiver solar power plant near Daggett, California, indicated that bird mortality consisted predominantly of collisions with mirrors (McCrary et al 1986). However, photovoltaic solar panels are designed to absorb, rather than

reflect, light. While CSP systems are designed to reflect up to 90% of incoming sunlight, the glare and reflectance from PV panels is much lower; as little as 2% of direct and indirect sunlight is reflected (FAA Solar Guide, Section 3.1.2, 2012).<sup>1</sup>

To date, little is known regarding the avian response to reflection or glare from PV solar technology; however, it is likely that glare will affect birds to some degree because the panels would reflect light and images, and might be mistaken for open sky or water.

**Page 4.4-22.** enXco recommends the following revisions.

The indirect effects of project ~~decommissioning O&M~~ to wildlife and wildlife habitat include the introduction or spread of invasive weeds, depletion of groundwater and subsequent effects to groundwater-dependent vegetation and habitat, alteration of ephemeral surface water flows, and increased predation due to predator “subsidies,” ~~provided during construction~~. The indirect effects to wildlife of invasive weeds and groundwater depletion, and mitigation of those effects, are as described in Section 4.3. The indirect effects of predator subsidies during project ~~decommissioning O&M~~, and mitigation of those effects would be as described under indirect effects of construction.

**Page 4.4-26.** Regarding MM WIL-1, numbered paragraph 9 (Minimize noise impacts). enXco is concerned that the 65 dBA threshold, applied to all construction activities and all surrounding nesting habitat, would restrict scheduling to the point that project construction would be unfeasible. enXco recommends instead that noise impacts to wildlife and habitat surrounding the project area should be managed according to the wildlife species affected, its tolerance of human activities, its conservation status, and the timing and nature of specific construction activities. Rather than specify dBA thresholds in this mitigation measure, we recommend that the BLM adopt a requirement that enXco prepare a Nesting Bird Management Plan. Please also refer to our recommended revisions to MM WIL-3, below. enXco requests the following edits to MM WIL-1:

**9. Minimize Noise Impacts.** To minimize disturbance to wildlife nesting or breeding activities in surrounding habitat, Loud construction activities (e.g., pile driving) shall be avoided to the extent feasible from February 1 to August 31 ~~when it would result in noise levels over 65 dBA in nesting habitat adjacent to the project area.~~ Loud construction activities may be permitted from February 1 to August 31 only according to the provisions of the Nesting Bird Management Plan ~~if the Designated Biologist provides documentation (i.e., nesting bird data collected using methods described in MM WIL-3 and maps depicting location of the nest survey area in relation to noisy construction) to the BLM’s Authorized Officer, Riverside County, and the Resource Agencies indicating that no active nests would be subject to noise levels over 65 dBA.~~

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<sup>1</sup> [http://www.faa.gov/airports/environmental/policy\\_guidance/media/airport\\_solar\\_guide\\_print.pdf](http://www.faa.gov/airports/environmental/policy_guidance/media/airport_solar_guide_print.pdf)

**Page 4.4-26, first paragraph of page, MM WIL-1**

a. ~~Backfill Trenches~~**Backfilling Excavations.** At the end of each work day, the Designated Biologist shall inspect open excavations for the hazard of ~~ensure that all potential wildlife pitfalls (trenches, bores, temporary detention basins, consisting of utility trenches and bores and other excavations) have been backfilled.~~ The project owner shall require its contractor to backfill open excavations. In open excavations where ~~if~~ backfilling is not feasible, all trenches, bores, temporary detention basins, and other excavations ~~the contractor shall be provide a 3:1 sloped at a 3:1 ratio at the ends to provide for wildlife escape ramps, or covered completely~~ cover the excavation to prevent wildlife access, or fully enclose the area with desert tortoise-exclusion fencing. All potential pitfalls (trenches, bores, temporary detention basins, storage ponds, and other excavations) outside the fenced areas shall be inspected periodically, but no less than three times, throughout the day and at the end of each workday by the Designated Biologist or a Biological Monitor. Within the fenced areas, potential pitfalls, including storage ponds, shall be inspected daily. Should a desert tortoise or other wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and, if applicable, relocate it as described in the Desert Tortoise Translocation Plan. Any wildlife encountered shall be allowed to leave the area unharmed.

**Page 4.4-31.** enXco is concerned that the buffer distances surrounding bird nests, if applied to all construction activities and all nesting bird species, would restrict scheduling to the point that project construction would be unfeasible. enXco recommends instead that construction disturbance impacts to nesting birds should be managed according to the species affected, its tolerance of human activities, its conservation status, and the timing and nature specific construction activities. Rather than specify buffer distances in this mitigation measure, we recommend that the BLM adopt a requirement that enXco prepare a Nesting Bird Management Plan, as described in our recommended revisions, below. This recommended revision also takes into account our earlier request regarding MM WIL-1 (above).

In addition, in enXco's experience, a 500-foot radius buffer is the commonly accepted standard for raptor nest avoidance (*See, e.g.,* MIL WIL-3 of the Desert Sunlight EIS). enXco therefore recommends changing the 1200-foot radius requirement of subsection 3 of MM WIL-3 to 500 feet as follows.

**MM WIL-3. Nesting Bird Management Plan, Pre-Construction Nest Surveys, and Impact Avoidance Measures for Migratory and Nesting Birds.** The Project Owner shall prepare a draft Nesting Bird Management Plan, describing measures to detect native birds that may nest on the project site or facilities, and avoid impacts or take of those birds or their nests, during all project phases. The draft Nesting Bird Management Plan will be submitted to CDFG, USFWS, BLM, and Riverside County for review and comment, and will be finalized by the project applicant prior to issuance of BLM's Notification to Proceed. The Nesting Bird Management Plan will describe avoidance measures, such as buffer distances from active nests, based on the specific nature of project activities, noise or other disturbance of those activities, the bird species

and conservation status, and other pertinent factors. The Plan will specify 330 feet as a general buffer distance, and 500 feet for raptor species. The Plan will also identify bird species (or groups of species) that are relatively tolerant or intolerant of human activities and specify smaller or larger buffer distances as appropriate for those species. Additionally, the Plan will list all project construction activities and rank them in terms of noise and other potential disturbance to nesting birds, and specify any modifications to buffer areas as appropriate to activity. For example, vehicle travel along an access route would likely warrant buffer distance reductions, whereas pile driving may necessitate buffer increases. The Plan also will identify specific measures (if any) to prevent or reduce bird nesting activity on project facilities. The Plan will include specific monitoring measures to track any active bird nest within or adjacent to the project site, bird nesting activity, project-related disturbance, and fate of each nest. The Nesting Bird Management Plan may be incorporated into the Bird and Bat Conservation Strategy (MM WIL-6) as a separate chapter.

[Note, enXco has no changes recommended to remainder of introductory section or to list items 1 or 2]

3. If active nests are detected during the survey, the Project Owner will implement avoidance measures identified in the Nesting Bird Management Plan, and the Designated Biologist will be responsible for monitoring the implementation, conformance, and efficacy of those measures, according to monitoring requirements specified in the Nesting Bird Management Plan. ~~a 330-foot radius buffer zone surrounding the nest shall be flagged, and no impacts to soils or vegetation or noise above 65 dBA, will be permitted while the nest remains active. For any active raptor nests or bat maternity roosts, the flagged buffer zone/avoidance area shall be a 1200-foot radius surrounding the nest or roost site. This protected area surrounding the nest may be adjusted by the Designated Biologist in consultation with BLM, Riverside County, CDFG, and USFWS;~~
- ~~4. A monitoring plan shall be prepared and implemented to ensure no disturbance to active nests present within or adjacent to the work area takes place; the plan shall be reviewed and approved by BLM, Riverside County, USFWS, and CDFG prior to the initiation of ground disturbing activities; [language here regarding the monitoring plan is incorporated into enXco's recommended additions to the introductory paragraph]~~

**Page 4.4-35.** MM WIL-5 requires winter golden eagle surveys in addition to nesting surveys. enXco questions the need for winter surveys. The presence of golden eagles in Chuckwalla Valley during winter has been documented through field surveys contracted by enXco (Appendix C. 7 of the DEIS) and potential impacts to golden eagles have been analyzed in the DEIS. enXco does not believe the DHSP has potential to “take” or “disturb” golden eagles as those terms are defined by the USFWS and quoted in Section 3.4 of the DEIS. The potential to “take” or “disturb” golden eagles is especially unlikely during winter, when likelihood of observable project-related impacts to productivity or nest abandonment would be negligible. It is our understanding that BLM has not required winter surveys for other projects, DSSF being one such example. We also note that the DEIS, in Sections 4.4.7 and 4.4.12, describes MM WIL-5 as requiring “nesting season surveys” without mentioning winter surveys. enXco therefore recommends the revisions shown below.

In addition, as a separate issue, enXco recommends revisions to preserve its ability to incorporate survey results reported to agencies by third parties not under contract with enXco. The recommended revisions below incorporate both of these points.

**1. Annual ~~Winter and Nesting Season~~ Surveys.** Beginning in the first breeding season of project construction~~winter 2011-12~~, and continuing throughout the construction phase of the project, the project Owner shall obtain, by contract with a qualified ornithologist or through publicly available records, ~~to conduct winter season and~~ nesting season survey data ~~s~~ of golden eagle habitat use in Chuckwalla Valley and surrounding mountains within a 10-mile radius of the project site and gen-tie alignment. Nesting season surveys will determine occupancy of known or newly discovered nesting territories within the 10-mile radius. Survey methods for the inventory shall be either ground-based or helicopter-based, as described in the Golden Eagle Technical Guidance (Pagel et al. 2010) or more current guidance from the USFWS. ~~Winter surveys will evaluate golden eagle occurrence and habitat use within the 10-mile radius during winter.~~

**2. ~~Winter Season Survey Data.~~** ~~Data collected during winter season surveys shall include dates, times, locations, and weather conditions during field surveys; panoramic photographs from the survey locations, indicating areas viewed; and compilations of all golden eagle and other raptor observations for each survey date.~~

**Page 4.4-37.** First (partial) paragraph of page, MM WIL-7. Mitigation Measure WIL-7 requires USFWS to review and approve a Draft Passive Relocation Plan for Desert Kit Fox and American Badger. As neither species enjoys special status within the purview of USFWS enXco recommends the following revision:

The Draft Passive Relocation Plan shall be submitted to CDFG, and BLM, ~~and~~ USFWS for review and approval prior to implementation.

8. The Plan will ~~include~~ provide CDFG ~~and other resource agencies~~ the opportunity to test animals for canine distemper virus, vaccinate them against it, fit the animals with radio collars for follow-up tracking, or take other management actions as appropriate.

9. A written memorandum documenting the implementation of the removal or forced dispersal shall be provided to BLM, Riverside County, CDFG, ~~USFWS~~, and JTNP within 30 days of completion.

**Page 4.4-42.** The second sentence of the first paragraph of Section 4.4.12 states that analysis for the EIS commenced in November 2011. enXco recommends the following revision:

... At the time of commencement of analysis for this EIS in ~~November~~ September 2011, the approved Desert Sunlight gen-tie has not yet been constructed...

**Pages 4.4-48 and 4.4-49.** Please supplement the "Nesting Birds" section of the page with a reference to the mitigating effects of MM WIL-6, using the first paragraph of page 4.4-22 as a model. enXco recommends the following language:

... The nesting behaviors of some native birds increases the likelihood that project O&M would require the removal or relocation of active nests in order to safely operate the facility. Mitigation Measure MM WIL-6 (Bird and Bat Conservation Plan) would require an evaluation of potential project hazards to birds and bats, and implementation of adaptive management measures as appropriate to address them. This measure is expected to mitigate this potential risk to the extent feasible, but an unknown residual risk to birds may remain, even with implementation of the Bird and Bat Conservation Plan.

**Page 4.4-50.** For clarification, please explain in the first paragraph of Section 4.4.13 that the 60-foot extension of the Alternative C ROW into the adjacent Chuckwalla DWMA is required solely to accommodate intermittent "wind sway" of overhanging conductors over the DWMA boundary. enXco recommends the following language:

... The Alternative C ROW would extend west of the approved DSSF gen-tie ROW, 60 feet into the adjacent Chuckwalla DWMA. This extension into the DWMA is required solely to accommodate the overhang of transmission line conductors from the tower cross-members. No planned temporary or permanent ground disturbance would occur within the DWMA...

**Page 4.4-51.** For economy, enXco suggests replacing the language contained in the "Residual Impacts and Unavoidable Adverse Effects" subsection of the page with the following: "With the implementation of Mitigation Measures MM VEG1 rough VEG-8 and MM WIL-1 through MM WIL-8, the residual impacts to wildlife resources under Alternative C would be the same as those for Alternative B."

**Page 4.4-52.** For economy, enXco suggests replacing the language contained in the "Residual Impacts and Unavoidable Adverse Effects" subsection of the page with the following: "With the implementation of Mitigation Measures MM VEG1 rough VEG-8 and MM WIL-1 through MM WIL-8, the residual impacts to wildlife resources under Alternative D would be the same as those for Alternative B."

**Page 4.4-52,** third full paragraph of page, Section 4.4.15

**Mojave Fringe-toed Lizard and Palm Springs Round-Tailed Ground Squirrel.** Project construction would affect ~~suitable~~-occupied habitat for Mojave fringe-toed lizard and suitable habitat for Palm Springs round-tailed ground squirrel along the gen-tie line alignment...

**Page 4.4.-55.** Please revise the first sentence of the first complete paragraph of the page as follows: "The project site supports habitat for, and in some instances populations of, numerous special-status wildlife species..." Please also consider clarifying at the end of the first complete

paragraph of the page that the wildlife movement cumulative analysis considers other cumulative projects in addition to Desert Sunlight.

**Page 4.4-56**, first paragraph of page, Section 4.4.16 (typo)

Alternative B would not contribute to cumulative ~~vegetation~~-wildlife effects...

**Page 4.4-57.** The last paragraph of the page could be misread to state that the USGS Desert Tortoise Habitat Model identifies the project area – as opposed to the Colorado Desert Recovery Unit – as medium to high quality desert tortoise habitat (0.4-0.9). enXco recommends the following revision:

The USGS Desert Tortoise Habitat Model maps ~~the project area and~~ most of Colorado Desert Recovery Unit as medium- to high-quality desert tortoise habitat, with scores of 0.4-0.9 on a scale of 0 to 1 (1 being the highest quality). But the habitat model ascribes a low quality habitat value (0.0-0.1) to the vast majority of the DHSP footprint. The DHSP's effects on desert tortoise habitat (based on the 2009 USGS habitat model) are quantified in Table 4.4-4.

**Page 4.4-63.** Please insert language in the "Wildlife Management Areas" paragraph of the page explaining that the contribution of the proposed project to cumulative effects on the Palen-Ford WHMA would not be substantial because, while the proposed project may affect the map depicting the Palen-Ford WHMA boundary, the proposed project does not affect the resources the Palen-Ford WHMA was created to protect (please see our comment on Page 4.4-18, above, for more detail). enXco recommends the following addition:

The DHSP's contribution to cumulative impacts to the Palen-Ford WHMA would not be substantial. The WHMA was established to protect dunes and playas (BLM and CDFG 2002), which are not present on the project site. Additionally, the 46 acres of the WHMA that are within the DHSP project site are isolated from the remainder of the WHMA, and from the dunes and playa system to the east, by the intervening DSSF project now under construction (see Figures 3.1-1 and 3.4-1). This portion of the WHMA no longer functions in its intended purpose. While the DHSP would affect the mapped WHMA boundary, it would not affect the resources the WHMA was created to protect (e.g., Mojave fringe-toed lizard, Section 3.4.5).

**Page 4.4-65.** The DEIS states that Alternatives 4 through 7 would "contribute considerably to the cumulatively significant impacts of habitat loss for special-status wildlife species in the NECO planning area, and reduced wildlife movement and connectivity in the upper Chuckwalla Valley." The DEIS also concludes in multiple areas that the contribution of the project to loss of wildlife connectivity would be relatively minor [DEIS at 4.4-17 and 4.4-62]. enXco recommends clarifying that while the DHSP contribution to the reduced wildlife movement and connectivity is individually minor, it would make a cumulatively considerable contribution to habitat loss for special-status wildlife species in the NECO planning area, and reduced wildlife movement and connectivity in the upper Chuckwalla Valley. Mitigation Measure VEG-6 reduces

the project's contribution to cumulative effects but there are still minor residual effects that could contribute to cumulative effects.

**“Alternative 4. ...**

The cumulative impacts of existing and reasonably foreseeable development to special-status wildlife and habitat (including listed threatened or endangered species), and wildlife movement, are significant within the region (criteria WIL-1 and WIL-2). The individual contributions of Alternative 4 to these cumulative effects would be minor and mitigated in part through mitigation measures described in Sections 4.3.7 and 4.4.7, particularly Mitigation Measures MM VEG-6 (Provide Off-Site Compensation for Impacts to Vegetation and Habitat). Even with implementation of mitigation, the residual impacts of Alternative 4 would have a cumulatively considerable contribution to ~~cumulatively~~ significant habitat loss for special-status wildlife species in the NECO planning area, and reduced wildlife movement and connectivity in the upper Chuckwalla Valley. Therefore, cumulative impacts would remain significant and unavoidable under criteria WIL-1 and WIL-2.”

**Page 4.4-66, second full paragraph of page, Section 4.4.17 (typo)**

Alternative B would not contribute to cumulative ~~vegetation~~ wildlife effects...

**Section 4.6 Cultural Resources**

**General Comment:** Please refer to summary comments related to cultural resources in Section 3.6 of this comment letter, for references to status of BLM Class III surveys and inventories, NRHP resource status, and Section 106 initiation.

**General Comment:** Chapter 4.6 refers in several places to a "pipeline" as a component of the proposed project. No pipeline is part of the proposed project. Please delete all pipeline references.

**Section 4.6.1, p. 4.6-1, paragraph 3:** The five steps should be revised to indicate that inventory provides a list of potential historic properties and that a resource achieves “historic property” status only if it is found to be eligible for the NRHP. Also revise to indicate that only adverse effects to historic properties must be resolved.

**Section 4.6.1, p. 4.6-2, Archaeological Resources Inventory:** Status of the archaeological surveys should be revised to show that only 98.3 acres of Alternative D Gen-tie (4 percent of the project and alternative gen-ties) have not been subjected to intensive survey because of denial of access by private landowners.

**Section 4.6.2, p. 4.6-3, Applicant Measures:** Although only one Applicant Measure has been proposed for cultural resources, it should be characterized as a comprehensive plan that will ensure resolution of any adverse effects and discovery and proper treatment of historic properties

during project development, operation, and decommissioning, in accordance with all existing laws and regulations, and in consultation with regulatory agencies and all interested parties.

**Section 4.6.6, p. 4.6-4, Alternative 4—Proposed Solar Project:** This, and all subsequent sections that discuss the solar farm should be revised to indicate that **no** NRHP-eligible properties have been identified within the solar farm during intensive surveys of 100 percent of the APE.

See comment on page 3.6-29, above, regarding the North Chuckwalla Mountains Quarry District. The District's research value would not be affected by visual, atmospheric, or auditory factors. Therefore, the Project would not have an adverse effect on the qualities that make this resource eligible for the NRHP. This should be revised in all subsequent sections.

**Section 4.6.6, p. 4.6-5, Alternative 4—Proposed Solar Project:** The statement regarding potential for buried archaeological sites within the solar farm should be revised to indicate that sediments within the Project vary widely in their potential for having been used for prehistoric activities and then for burying artifacts and features in a manner that their context and integrity would be retained.

**Section 4.6.6, p. 4.6-5, Construction, Direct Effects:** Statements regarding the impacts of construction should be revised. There will be no direct effects to any built environment resources. Further, the proposed historic landscapes have no standing until such time as one or both are determined eligible for the NRHP.

MM CUL-5 describes a requirement for expert monitoring of all ground disturbance. More appropriately, the MM CUL-5 (page 4.6-9) specifies that the intensity of monitoring shall be stipulated in the Monitoring and Treatment Plan (MM CUL-2). Such a plan would factor in geomorphological conditions across the Project and should require monitoring in areas of high potential for significant and intact buried cultural deposits. The statement on page 4.6-5 should be revised to indicate that monitoring will occur in areas specified in the Monitoring and Treatment Plan.

Third paragraph: There are no known NRHP-eligible properties within the solar farm. Therefore the project would have no effect/impact on a known resource.

**MM CUL-4, p. 4.6-9:** Third sentence should be revised to require cultural resources WEAP training, not paleontology.

**MM CUL-5, p. 4.6-9:** This section should be revised to clarify that the Monitoring and Treatment Plan (MM CUL-2) plan would factor in geomorphological conditions across the Project and would require monitoring in areas of high potential for significant and intact buried cultural deposits.

**Section 4.6.11, p. 4.6-13, Alternative B:** This and subsequent gen-tie analyses should acknowledge the real potential for avoiding and protecting historic properties even if they are within the inventoried APE. Widely spaced transmission poles such as these can often be designed and constructed to eliminate potential for directly affecting discrete cultural resources. The analysis of this Alternative Gen-tie for the Desert Sunlight Project indicated that of the 18 known archaeological resources in the APE, only one was NRHP eligible and six were not evaluated because they could be avoided. The other eleven were found to be not NRHP eligible. Finally, it should be stated that construction of the transmission poles will require very limited ground disturbance, thus minimizing the potential to encounter buried archaeological sites.

**Section 4.6.15, p. 4.6-26, The Desert Harvest Solar Project in the Cumulative Context:** This section should be revised to reflect the current inventory of historic properties that would actually be affected by the Project. The solar farm would have no direct effect on known historic properties. Of the three gen-tie corridors, Alternative B/C would have the greatest potential for direct effects to historic properties (one eligible and six unevaluated); through project design, however, impacts to all but the known NRHP eligible site could likely be avoided. Further, the known eligible site is the town dump for Desert Center and consists of hundreds of discrete refuse deposits, only a few of which would be affected.

Indirect effects of the project would appear to be limited to visual effects to the North Chuckwalla Mountains Petroglyph District, pending the results of tribal consultation, and more recent built environment resources.

**Section 4.6.16, p. 4.6-28, CEQA Considerations, Alternative 4:** This section refers to MM CUL-1 through MM CUL-9 and discusses an MOA and HPTP. MM CUL-8 and CUL-9 have not been introduced prior to this reference and we presume that they have been eliminated. More important, none of the other Mitigation Measures discuss an MOA or HPTP. MM CUL-2 (page 4.6-7) describes a Monitoring and Treatment Plan. Typically if a project is determined under Section 106 to have an adverse effect on historic properties, the resolution of adverse effects is memorialized in an MOA document and treatments are detailed in an HPTP. If the BLM anticipates a Finding of Adverse Effect for the project, reference to an MOA and treatment documents should be made within MM CUL-2.

#### **Section 4.7 Paleontology**

**Page 4.7-3.** Please revise the fourth sentence of the "Indirect Effects" paragraph of the page as follows to reflect that the statement is comparative, not absolute: "Therefore, the potential for adverse indirect effects on paleontological resources is higher."

#### **Section 4.8 Fire and Fuels Management**

**Page 4.8-4.** MM FIRE-1 requires cessation of construction during "severe fire weather". enXco requests modification of the measure to require conferral with the local CAL FIRE office upon a "severe fire weather" declaration to determine whether work needs to stop.

#### **Section 4.9 Soils and Geology**

**Page 4.9-1.** enXco requests deletion of AM GEO-1 and its replacement with the following language:

**AM GEO-1 Design Plan.** Project structures shall be built in accordance with the design-basis recommendations in the project-specific geotechnical investigation report. Structure designs must meet the requirements of all applicable federal, state, and county permits and building codes.

enXco also requests corresponding edits to AM GEO-1 references on pages 4.9-4 and 4.9-8 and in the project description.

#### **Section 4.10 Energy and Mineral Resources**

**Page 4.10-2.** Please take into consideration that the project has been segregated from mineral entry until at least 30 June 2013 (see comment on page 4.10-3, below).

**Page 4.10-3.** Please supplement the third paragraph of the page with information regarding BLM's 2-year segregation of the Riverside East SEZ from mineral entry on 30 June 2009 and renewal of same on 30 June 2011. Please also explain that, while the proposed project would be consistent with the Solar Energy Zone, because its Form 299 was filed and accepted by BLM prior to 30 June 2009, the project qualifies as a "pending project" under the terms of the Supplement to the Draft Solar Programmatic EIS and therefore would not be subject to its terms if the PEIS is adopted in its current form.

#### **Section 4.11 Lands and Realty**

**Page 4.11-3.** In the "Habitat Conservation Areas" paragraph, please cross-reference Section 4.4 and note that the effect on management of the WHMA as a whole is minimal because, while the proposed project may affect the map depicting the Palen-Ford WHMA boundary, the proposed project does not affect the resources the Palen-Ford WHMA was created to protect (please see our comment on Page 4.4-18, above, for more detail).

**Page 4.11-8.** It is enXco's understanding that the private parcel referenced in the second sentence of the second paragraph of the "Applicable Land Use Plans, Policies, or Regulations" is in fact owned in fee by Riverside County. Please revise accordingly.

**Page 4.11-10.** For clarification, please explain in the first paragraph of Section 4.11.12 that the 60-foot extension of Alternative C into the adjacent Chuckwalla DWMA is required solely to accommodate intermittent "wind sway" of overhanging conductors over the DWMA boundary.

**Page 4.11-18.** The cumulative effects analysis of Alternative 4 should take into consideration that a loss of access to lands managed by BLM for multiple-use as a result of energy development projects is not necessarily an adverse effect to lands and realty. Energy development is consistent with the multiple-use mandate of FLPMA, particularly where, as here, the lands in question have already been segregated as part of the proposed Riverside East Solar Energy Zone, which, after being announced in the Federal Register on June 30, 2009 and refined through public comment on both energy and environmental considerations, has been identified as among the BLM-administered lands best suited for solar development based on a series screening criteria. Similarly, the last paragraph of the Alternative 4 analysis should also take into account that most of the project study area is BLM-administered land that (i) is segregated from entry as part of the proposed withdrawal of the Riverside East Solar Energy Zone; and (ii) is subject to the primary land use authority of the federal government, rather than state or local government.

#### **Section 4.12 Noise and Vibration**

**Page 4.12-2.** Please consider revising Table 4.12-1 by deleting the "substation column" (which is not a feature of the Desert Harvest project) and by condensing the "Solar Facility" and "Gen-Tie Transmission Line" columns into a single column entitled "Distance to Closest Existing Residence" with the same 6,500-foot value for Alternatives 4 through 6 and the values of 500, 500, 1,450 and 900 feet for Alternatives B through E, respectively. Please also delete the "Alternative A – No Gen-Tie" row from the table.

**Page 4.12-5.** Please consider the following edit to clarify the noise analysis: "Construction noise was modeled for the ~~Desert Sunlight Solar Farm Project for 5 of the 18~~ construction sub-phases:"

**Page 4.12-12.** The first paragraph under "Operation and Maintenance" states that operation and maintenance of the proposed project will require 16 employees. This is incorrect. As stated on page 2-7 of the DEIS, operation and maintenance of the proposed project will require 8 full-time employees.

**Page 4.12-24.** Please change the reference to Alternative "C" in the first sentence of the "Noise from Decommissioning Activities" paragraph to Alternative "B".

**Page 4.12-40.** Please revise the last sentence of the second paragraph of the page to reflect the non-cumulative baseline of the DEIS, under which enXco would construct Alternative B: "Consequently, construction activities would be exempt from the Riverside County noise

ordinance and noise impacts from construction activities along the gen-tie line, ~~which would involve stringing only~~, would be less than significant (CEQA significance criterion NZ-5)."

#### **Section 4.14 Recreation**

**Page 4.14-2.** The second sentence of the "Indirect Effects" paragraph states that the project would require a peak construction workforce of up to "315" workers. Please revise to "250", consistent with the fourth sentence of the same paragraph and the construction workforce estimates of page 2-12 of the DEIS.

**Page 4.14-3.** Without unduly diminishing the importance of wilderness experiences referenced in the "Residual Impacts and Unavoidable Adverse Effects" section of the page, enXco would like to note that only a small number of visitors frequent the portions of Joshua Tree National Park surrounding the Chuckwalla Valley because, as stated in the Draft Solar Programmatic EIS, most facilities and recreational uses are in the western side of the park (Draft Solar PEIS, page 9.4-231). The rugged terrain and isolation of the surrounding mountains from public roads further constrain access. As the NPS has noted, "there are no roads or visitor access points into the park in that area, and the number of visitors to that area, while unknown, are likely to be low." National Park Service, comments on First Solar – Desert Sunlight Solar Farm Project, Draft Environmental Impact Statement (24 November 2010)). Because of their isolation, activities in this portion of JTNP most likely consist primarily of overnight backcountry camping. Backpacking overnight is the least common activity in the park; 2 percent of visitors engage in it, and 5 percent of visitors actually sleep in the backcountry. (National Park Service Social Science Program, Joshua Tree National Park Visitor Study (Spring 2004), pages 21, 25).

**Page 4.14-5.** Please delete the inadvertent references to "energy and mineral resources" on the page.

**Page 4.14-12.** The references to the CDCA in the second full paragraph of the page should be contextualized by explaining that the CDCA is a 25-million acre area of which 10-million acres are administered by BLM under the multiple-use mandate of FLPMA, rather than under the recreational limitations of wilderness and/or national park designations.

#### **Section 4.15 Social and Economic**

**Page 4.15-15.** Unlike NEPA, CEQA pertains solely to physical effects on the environment. With regard to Section 4.15.16 of the DEIS, please note that 14 CCR 15064 and 15382 provide that social and economic changes *per se* may not be treated as significant effects on the environment under CEQA. As stated in 14 CCR 15064(e):

"Economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment. Where a physical

change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. If the physical change causes adverse economic or social effects on people, those adverse effects may be used as a factor in determining whether the physical change is significant. For example, if a project would cause overcrowding of a public facility and the overcrowding causes an adverse effect on people, the overcrowding would be regarded as a significant effect."

#### **Section 4.16 Environmental Justice**

**Page 4.16-13.** Section 4.16.16. Appendix G of the State CEQA Guidelines does not provide a definitive list of environmental categories and significance criteria by which environmental analysis must be conducted under CEQA. And environmental justice effects are not physical effects on the environment and therefore are not *per se* within the scope of CEQA. Please replace the current language with an explanation consistent with our comments regarding page 4.15-15, above.

#### **Section 4.17 Special Designations**

**Page 4.17-2.** The second sentence of the direct effects analysis of Alternative states that 78.5 acres of CDFG jurisdictional streambeds and 976.5 acres of Creosote Bush Scrub habitat lie within the Palen-Ford WHMA portion of the proposed project. This is incorrect. The impact totals above are for the entire proposed project, of which only 47 acres lie within the Palen-Ford WHMA. Please revise accordingly. Please also revise the remainder of the direct effects analysis to reflect that, while the proposed project may affect the map depicting the Palen-Ford WHMA boundary, the proposed project does not affect the resources the Palen-Ford WHMA was created to protect (please see our comment on Page 4.4-18, above, for more detail).

**Page 4.17-3.** Please conform the direct effects analysis under "Operations and Maintenance" to the conclusion of the DEIS that the proposed project would not be visible from the Desert Lily Preserve ACEC, as illustrated by Figure 4.19-4B of the DEIS and the corresponding analysis of pages 4.19-11 and 4.19-12 of same.

**Page 4.17-3.** Please explain in the cumulative effects analysis that the proposed project's incremental contribution to effects on the Palen-Ford WHMA are insubstantial because of the severance of the Desert Harvest portion as a result of construction of the Desert Sunlight project immediately to the north and because, while the proposed project may affect the map depicting the Palen-Ford WHMA boundary, the proposed project does not affect the resources the Palen-Ford WHMA was created to protect (please see our comment on Page 4.4-18, above, for more detail).

**Page 4.17-6.** Please conform the conclusions of the first paragraph of the "Residual Impacts and Unavoidable Adverse Effects" paragraph with our comment above regarding page 4.4-18 (no impacts to Palen-Ford WHMA) and page 4.3-36 (regarding the reduction of residual habitat loss by permanent compensatory mitigation offsets), which we believe demonstrate why there are no residual impacts and unavoidable adverse effects with regard to the resources they discuss. The project does not directly impact vegetation resources within the Desert Lily ACEC.

**Page 4.17-11.** We recommend revising the fourth sentence of the first paragraph of Section 4.17.11 as follows because it is incorrectly premised upon the cumulative projects baseline instead of the project-specific baseline, which presumes construction of Alternative B by enXco:

~~"While cConstruction of the gen-tie would occur concurrently with construction of the gen-tie lines for the Desert Sunlight Solar Farm project on shared towers, construction of these transmission lines would result in visual effects to visitors."~~

**Page 4.17-23.** The indirect effects analysis on the page states that "The loss of intermountain and foraging habitat [caused by the proposed project] would have indirect effects to the long-term viability of wildlife that are found in or use the surrounding National Parks and Wilderness areas." enXco believes this overstates the effects of the proposed project, which would occupy 0.6 percent portion of the Chuckwalla Valley identified as low quality desert tortoise habitat by the 2009 USGS Desert Tortoise Habitat Model (Nussear et al. 2009) and which would be located adjacent to the approved Desert Sunlight project. In addition, many of the features that the same analysis lists as impediments to bighorn sheep movement – such as fencing along highways, canals, human habitation – already exist in the Chuckwalla Valley. Finally, the project site is bounded to located in the vicinity of significant agricultural disturbance at the southern extreme of mountains forming the western and eastern boundaries of the Chuckwalla Valley. Intermountain movements are more likely to occur in the northern reaches of the Chuckwalla Valley.

**Pages 4.17-25 and 4.17-26.** The last sentence of page 4.17-25 states that MM WAT-2 would require use of an alternate water source for the project. This is incorrect. As drafted, MM WAT-2 requires identification of an alternate water source prior to construction. In addition, we request deletion of that requirement in our comments on MM WAT-2, below (Pages 4.20-20 through 4.20-23). We suggest revising the sentence as follows: "Furthermore, mitigation identified in Section 4.20 ~~would require use of an alternative water source for the project (Mitigation Measure WAT-2, Alternative Water Source); thereby would avoiding~~ potential adverse effects associated with to local groundwater and water supply reliability."

**Page 4.17-26 and Page 4.17-27.** With regard to the DEIS' analyses of indirect and cumulative effects on recreational values at JTNP, please refer to our comment on page 4.14-3, above.

#### **Section 4.18 Transportation and Public Access**

**Page 4.18-5.** The first sentence of the first paragraph following Table 4.18-2 states that MM WAT-2 would require transportation of water needed for Alternative 4 by truck. This is incorrect. As drafted, MM WAT-2 requires identification of an alternate water source prior to construction. In addition, we request deletion of that requirement in our comments on MM WAT-2, below (Pages 4.20-20 through 4.20-23). We suggest revising the sentence as follows: "As discussed in Section 4.20, implementation of MM WAT-2 would result in the applicant having to transport water needed for construction of Alternative 4 by truck."

**Page 4.18-22.** Please correct the sentence immediately preceding the "CEQA Significance Determination" section of the page, as follows: "The proposed project and alternatives would not include a design feature or incompatible uses that would result in an increase in hazards; therefore, there would be no impact."

### **Section 4.19 Visual Resources**

**Page 4.19-3.** Because the DEIS applies an Interim VRM Class IV management class to the proposed project site, please revise the parenthetical of the third sentence of the third complete paragraph of the page to state "(Commensurate with Class ~~III~~IV VRM objectives)".

**Page 4.19-10.** Please revise Figure 4.19-3B to depict fencing and collector poles as they would appear from KOP3, and as they appear in Figure 4.19-3D. Please also include the transmission line crossing the figure in Figure 4.19-3B if this would be visible from KOP3. enXco also notes that while both KOP3 and KOP3A are illustrative of viewpoints along northbound Kaiser Road, KOP3A is between 0.15 to 0.65 miles closer to the project and renders the project more noticeable to the viewer.

**Page 4.19-17.** enXco recommends deleting the sentence "Bury all or part of the structure" from the third bullet point of MM VR-3 to reflect the conclusion of Chapter 2 of the DEIS that undergrounding of the proposed project's gen-tie lines is infeasible.

**Page 4.19-18.** enXco recommends deleting the second and third sentences of the first paragraph of MM VR-5 because they are already appear in the Alternative 4 effects analysis (page 4.19-11) and explain rather than describe the mitigation measure. Please replace the deleted sentences with the following to allow for strategic placement of intervening vegetation if approved by BLM, Riverside County and the Resource Agencies as part of the project's Vegetation Resources Management Plan: "Strategic placement of intervening vegetation, including native plants from a nursery source, or to the extent possible, salvaged from the project solar field. ~~Any proposed vegetation screening plants salvaged from the project solar field to the extent feasible, will be included in the applicant's shall be required if a high-profile (15-foot) array is used, provided a salvage and relocation plan is prepared and approved as part of the~~ Vegetation Resources Management Plan Required by MM VEG-5."

**Page 4.19-19.** Please delete the parenthetical requirement for on-demand, audio-visual warning system mitigation in clause "c)" of the central paragraph of the page. The FAA has not yet incorporated AVWS into its Part 77 obstruction marking and lighting circular as an approved technology, and, in any event, it is the FAA, not the BLM or the applicant, that determines appropriate marking and lighting arrangements for projects within its Part 77 purview.

**Page 4.19-24.** Please note the difference in perspective between 4.19-3B and 4.19-3D increases the contrast of Alternative 7 relative to the depiction of Alternative 4. This contrast makes Alternative 7 appear disproportionately larger and reduces the screening effect of intervening vegetation.

**Page 4.19-26.** Figure 4.19-8D depicts a visual simulation of Alternative 7 from KOP 8A along the I-10. A simulation of Alternative 4 from the same vantage point would result in no discernible difference between Alternative 4 and Alternative 7. enXco requests inclusion of language to this effect at the end of the KOP 8A analysis of Alternative 7 on page 4.19-26 of the DEIS.

**Page 4.19-38.** The paragraph immediately preceding the heading "Reasonably Foreseeable Cumulative Projects" asserts that Alternative C would have a larger cumulative effect compared to Alternatives D and E because it would site one gen-tie line directly adjacent to another. enXco disagrees with this conclusion. While two sets of parallel poles (Alternative C) would be more visually impactful than co-located conductors on a single pole (Alternative B under cumulative conditions) constructing separate gen-tie lines across the Chuckwalla Valley along new routes (Alternative D or Alternative E) would create a larger sense of industrialization in the local viewshed because it would result in multiple installed transmission routes at the cumulative level rather than one. As noted in the Local cumulative effects discussion within the geographic scope [DEIS pg. 4.19-37], the local cumulative effects are those within the immediate project viewshed (typically within 15 miles of DHSP). All of the gen-tie line routes are within 15 miles of the Desert Sunlight gen-tie route so within the immediate project viewshed. Additionally, because of the proximity of the Desert Sunlight gen-tie line route and the Alternatives D and E, viewers would likely see both of the gen-ties over a more extended period of time than if the routes are parallel, especially viewers travelling along the I-10 who would be parallel to the gen-tie lines B and E for an additional two miles compared with gen-tie lines B and C.

**Page 4.19-40.** The first full paragraph of the page asserts that Alternative C would have a larger cumulative effect compared to Alternatives D and E because it would site one gen-tie line directly adjacent to another. enXco disagrees and draws the opposite conclusion for the reasons described in our second comment on page 4.19-38, above.

**Page 4.19-41.** The first full paragraph of the page asserts that Alternative C would have a larger cumulative effect compared to Alternatives D and E because it would site one gen-tie line

directly adjacent to another. enXco disagrees and draws the opposite conclusion for the reasons described in our second comment on page 4.19-38, above.

**Page 4.19-42.** Significance criterion V-7 sets a lower threshold than CEQA requires for incremental contributions to significant cumulative impacts, and therefore should be revised as follows:

V-7 The presence of DHSP would constitute a cumulatively considerable contribution to a significant cumulative visual impact~~add to a cumulative visual alteration.~~

**Page 4.19-44 and Page 4.19-45.** Stating that high-profile panels would substantially degrade views from Kaiser Road with a 200 foot buffer in place, but that low-profile panels would not, draws a very fine distinction. After taking a 200-foot vegetative screen buffer into account, enXco feels that close-proximity, at-grade views of low-profile and high-profile panels, coupled with effects of fencing and overhead collector lines would render the effects of both less than significant, under the "substantially degrade" standard of significance criterion V-3, for reasons stated in our comments on page 4.19-24.

**Page 4.19-48.** The "Alternative C" paragraph asserts that Alternative C would have a larger cumulative effect compared to Alternatives D and E because it would site one gen-tie line directly adjacent to another. enXco disagrees and draws the opposite conclusion for the reasons described in our second comment on page 4.19-28, above.

### **Section 4.20 Water Resources**

**Page 4.20-5.** If MM WAT-2 is retained notwithstanding enXco's comment on pages 4.20 through 4.20-23, below, please revise the first bullet point of the page as follows:

- MM WAT-2 (Alternative Water Source and Groundwater Offsets) would ~~address potential drawdown effects by avoiding pumping or over-pumping at the project's supply well(s), and by ensuring~~ ensure that the project does not perpetuate ~~known or predicted~~ overdraft conditions.

**Page 4.20-7.** If MM WAT-2 is retained notwithstanding enXco's comment on pages 4.20 through 4.20-23, below please revise the second bullet point of the page as follows:

- MM WAT-2 (Alternative Water Source and Groundwater Offsets) would ~~avoiding pumping or over-pumping at the project's supply well(s), and~~ ensure that the project does not perpetuate ~~known or predicted~~ overdraft conditions.

**Pages 4.20-7 through 4.20-8.** The DEIS's analysis of potential Colorado River Accounting Surface effects is based on an analysis that used a rough estimate of the depth of groundwater at the DHSP site and ignores both the range of groundwater level trends in the Hayfield Planning

area and the existing and readily available well data in the vicinity of the DHSP that tracks groundwater levels. Instead, it infers a rough estimate of static groundwater levels to conclude that project wells could draw down as low as within four feet of the Accounting Surface to obtain water. The DEIS reaches this conclusion by using Google Earth to estimate elevation levels for the project site and subtracting from those elevations a groundwater level estimate for the Hayfield Planning Area (which is twice as large as CVGB) of 1-400 feet below ground surface. The Desert Sunlight FEIS used existing well data to show that static groundwater levels for wells in the Chuckwalla valley are in fact between 241 and 266 feet above the Colorado River Accounting Surface of 238 to 240 amsl (*See*, Desert Sunlight FEIS, Pages 4.17-10 through 4.17-11 and Appendix O of same, attached hereto). The Desert Sunlight FEIS estimated that Desert Sunlight groundwater pumping of 650-700 afy for two years would result in a drawdown of 10-20 feet, which is still more than 200 feet above the Colorado River Accounting Surface. *Id.* Desert Harvest will pump 400-500 afy for two years, resulting in a proportionately similar drawdown effect of more than 200 feet above the Colorado River Accounting Surface. The effects of the proposed project on Colorado River water therefore would not be significant.

enXco requests that the DEIS analysis be revised to incorporate the existing well data as suggested below, which uses the best available data, to indicate that the groundwater level elevation at the DHSP site is well above the Colorado River Accounting Surface and, as such, no impact to the Colorado River Accounting Surface would occur.

Accordingly, enXco recommends revising pages 4.20-7 through 4.20-8 as follows:

**Colorado River Water.** As discussed in Section 3.20 (see “Colorado River Accounting Surface”), groundwater pumped from the CVGB at or below an elevation of 234 feet amsl can be considered recharge from the adjudicated Colorado River ~~is considered Colorado River water~~. According to the Colorado River Board of California (CRBC), municipal, industrial, and recreational water users found to be using Colorado River water, through Accounting Surface delineations, without a Colorado River water right may be eligible to contract for water from the Lower Colorado Water Supply Project (CRBC 2000). Also as described by the CRBC, if a well or pump extends into the Accounting Surface for the purpose of extracting water, then a valid water contract is required from the Secretary of the Interior, through its agent, the Bureau of Reclamation (CRBC 2003).

The discussion presented under “Groundwater Level Trends” in Section 3.20 indicates that groundwater levels in the Hayfield Planning area, including the CVGB and the project site, range from the ground surface to 400 feet below ground surface (bgs). ~~Google Earth (2011) indicates that ground surface elevation at the project site ranges from approximately 670 feet amsl in the northwest to approximately 590 feet amsl in the southeast. As such, depth to groundwater on the project site may be up to 190 to 270 feet amsl. For the purposes of this effects discussion, depth to groundwater is assumed to be 230 feet amsl (the average of 190 and 270), approximately four feet above the Colorado River Accounting Surface.~~

Available well data in the vicinity of the DHSP site indicates the groundwater elevation has been measured between 385 and 504 feet amsl, with the water level data for wells that are most proximal to the DHSP site, ranging between 483 and 488 feet amsl (AECOM 2011). A review of cross sections and potentiometric maps from prior investigations of the Upper Chuckwalla Valley show that the water level elevation has been interpreted to be between 500 to 540 feet amsl in the area of the DHSP site. The water level data from the wells and used in the interpretation of the potentiometric surface were collected between 1961 and 1992.

Data from a well in the community of Desert Center (5S/16E-7P01, 7P02), located about 3 miles south of the DHSP site, show similar water level elevations to those measured near the DHSP project in the early 1960s. The well (5S/16E-7P01, 7P02) data then show a period of water level decline in the mid-1980s as a result of expanded agricultural operations, where combined pumping exceeded 20,000 acre-feet per year, well above historical water usage for the western part of the basin. Agricultural operations were curtailed in the late 1980s and water levels in the Desert Center area have recovered to levels similar to the early 1960s. The most recent water level elevation measured (2000) in Well 5S/16E-17P02 was 462 feet amsl or about 230 feet above the proposed Accounting Surface.

The DWR reported in the latest Bulletin 118 Update (2004) that the upper 100 feet of saturated sediments in the CVGB are estimated to have approximately 900,000 acre-feet of groundwater in storage, as based on the 1975 version of DWR Bulletin 118 (DWR 2004). ~~Based on this 1975 estimation, the upper four feet of saturated sediments between the assumed water surface elevation of 230 feet amsl (noted above) and the Colorado River Accounting Surface could potentially contain 36,000 acre-feet of water, assuming 900,000 acre-feet in the upper 100 feet, divided by 100 feet, then multiplied by four feet (SCE 2010).~~ These estimates suggest that there is sufficient groundwater in storage above the Colorado River Accounting Surface to meet the project's construction water requirements of 400.51 to 500.51 afy.

If all water required for construction of the project is pumped from saturated sediments above the Colorado River Accounting Surface, it could be concluded that the project would not consume any appropriated Colorado River water. However, the estimates of groundwater storage described above are based on DWR data from 1975 (DWR 2004), and do not consider uses of the CVGB water which have developed in the 35 years since then and would affect the volume of water in storage, both above and below the Colorado River Accounting Surface. The calculations described above also assume that groundwater stored in the upper 100 feet of saturated sediments is distributed evenly, ~~and that the volume in storage within a four-foot section of these sediments can be directly extrapolated from the overall storage.~~

The assumptions described above are problematic compared to current understanding of subsurface conditions in the project area. Environmental analysis of the Genesis Solar Energy project, which is also located within the CVGB, included preparation of hydrostratigraphic cross-sections, or diagrams/maps of subsurface materials which form distinct hydrologic units with

respect to the movement of groundwater. These cross-sections indicate varying sub-surface conditions relevant to grain size and static groundwater levels (CEC 2010; see pages 944-946 of 1380: *Soil and Water Figures 8, Hydrostratigraphic Cross-Section A-A'*, *9, Hydrostratigraphic Cross-Section B-B'*, and *10, Hydrostratigraphic Cross-Section Lines*). It is plausible that the volume of water in storage within the saturated sediments above the estimated Colorado River Accounting Surface, and the distribution or availability of water stored in saturated sediments are less than indicated by the estimates described above; ~~it is also plausible that the proposed groundwater well at the project site could result in pumping of Colorado River water by drawing water from below 234 feet amsl. Therefore, mitigation is required to avoid potential effects associated with use of appropriated Colorado River water.~~

The comparison of available historical and recent groundwater level data from wells in the vicinity of the DHSP site and prior interpretations of the water level elevation below the DHSP site reveal that the static water level elevation in the area is well above the proposed Accounting Surface. A buffer of more than 200 feet is indicated in the groundwater level data. The data indicate that the DHSP therefore would not affect the Accounting Surface.

~~Construction of the project would include implementation of Mitigation Measure WAT-7, which is presented under the "Mitigation Measures" subheading and summarized below, as relevant to use of appropriated Colorado River water.~~

~~MM WAT-7 (Colorado River Water Supply Plan) would ensure that if the project results in pumping of any Colorado River water, conservation actions would be implemented to "replace" the Colorado River water on an acre foot by acre foot basis.~~

**Page 4.20-18.** Please note that decommissioning of the proposed project would likely require substantially less water than construction.

**Pages 4.20-20 through 4.20-23.** MM WAT-2 would require enXco to contractually secure, prior to construction, an out-of-basin water source or in-basin offsets on a one-to-one basis for all water required by the project during each year of overdraft conditions projected by the DEIS. We question the need for this measure. As stated on pages 4.20-5 and 4.20-15 of the DEIS, sufficient groundwater supply is available in the Chuckwalla Valley Groundwater Basin (CVGB) to meet project requirements, and even if construction resulted in overdraft conditions, such effects would be temporary and would be expected to reverse once construction ceased. In addition, the project's incremental contribution to projected, worst-case cumulative overdraft conditions is inconsiderable. The project's water demand during construction would be roughly 2 percent of basin-wide outflow. Operational water demand would be roughly 0.1 percent of basin-wide outflow through 2017, and 0.2 percent of basin-wide outflow thereafter. While small incremental contributions can have cumulatively considerable effects, the DEIS shows that these particular project contributions would not force CVGB past an overdraft "tipping point" it otherwise would not have reached. The Desert Sunlight EIS applied the same reasoning to

determine that the Desert Sunlight project's contribution to cumulative ground-water basin impacts was cumulatively inconsiderable (Desert Sunlight FEIS, page 4.17-41). Finally, as stated on page 4.20-7 of the DEIS, the Water Supply Assessment prepared for the project shows that overdraft conditions would occur regardless of the project and would recover over the lifetime of the project, such that overdraft conditions in the CVGB are anticipated to be temporary.

However, if BLM decides to retain MM WAT-2, enXco recommends revising the measure to reflect the following:

First, while impact analysis and mitigation should be based on worst-case projections, the trigger for implementing mitigation should be tied to actual, rather than projected overdraft conditions because the likelihood and extent of actual overdraft is hard to predict. As a practical matter, many of the projects factored into the cumulative impacts analysis may or may not be constructed, and, if they are constructed, may not be constructed on the estimated schedule provided in the DEIS. The Palen and Blythe projects are subject to bankruptcy proceedings and may be re-authorized for less water-consumptive solar technologies, for example, while the Eagle Crest pumped storage project – which alone would cause CVGB overdraft – faces continued discussion regarding site control and potentially further environmental review regarding biological and water resources concerns. Adjusting the measure's trigger to actual rather than projected conditions ensures that the mitigation is reasonably related to the project's impacts.

Second, with the exception of federal reserved water rights, BLM's rights to groundwater are subject to state law.<sup>2</sup> Under California law, the groundwater rights of all overlying owners in a basin are correlative. That is, when the basin is overdrafted, overlying owners are limited to their proportionate fair share based upon their reasonable needs, regardless of priority, with the total amount available generally being limited to safe-yield. Thus, an out-of-basin water source or in-basin offset is only required to the extent an overlying pumper desires to exceed its correlative

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<sup>2</sup> FLPMA authorizes a wide range of land management uses that require the use of water, but FLPMA does not give an independent statutory basis for federal water rights inconsistent with state law. Section 43 USC 1701(g); see 88 Interior Dec. 253 (D.O.I.), 257-58, 1981 WL 143135 (D.O.I.), 4. Under California law, riparian water rights exist on federal lands located within the State of California. In re Water of Hallett Creek Stream System (1988) 44 Cal.3d 448, 467 [243 Cal.Rptr. 887, 898, 749 P.2d 324, 334]. With regard to groundwater rights, "The overlying owner in this state has been held to have analogous rights to those of a riparian ... subject to the same restrictions as those applicable to riparian owners." Tulare Irr. Dist. v. Lindsay-Strathmore Irr. Dist. (1935) 3 Cal.2d 489, 525 [45 P.2d 972, 986]; City of Pasadena v. City of Alhambra (1949) 33 Cal.2d 908, 926 [207 P.2d 17, 29]. "As between overlying owners, the rights, like those of riparians, are correlative; each may use only his reasonable share when water is insufficient to meet the needs of all [citation]." City of Barstow v. Mojave Water Agency (1998) 64 Cal.App.4th 737 [75 Cal.Rptr.2d 477, 486] review granted and opinion superseded, (Cal. 1998) 78 Cal.Rptr.2d 184 and aff'd in part, rev'd in part, (2000) 23 Cal.4th 1224 [99 Cal.Rptr.2d 294]. Therefore, in California, BLM's groundwater rights as an overlying owner are subject to the correlative rights principle.

share during overdraft conditions. We urge incorporation of the correlative principle into MM WAT-2 to ensure that the Desert Harvest project does not disproportionately bear a burden that must be borne by all overlying pumpers within the CVGB, regardless of priority. Doing so on a larger scale would ensure that BLM's authorized uses correspond with state law.

Third, requiring enXco to identify and contractually secure out of basin water rights prior to project construction imposes a substantial, multi-agency burden of considerable financial, practical and transactional consequences that may be unnecessary, depending on real-time cumulative conditions. State law already requires an overlying pumper to seek an out-of-basin source to the extent it exceeds its correlative share without a corresponding in-basin offset. In addition, the requirements of MM WAT-2 (if modified as requested) and the exemption from MM WAT-3 and MM WAT-7 for exclusive use of out-of-basin water sources provide sufficient incentives for a water source other than CVGB.

Finally, we recommend inclusion of an off-set option involving recharge of the CVGB through use of MWD's existing Hayfield Lake/Chuckwalla Valley Groundwater Conjunctive Use Project facilities. Use of the existing facilities would not present new impacts beyond those already identified in the DEIS because the Desert Harvest recharge water would not be subject to conjunctive use (i.e., would not be withdrawn from the CVGB) and MWD water quality standards would have to be met as a condition of using MWD infrastructure. It should be noted that the Hayfield Lake portion of the conjunctive use facilities is located in the Hayfield Valley, which is part of the eastern portion of the Orocopia Valley Groundwater Basin that drains into Hayfield Lake and the Chuckwalla Valley (DWR, 2004. California's Groundwater Bulletin 118: Hydrologic Region Colorado River). The DEIS identifies the Orocopia Valley Groundwater Basin as source of underground water inflow to the CVGB (Pages 3.20-17, 3.20-18, 3.20-20).

Our suggested edits to MM WAT-2 reflecting the comments above are as follows:

**MM WAT-2 Alternative Water Source and Groundwater Offsets.** ~~Prior to the onset of construction, the Applicant shall identify a water source alternative to the Chuckwalla Valley Groundwater Basin (CVGB) for some or all of the water required for construction, operation, and decommissioning of the project. The alternative water source may be any source other than the CVGB. If a viable alternative water source is identified, the Applicant shall verify in writing to the BLM that sufficient water supply is available from the alternative source to meet the project's needs. Any water used for the construction, operation, maintenance, or remediation of the project shall be solely for the beneficial use of the renewable energy project or its mitigation measures, as specified in the approved Plan of Development.~~

Water use shall be restricted to pre-construction, construction, operation and decommissioning of the Desert Harvest project and shall cease at the conclusion of the project. If groundwater from the Chuckwalla Valley Groundwater Basin (CVGB) water is to be used to meet any of the project's water supply require-

~~ments, the Applicant shall not pump CVGB groundwater in excess of its correlative share as an overlying use during any year that the CVGB is determined to be in overdraft, unless the applicant offsets any excess pumping on an acre-foot per acre-foot basis identify groundwater offsets for the project's share of groundwater pumping on an acre-foot per acre-foot basis during any year that the CVGB is projected to be in overdraft. The Applicant may secure an equivalent amount of water from a source other than the CVGB as an alternative to an in-basin offset.~~

~~Overdraft conditions shall be determined by adjusting the current and future pumping assumptions, as defined in of Table 4.20-5 (Estimated Cumulative Budget for the Chuckwalla Valley Groundwater Basin (afy)) of this EIS and assessed in the Water Supply Assessment included as Appendix E to reflect actual pumping rates on a quarterly basis from issuance of the ROW grant through project construction and on an annual basis thereafter. The project owner may elect to provide alternative groundwater overdraft projections upon which to rely, in which case a complete Water Supply Assessment including all necessary modeling assumptions in accordance with Senate Bill 610 shall be submitted to the BLM and reviewed and approved by the BLM hydrologist.~~

~~As determined in the Water Supply Assessment for the proposed project, overdraft conditions in the CVGB are anticipated to occur during each year of project operations, projected through 2043, to varying degrees of severity and decreasing over time. The anticipated overdraft conditions are projected to occur regardless of the DHSP, as the project's maximum operational pumping requirement is 39 afy, while the negative groundwater budget projections exceed 39 afy during each year. However, in order to ensure that the proposed project does not contribute to overdraft conditions, during each year that overdraft conditions are anticipated to occur if the offset requirement of this measure is triggered, the Applicant shall implement one or more in-basin offset the measures, including but not limited to, those listed below, and verify in an annual report to the BLM that an amount of groundwater equal to that consumed by the project in excess of its correlative share -is conserved-offset within the CVGB on an acre-foot per acre-foot basis.~~

Implement a Forbearance and Fallowing Program, wherein the Applicant enters into a contractual agreement with willing land owner(s) and/or lessee(s) to fallow fields which are actively irrigated. The contract shall specify the duration of fallowing, during which time no water may be applied to the contracted field. Each field which is fallowed under this program must be located within the CVGB and must receive its water supply from the CVGB. The land owner(s) and/or lessee(s) involved cannot be simultaneously contracting with another entity to fallow the same fields, unless agreed upon by all parties.

Participate in a Forbearance and Fallowing Program implemented within the CVGB by another entity, such as but not limited to the following: Metropolitan Water District (MWD), Palo Verde Irrigation District (PVID), Imperial Irrigation District (IID), and/or other water districts in the project area. Each field which is

followed through a collaborative effort towards the purpose of satisfying this mitigation measure must be located within the CVGB and must receive its water supply from the CVGB.

Explore options with MWD for sale and in-situ or physical delivery of water from existing facilities (e.g., conjunctive use facilities) as a conduit to recharge the CVGB with non-CVGB water contracted by the Applicant, provided the requirements of MM-WAT-1 and MWD's water quality standards are met and hydrological connectivity is demonstrated to the satisfaction of the Environmental Monitor or BLM. In no event shall such recharge water be withdrawn from the CVGB.

In order to satisfy the purpose of this measure, the Applicant must provide documentation to the BLM which verifies that the same quantity of CVGB water which is consumed by the proposed project during an overdraft year in excess of its correlative share is also conserved-offset on an acre-foot per acre-foot basis, ~~or that the project would not pump CVGB water during overdraft years.~~ This documentation shall be provided by the Applicant to the BLM for each year that overdraft conditions are ~~projected~~ determined to occur. The Environmental Monitor or BLM project manager shall verify that ~~the alternative water source is secured via contract prior to the onset of construction and/or that groundwater offsets are secured and implemented if CVGB water is to be used for any portion of the project's water supply requirements~~ in excess of the Applicant's correlative share, per the requirements described above.

If water pumped from the CVGB would be used in conjunction with an alternative water source, the Environmental Monitor shall verify that all groundwater monitoring and reporting requirements identified in MM WAT-3 (Groundwater Drawdown Monitoring and Reporting Plan) and MM WAT-7 (Colorado River Water Supply Plan) are implemented; however, if an alternative water source would be used to meet all of the project's water requirements and the project does not pump any groundwater from the CVGB, or any basin tributary to the CVGB, then MM WAT-3 and MM WAT-7 would not be necessary.

Potential impacts associated with the delivery of an off-site water source to the proposed DHSP site could include effects to transportation and public access, noise, air quality, energy and minerals, and climate change. The daily water demand during construction of the project is estimated to range from a low of 125,000 gallons per day (gpd) to a peak of an estimated 600,000 gpd. Assuming the project used ~~12,000~~ 12,000 gallon trucks to transport the water, between 10 and 50 round trip truck trips would be required to transport the water to the site each day during construction if all the water consumed during construction were trucked from offsite. During operations, the project would use between 26 and 39 afy. This would require between 2 to 3 round trip truck trips per day, ~~if the CVGB were in overdraft and~~ if all the water consumed during a year of operation were trucked from offsite.

[...]

**Pages 4.20-23 through 4.20-25.** MM WAT-3 would require enXco to prepare a Groundwater Drawdown Monitoring and Reporting Plan. We recommend revising the well-owner mitigation provisions of MM WAT-3 to mirror the well-owner mitigation provisions of the Desert Sunlight FEIS, which anticipate potential cumulative well effects and specify mitigation approaches in greater detail. Doing so will also facilitate coordination of any mitigation cost-sharing between neighboring projects.

Our suggested edits to MM WAT-3 reflecting the comments above are as follows:

**MM WAT-3 Groundwater Drawdown Monitoring and Reporting Plan.** If groundwater is to be pumped for consumptive use in this project from either an onsite well or an offsite well that extracts water from the CVGB, the Applicant shall develop and implement a Groundwater Monitoring and Reporting Plan prior to the onset of construction of the project. In the preparation and implementation of this plan, the Applicant shall coordinate with the BLM and with the Colorado River Basin RWQCB. The Groundwater Monitoring and Reporting Plan shall be prepared by a qualified hydrogeologist and submitted by the Applicant to the BLM for approval, and to the RWQCB for review and comment.

The Groundwater Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels, water quality, and flow. Monitoring shall be performed during pre-construction, construction, and operation of the project, with the intent to establish pre-construction and project-related groundwater level and water quality trends that can be quantitatively compared against observed and simulated trends near the project pumping wells and near potentially impacted existing private wells. The monitoring wells shall include locations up-gradient, lateral, and down-gradient of all project supply wells and a minimum of three off-site down-gradient wells. Water quality monitoring shall include annual sampling and testing for Total Dissolved Solids (TDS), which include minerals, salts, and metals dissolved in water. Water quality samples shall be drawn from project supply wells, one up-gradient well, and a minimum of two down-gradient offsite wells.

The Groundwater Monitoring and Reporting Plan shall include a schedule for submittal of quarterly data reports by the Applicant to the BLM, for the duration of the construction period. These quarterly data reports shall be prepared and submitted to the BLM for review and approval, and shall include water level monitoring data (trend analyses) from all monitoring wells, including the up-gradient, lateral, and down-gradient wells described above.

Based on the results of the quarterly reports, the Applicant and the BLM shall determine if the project's pumping activities have resulted in water level decline ~~of five feet or more below the baseline trend~~ at any of the monitoring wells, including nearby private wells. If water levels have been lowered more than five feet below immediate pre-construction levels, and monitoring data provided by the Project owner show these water level changes are different from background trends (including prior projects) and are caused by Project pumping, then the Project owner shall provide mitigation to the impacted well owner or owners. Mitigation shall be provided to the impacted well owners that experience five feet

or more of Project-induced drawdown if the CPM's inspection of the well monitoring data confirms changes to water levels and water level trends relative to measured pre-Project water levels, and the well (private owner's well in question) yield or performance has been significantly affected by Project pumping. The type and extent of mitigation shall be determined by the amount of water level decline induced by the Project on a pro-rata basis, the type of impact, and site-specific well construction and water use characteristics. If an impact is determined to be caused by drawdown from more than one source, the level of mitigation provided shall be proportional to the amount of drawdown induced by the Project relative to other sources. To be eligible, a well owner must provide documentation of the well location and construction, including pump intake depth, and that the well was constructed and usable before Project pumping was initiated. The mitigation of impacts shall be determined as follows:

a. If groundwater monitoring data indicate Project pumping has lowered water levels below the top of the well screen, and the well yield is shown to have decreased by 10 percent or more of the pre-Project average seasonal yield, compensation shall be provided for the diagnosis and maintenance to treat and remove encrustation from the well screen. Reimbursement shall be provided at an amount equal to the customary local cost of performing the necessary diagnosis and maintenance for well screen encrustation. If with treatment the well yield is incapable of meeting 110 percent of the well owner's maximum daily demand, dry season demand, or annual demand, the well owner should be compensated by reimbursement or well replacement.

b. If Project pumping has lowered water levels to significantly affect well yield so that it can no longer meet its intended purpose, causes the well to go dry, or causes casing collapse, payment or reimbursement of an amount equal to the cost of deepening or replacing the well shall be provided to accommodate these effects. Payment or reimbursement shall be at an amount equal to the customary local cost of deepening the existing well or constructing a new well of comparable design and yield (only deeper). The demand for water, which determines the required well yield, shall be determined on a per-well basis using well owner interviews and field verification of property conditions and water requirements compiled as part of the pre-Project well reconnaissance. Well yield shall be considered significantly impacted if it is incapable of meeting 110 percent of the well owner's maximum daily demand, dry-season demand, or annual demand – assuming the pre-Project well yield documented by the initial well reconnaissance met or exceeded these yield levels.

c. Pump lowering – In the event that groundwater is lowered as a result of Project pumping to an extent where pumps are exposed but well screens remain submerged, the pumps shall be lowered to maintain production in the well. The Project shall reimburse the impacted well owner for the costs associated with lowering pumps.

d. Deepening of wells – If the groundwater is lowered enough as a result of Project pumping that well screens or pump intakes are exposed, and pump lowering is not an option, such affected wells shall be deepened or new wells constructed. The Project owner shall reimburse the impacted well owner for all costs associated with deepening existing wells or constructing new wells.

~~If drawdown of five feet or more occurs at off-site wells, the Applicant shall immediately reduce groundwater pumping until water levels stabilize or recover, sustaining drawdown of less than five feet. Alternatively, the Applicant shall provide compensation to the well owner, including reimbursement of increased energy costs, or deepening the well or pump setting.~~

The Groundwater Monitoring and Reporting Plan shall also include a schedule for submittal of annual data reports by the Applicant to the BLM, for the first five years of the project (including the construction period). These annual data reports shall be prepared and submitted to the BLM for review and approval, and shall include at a minimum the following information:

- Daily usage, monthly range, and monthly average of daily water usage in gallons per day;
- Total water used on a monthly and annual basis in acre-feet; summary of all water level data; and
- Identification of trends that indicate potential for off-site wells to experience deterioration of water level.

The BLM shall determine whether groundwater wells surrounding the project site and project supply well(s) are affected by project activities in a way that requires additional mitigation and, if so, shall determine what measures are needed. After the first five years of the project, the Applicant and the BLM shall jointly evaluate the effectiveness of the Groundwater Monitoring and Reporting Plan and determine if monitoring frequencies or procedures should be revised or eliminated.

The siting, construction, operation, maintenance, and remediation of any groundwater well associated with the project shall conform to specifications contained in the California Department of Water Resources Bulletins #74-81 and #74-90.

**Pages 4.20-27 through 4.20-28.** MM WAT-7 would require enXco to secure Colorado River Water offsets prior to groundwater pumping and to implement those offsets in the event project-related groundwater pumping draws water from below a Colorado River Accounting Surface of 234 amsl. As drafted, the measure would unduly burden enXco by requiring legal entitlement to water offsets and offset-specific details even if the groundwater wells used by the Desert Harvest project never reach the Colorado River Accounting Surface. This imposes a substantial, multi-agency burden of considerable financial, practical and transactional consequences that is highly unlikely to be implemented because actual well data shows that the effects of the proposed project on Colorado River water would not be significant, as described above in our comments on pages 4.20-7 through 4.20-8 of the DEIS. enXco therefore requests deletion of MM WAT-7.

However, if BLM nonetheless elects to retain MM WAT-7, we suggest modifying it to mirror applicable law, which, as the DEIS itself observes (Page 4.20-7), prohibits the consumptive use of Colorado River Groundwater without prior entitlements. This could be achieved by revising MM WAT-7 to indicate that, if the results of MM WAT-3 indicate project-related wells are drawing down below the Colorado River Water Accounting Surface, then enXco must either (i) curtail pumping to the extent required to nullify its contribution to drawdown below the Colorado River Accounting Surface; or (ii) prepare and implement a Colorado Water Supply Plan as outlined in the mitigation measure.

Our suggested edits to MM WAT-2 reflecting the comments above are as follows:

**MM WAT-7 Colorado River Water Supply Plan.** ~~The Applicant shall prepare a Colorado River Water Supply Plan and submit this Plan to the BLM and the Colorado River Basin RWQCB for review and approval prior to the onset of groundwater pumping for the project. The purpose of the Colorado River Water Supply Plan is to ensure that if the project consumes any Colorado River water, an equal amount of water will be “replaced” within the watershed through the implementation of conservation actions.~~

The Colorado River Accounting Surface has been identified at 234 feet above mean sea level (amsl) in the project area. If the groundwater monitoring activities and quarterly data reports required in compliance with MM WAT-3 (Groundwater Drawdown Monitoring and Reporting Plan) indicate that project-related groundwater pumping is about to draws water from below 234 feet amsl, the Applicant shall record the quantity of any groundwater pumped from below 234 feet amsl and shall curtail project-related groundwater pumping to avoid drawing water from below 234 feet until the Applicant prepares a Colorado River Water Supply Plan, submits the plan to the BLM and the Colorado River Basin RWQCB for review and approval, and implements activities pursuant to the plan which result in the conservation of water in an amount equal to the amount of water pumped from below 234 feet amsl.

The Colorado River Water Supply Plan must include the following information:

- Identification of water offset activities and associated water source(s) to replace the quantity of water diverted from the Colorado River over the life of the project on an acre foot per acre foot basis;
- Demonstration of how water diverted from the Colorado River will be replaced for each identified activity;
- Demonstration of the Applicant's legal entitlement to the water or ability to conduct the activity;
- Discussion of whether any governmental approval of the identified activities will be needed, and, if so, whether that additional approval will require compliance with CEQA or NEPA;
- An estimated schedule of completion for each identified activity;

- Performance measures that would be used to evaluate the amount of water replaced by each identified activity; and
- Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show that each identified activity is achieving the intended benefits and replacing Colorado River diversions.

Measures of water conservation specified in the Colorado River Water Supply Plan may include but are not limited to those listed below, and should be considered in the following order of priority:

- Payment for irrigation improvements in Palo Verde Irrigation District (PVID);
- Purchase of water allotments within the Colorado River Basin that will be held in reserve;
- Use of tertiary treated water;
- Implementation of water conservation programs in the floodplain communities of the Chuckwalla, Valley Groundwater Basin, the Palo Verde Mesa Groundwater Basin, and/or Colorado River; and
- Participation in the U.S. Bureau of Land Management's (BLM) Tamarisk Removal Program.

If the Applicant has filed an application to the U.S. Bureau of Reclamation (USBR) to obtain an allocation of water from the Colorado River, this allocation(s) can be used to satisfy some or all of the water conservation offsets on an acre-foot per acre-foot basis. Use of any other options for water offsets will require the Applicant to demonstrate to the satisfaction of the BLM and the Colorado River Basin RWQCB that the appropriate amounts of water will be conserved.

If the project does not result in diversion of Colorado River water (via pumping groundwater from below 234 feet amsl) it will not be necessary to prepare and implement the Colorado River Water Supply Plan; however, the Plan must be approved prior to project-related groundwater pumping is initiated below 234 feet amsl to ensure that appropriate conservation measures are implemented in a timely manner, if necessary. The Colorado River Water Supply Plan is separate from the Groundwater Drawdown Monitoring and Reporting Plan (MM WAT-3) and the Drought Water Management and Water Conservation Education Programs (MM WAT-6), and it must be developed, reviewed, approved of, and implemented as a separate plan. Compliance will be verified by the Environmental Monitor.

**Page 4.20-43.** The "2013" column of Table 4.20-4 contains a significant error, stating that Combined CVGB water requirements for the year are projected to total 2,948.85 af. This is incorrect, the actual total for the 2013 column is 1,948.85 af. The Water Supply Assessment in Appendix E to the DEIS contains the same error; please correct. enXco requests recalculation and confirmation of all totals contained in Table 4.20-4 and in the WSA.

**Page 4.20-45.** Please revise Table 4.20-45 to reflect our comment on page 4.20-3 above by revising the 2013 row to reflect 1,948.85 af of future pumping rather than 2,948.85, and the corresponding result of a balance positive balance of 1,377 acre feet without the proposed project and 877 acre-feet with the proposed project. enXco requests recalculation and confirmation of all totals contained in Table 4.20-5.

In addition, page 4.20-41 of the DEIS states that the estimated CVGB budget of 2,623 afy accounts for construction water demand of the Desert Sunlight project. By enXco's calculation the 2012 and 2013 "Total Outflow and "Balance" figures of Table 4.20-5 do not inadvertently understate "Balance" amounts by accounting for Desert Sunlight project construction water demand in both the "Total Outflow" and the "Balance" column instead of in only one of them. Please confirm.

**Page 4.20-46.** Please revise the following clause from the first paragraph of the page to reflect our comment on pages 4.20-20 through 4.20-23, above: "...and groundwater pumping associated with the proposed project or an alternative would be ~~subsequently eased~~ proportionately curtailed until the groundwater resource recovers, which is anticipated to occur in response to participation events, per the nature fractured rock storage and overdraft/drawdown conditions."

#### **Section 4.23 Short-Term vs. Long-Term Productivity of the Environment**

**Page 4.23-1.** The third sentence of the second paragraph of the page states that a long-term impact of the project is "permanent" damage to desert habitats. enXco is of the opinion that the impact is not "permanent" in the common sense of the word (as opposed to BLM's technical treatment of "temporary" impacts to desert habitat as "permanent" under NEPA terminology). "Long term" is a more appropriate phrase that already appears in the sentence. We therefore request deletion of "permanent" from the sentence.

#### **Section 4.24 Summary of Unavoidable Adverse Effects**

The following conclusions in Table 4.24-1 are not supported by the analysis in the EIS.

Table 4.24-1, Off-site dust, refers to dust and erosion during construction and operation of the project. The analysis in Section 4.3.7 of the Draft EIS refers to off-site dust during construction and decommissioning.

Table 4.24-1, State jurisdictional streambeds, refers to unavoidable adverse offsite impacts to state jurisdictional streambeds. The analysis in Section 4.3.7 states that impacts to state jurisdictional streambeds are only a potential impact. See proposed revision below.

Section 4.4.7, Wildlife Habitat [DEIS at 4.4-5] notes that the mitigation measures proposed for the project are expected to effectively mitigate the majority of the project's adverse impacts to

wildlife habitat, although some residual impacts would remain. Table 4.24-1, On-site habitat loss, should be revised to better reflect this analysis.

Section 4.4.7, Wildlife Movement and Habitat Connectivity [DEIS at 4.4-18] notes that mitigation measures for the project would require habitat acquisition in the I-10 corridor and that the habitat at the DHSP project site is modeled as low habitat value, and that much of the local habitat has been disturbed and fragmented and that therefore the DHSP would not substantially alter desert tortoise connectivity. Table 4.24-1, Habitat fragmentation, should be revised to reflect this analysis.

**Page 4.24-4.** Please refer to our comment on page 4.4-65, above, regarding the conclusions of the DEIS with regard to cumulative impacts to wildlife movement.

Table 4.24-1, Potential loss of birds during O&M, and Section 4.4.7, Solar Panel Light, Glare, and Collision Risk, [DEIS at 4.4-21] note that there is a potential risk of collision with the panels. Please revise the discussion on the loss to reflect the potential nature of the impact.

**Page 4.24-4.** Please conform the description of cultural resources mitigation measures in the "Cultural" row of Table 4.24-2 with the mitigation measures of Section 4.6 of the DEIS, as amended by our comments above.

Table 4.24-1, Noise and Vibration, notes that the traffic would result in a substantial increase in noise levels north of Lake Tamarisk Road. Section 4.12.6 notes that this level of noise at 50 feet would be within Riverside County's conditionally acceptable range for rural residential land uses and within 180 feet would be back within the normally acceptable range for rural residential land uses.

**Page 4.24-5.** The "Special Designations" row of Table 2.24-2 states that there are no significant and unavoidable impacts. Because the Special Designations Section is largely a conglomerate of other environmental disciplines studied in the DEIS, enXco suggests stating that there are no significant and unavoidable impacts separate from those identified among the other environmental disciplines considered in the DEIS.

**Page 4.24-3.** The "Inconsistency with public policy" row of the "Visual Resources" category of Table 4.24-1 is incorrect. Please conform the row to the VRM Class IV consistency determination of Section 4.19.

As such, 4.24-1 must be revised. Suggested revisions are shown below. Only rows that had suggested revisions are shown.

**Table 4.24-1. Summary of NEPA Unavoidable Adverse Effects**

<b>Impact Area</b>	<b>Impact</b>	<b>Description</b>
Biology – Vegetation	Off-site dust	Dust and erosion related to construction and <del>operation</del> decommissioning of the project could not be completely contained within the project site, and could impact neighboring habitats, soil, and vegetation. Mitigation measures for biological resources and air quality would limit but not eliminate these impacts.
	State-jurisdictional streambeds	The project would impact state-jurisdictional streambeds on <del>and off-site</del> through removal and degradation of habitat and vegetation <u>and potentially offsite if groundwater pumping causes offsite impacts</u> . Mitigation measures for biological resources and water resources would limit, but not eliminate, these impacts.
Biology – Wildlife	On-site habitat loss	The project would disturb wildlife habitat during construction and operation. Impacts to habitat would be reduced by Mitigation Measures VEG-1 through VEG-10. Mitigation Measure VEG-6 specifically requires off-site compensatory habitat protection. Avoidance-related measures for wildlife would also reduce impacts. These measures would <del>reduce</del> <u>effectively mitigate the majority of</u> , but not eliminate, <u>the</u> loss of habitat.
	Habitat fragmentation	Construction of the project would fragment and impair the connectivity of wildlife habitat in the upper Chuckwalla Valley. Mitigation measures for wildlife, including Mitigation Measure <u>VEG-6/WIL-9 (Provide Off-Site Compensation for Impacts to Vegetation and Habitat contribute to Desert Tortoise Population Connectivity Effectiveness Monitoring Plan)</u> , would reduce these effects. <u>Because of the low habitat value and disturbed and fragmented local habitat, the project would not substantially alter desert tortoise connectivity, but the project would still result in habitat fragmentation.</u>
	Potential loss of birds during O&M	An <del>unquantified number of</del> <u>b</u> Birds would <u>potentially</u> be killed during project O&M activities. Mitigation measures for biological resources, particularly Mitigation Measure WIL-6 (Bird and Bat Conservation Plan) would reduce, but not eliminate, these impacts.
Noise and Vibration	Increase in noise levels along Kaiser Road	The project would result in a substantial increase in traffic noise levels during construction and decommissioning along Kaiser Road north of Lake Tamarisk Road. <u>This impact would result from an increase in more than 10 dBA rather than impacts to sensitive receptors as there are no sensitive receptors along Kaiser Road north of Lake Tamarisk Road.</u> Mitigation Measure NOI-1 would limit construction activities to daylight hours; however, there would still be an unavoidable adverse effect from increased noise.
Recreation	Effects on wilderness experience	The project would be visible from wilderness areas in the Coxcomb Mountains during construction, operation, and decommissioning. While Mitigation Measures VR-1 through VR- <del>6</del> would reduce these impacts, there would still be an avoidable adverse effect on wilderness recreation.
Special Designations	No residual impacts	<u>No significant and unavoidable impacts separate from those identified among the other environmental disciplines considered in the DEIS.</u>

**Table 4.24-1. Summary of NEPA Unavoidable Adverse Effects**

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<b>Impact Area</b>	<b>Impact</b>	<b>Description</b>
Visual Resources	Land scarring and vegetation clearance	Construction of the project would require extensive land scarring and vegetation clearance. Mitigation Measures VR-1 and VR-2 would reduce the visual impacts of these activities, but would not eliminate impacts, which would be long-term and unavoidable.
	Inconsistency with public policy	The project would not meet applicable Interim VRM Class III management objectives, even with the implementation of mitigation measures for visual resources. The project would also conflict with numerous Riverside County General Plan policies.

**Appendix O**  
**Accounting Surface**  
**Technical Memorandum**

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## Memorandum

To Bureau of Land Management, Palm Springs – South Coast Field Office

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Subject Desert Sunlight Solar Farm Project: Response to Public Comments Regarding Potential Relationship Between Groundwater Pumping Levels and Impacts to the Colorado River

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From Amanda Beck, First Solar

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Date January 5, 2011

### Introduction

This technical memorandum provides an analysis of available groundwater level data in connection with comments on the Desert Sunlight Solar Farm Project (Project) Draft Environmental Impact Statement (DEIS) regarding the potential relationship between proposed groundwater pumping by the Project and the proposed Accounting Surface as has been defined by the United States Geological Survey (USGS) and United States Bureau of Reclamation (USBR). AECOM prepared this technical memorandum at the request of First Solar, Inc. in order to assist the Bureau of Land Management (BLM) in its further analysis of this issue and its response to comments on the DEIS.

While general concerns regarding a potential relationship between groundwater pumping and surface water levels are noted in several comments on the DEIS, including comments submitted by the U.S. Environmental Protection Agency and Metropolitan Water District of Southern California, the issue addressed in this technical memorandum is most clearly set out in the comments submitted by the Colorado River Board of California (Board), dated December 6, 2010. In those comments, the Board states that the area of the Project site, the upper Chuckwalla Valley Groundwater Basin (Basin), is within the area defined as within the "Accounting Surface" and that the Basin aquifer is hydraulically connected to the Colorado River through the Palo Verde Mesa Groundwater Basin. The Board further states that any amount of water withdrawn from the Basin aquifer is water that would be replaced by Colorado River, in total or in part, and should be considered a use of Colorado River water for which a valid contract for water use must be obtained.

This technical memorandum addresses the issue raised by the Board's comments by explaining the background and framework of the proposed Accounting Surface Rule and then analyzing the groundwater pumping and water elevation data for the Project relative to application of the Accounting Surface Rule. This technical memorandum does not take any position regarding whether the Accounting Surface Rule, as currently proposed or as may be adopted, is an appropriate methodology for analyzing a potential hydraulic connection between groundwater pumping and the Colorado River but, instead, solely responds to the methodology as noted in the Board's comments.

### **The Proposed Accounting Surface Rule**

The Accounting Surface Rule (Proposed Rule) was proposed by the U.S. Bureau of Reclamation (Reclamation) in the Federal Register on July 16, 2008 (43 CFR Part 415), and has not been promulgated as a final regulation. The United States Geological Survey (USGS) Report 2008-5113 (Wiele et al 2008) updated the location and extent of the Accounting Surface in support of the Proposed Rule, and Figure 6 in the USGS document shows that the Project site is located within the areal extent of the river aquifer and that the Accounting Surface within this aquifer is predicted to be at an elevation of between 238 and 242 feet above mean sea level (msl).

The Accounting Surface is proposed to identify which groundwater wells located outside the floodplain of the Colorado River pump groundwater that will be replaced by surface water from the Colorado River and, thus, would need to be accounted for as consumptive use of Colorado River water as required under the Consolidated Decree (547 U.S.150 (2006)), (Wiele et al, 2008, page 3). The Accounting Surface is defined as the elevation and slope of the static water table in the river aquifer that would exist if the water in the raquifer were derived only from the Colorado River (Wilson and Owen-Joyce 1994, Wiele et al 2008). The river aquifer is defined as those saturated sediments that are hydraulically connected to the Colorado River, and include groundwater basins and adjacent tributary valleys that are adjacent to the River.

The static water level, which is the measured elevation of the water table not being affected by groundwater withdrawal, is used to determine whether a well is pumping water that would be replaced by Colorado River water (Wiele et al 2008). A static water level below the Accounting Surface is presumed to yield water that will be replaced by water from the Colorado River (43CFR 415.2(4), Weile et al 2008). Groundwater wells with static water levels above the Accounting Surface are presumed to yield water that will be replaced by precipitation, mountain front recharge or inflow from tributary valleys (i.e., tributary water).

### **Assessment of Water Elevation Data Relative to the Accounting Surface**

As requested by First Solar, AECOM conducted research:

- to establish the current and historic static water level below the Project site and in the Upper Chuckwalla Valley; and,
- to determine if the static water level is above or below the proposed Accounting Surface as defined by the USGS at an elevation of between 238 and 242 feet msl (Wiele et al 2008, Figure 6).

To assess the water levels in the vicinity of the site, AECOM reviewed available information in the online National Water Information System (NWIS) USGS database and reviewed selected published reports from hydrogeologic investigation of the Upper Chuckwalla Valley (DWR 91-24, GEI 2009a and GEI 2009b). The water level data from this research is shown on Table 1, including the historic and recent elevation data from wells in the vicinity of the Project site and the difference between these elevations and the proposed Accounting Surface at 238 feet and 242 feet msl.

The well locations listed in Table 1 are also shown on Figure 1 relative to the Project site. In addition to a comparison of water level data, AECOM reviewed interpretations of the potentiometric surface in the area of the Project site from previous hydrogeologic investigations (DWR 91-24, GEI 2009a,b).

The available well data shows that the static water level elevation in the vicinity of the Project site have been measured between 469 feet and 504 feet msl (see Table 1, 5S/15E-13C01, 4S/16E-19M01, 19N01, 30D01 and CW#2 and P-12). A review of cross sections and potentiometric maps from prior investigations of the Upper Chuckwalla Valley show that the water level elevation has been interpreted to be between about 500 to 540 feet msl in the area of the Project site. The difference between the static water level measurements for the wells in the vicinity of the Project site and interpreted potentiometric surface from prior investigations and the proposed Accounting Surface is between 241 and 266 feet. The range in the difference reflects the variability in the water level measurements from the wells surrounding the Project site and the lower (238 feet) and higher (242 feet) proposed accounting surface for the Basin. Most significantly, the data show that static water level is well above the proposed Accounting Surface. These water level data, either from the wells or used in the interpretation of the potentiometric surface, were collected from 1961 and 1992 (Table 1).

More recent data from a well close to the community of Desert Center (5S/16E-7P01, 7P02) and several miles south-southeast of the Desert Sunlight site show similar water level elevations to those measured in the early 1960s then show a period of water level decline in the mid-1980s due to expanded agricultural operations, where combined pumping exceeded 20,000 acre-feet per year (afy) (GEI 2009b) which is well above historic water usage for the western part of the Basin. These agricultural operations began to be curtailed in the late 1980s and water levels in the Desert Center area have recovered to levels similar to the early 1960s. The most recent water level elevation measured in Well 5S/16E-17P02 was 462 feet msl or about 220 feet above the proposed Accounting Surface (Table 1).

Another important element in the potential implications of the Accounting Surface for the Project is the proposed groundwater pumping and the predicted level of drawdown in the water supply wells from which Project water supplies are obtained. A numerical groundwater model was developed for the DEIS (Appendix G) to evaluate potential affects from Project pumping on adjacent water supply wells and on the Basin storage. Project water use during operation will be minimal (0.2 afy over a 30-year Project life for a total of only 60 acre-feet (af)). Project water use that was modeled during construction was between 1,300 and 1,400 af over a 26-month construction period. The model predicted drawdown in either a single well or two water supply wells of between about 10 and 20 feet over the construction period. Given the above water elevation data, the drawdown will be well above the proposed Accounting Surface. In addition, groundwater modeling of the cumulative impacts from the combined pumping of all proposed solar power projects within the Basin show that after 30 years the water table would drop between 20 and 50 feet (AECOM 2010, GEI 2009a). Even with this predicted decline in the water table, caused largely by other projects' water use, the static water table in the vicinity of the Desert Sunlight Project would be well above the Accounting Surface.

## Conclusions

A comparison of available historic and recent groundwater level data from wells in the vicinity of the Desert Sunlight Solar Farm Project site and prior interpretations of the water level elevation below the Project site reveal that the static water level elevation is well above the proposed Accounting Surface. A buffer of more than 200 feet is indicated in the groundwater level data. The data indicate that the Project would therefore not impact the Accounting Surface as it would draw groundwater from well above the surface of what is termed "tributary" water (i.e., other than a Colorado River source, Wiele et al 2008). The "tributary" water replenishing groundwater withdrawals by the Project is therefore attributable to inflow from precipitation, mountain front recharge, Pinto Basin underflow and Hayfield Basin underflow (GEI 2009a).

In addition, a numerical groundwater model developed for the Project predicted drawdown of between only 10 to 20 feet in the Project's water supply well(s) as a result of Project pumping during the 26-month construction period. Because Sunlight is a solar photovoltaic project that does not utilize a steam cycle to generate electricity, water use during operation is negligible. Although not considered in the Proposed Accounting Surface Rule, the Project's minimal level of drawdown reinforces the conclusion that the predicted water levels would remain well above the Accounting Surface and therefore not hydraulically connected to the Colorado River.

## References

- AECOM 2010, Solar Millennium - Palen Solar Power Project: Groundwater Data Responses to January 14, 2010 CEC Workshop Queries Figure Soil and Water 208b(rev1), "Predicted Water Table Drawdown, Cumulative Impacts from Operational Pumping at the End of 30 Years", March 2010.
- DWR, 1979. Bulletin 91-24, Sources of Power Plant Cooling Water in the Desert Area of Southern California – Reconnaissance Study: Prepared by the United States Department of Interior - Geological Survey, August.
- Federal Register, 43 CFR 415 (July 16, 2008), "Regulating the Use of Lower Colorado River Water Without an Entitlement – Proposed Rule: 415.2 (4), definition of Colorado River Water.
- GEI, 2009a, Eagle Mountain Pumped Storage Project No 13123 - Final License Application, Technical Appendices for Exhibit E, Volume 3 of 6 Groundwater Supply Pumping Effects – Attachment A Supplemental Alluvial Aquifer Properties, Chuckwalla Valley Groundwater Basin (April 17, 2009).
- GEI, 2009b, Eagle Mountain Pumped Storage Project, Exhibit E - Applicant Prepared Environmental Impact Statement, Volume 2 of 6, Groundwater Resources, Figures 3.3.3-1 through 3.3.3-20, Groundwater Resources Figures (June 22, 2009).
- USGS 2010, National Water System Web Interface (NWIS), Groundwater Levels for California, Riverside County (<http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels>)
- Wiele, S. M., Lieke, S.A., Owen-Joyce, S.J., and McGuire, E.H., 2008, Update of the Accounting Surface Along the Lower Colorado River - Scientific Investigations Report 2008-5113 (Prepared in Cooperation with the Bureau of Reclamation): U.S Geological survey, Reston, Virginia, 16p.
- Wilson, R.P., and Owen-Joyce, S.J., 1994, Method to Identify Wells that Yield Water that will be replaced by Colorado River Water in Arizona, California, Nevada and Utah: U.S. Geological Survey Water-Resources Investigations Report 94-4005, 19 plates, 36 p.

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>										WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity		
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft		
02S/17E-30E01								Yes	850	624		uncased	Jan-33	325	525						
02S/17E-30E01S	002S017E30E001S																1/30/1933	7			
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Dec-54	150	931						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jun-55	154.94	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Sep-55	155.2	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Dec-55	155.6	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Feb-56	155.2	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Feb-56	155.1	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Feb-56	155	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-56	155	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			May-56	154.88	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jul-56	155.3	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Aug-56	155.3	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Sep-56	155.7	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			May-57	155.21	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			May-57	155.65	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jun-57	155.48	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Aug-57	155.49	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Sep-57	155.37	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-57	155	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-58	155.1	926						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			May-58	155.4	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Sep-58	155.6	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jan-59	155.7	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-59	155.6	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jun-59	155.8	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Sep-59	155.71	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Dec-59	155.74	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-60	155.6	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jun-60	155.9	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-60	155.93	925						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jan-61	156.14	924						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-61	156.81	924						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-61	157.49	923						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-61	157.77	923						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-62	158.79	922						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-63	159.28	921						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-63	159.34	921						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-64	159.49	921						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-64	159.53	921						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-65	159.81	921						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-65	160.21	920						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-66	161.95	919						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-66	162.94	918						

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PROJECT BEACON

WELL DATA <sup>1</sup>										WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity		
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft		
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-67	163.38	917						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-67	163.78	917						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-69	165.06	916						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			May-70	164.86	916						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-70	166.17	914						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-71	166.54	914						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jan-72	165.04	916						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jun-72	166.67	914						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Mar-73	166.31	914						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Sep-73	167.72	913						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Feb-74	167.72	913						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-74	167.48	913						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Apr-75	167.88	913						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Nov-75	168	913						
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03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Apr-77	169	912						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-77	169.43	911						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			May-78	169.08	912						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-78	169.75	911						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Apr-79	168.65	912						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-79	170.49	910						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Apr-80	170.55	910						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-80	170.2	910						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Apr-81	170.03	911						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Oct-81	171.49	909						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Apr-82	170.89	910						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jan-83	169.73	911						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Aug-84	167.24	913						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Feb-85	166.44	914						
03S/15E-04J01S	003S015E04J001S	33.93667885	-115.4099836						1,081	575			Jun-85	166.27	914						
03S/18E-03Q01								No	1,675	17			Jun-61	13	1662						
03S/18E-11A01								No	1,580	40			Jun-61	37	1543						
04S/15E-13C01S	004S015E13C001S							Yes	683	452	220-248, 317-328		Feb-61	188	495		Feb-32	450			
04S/16E-19M01								No	610	585			Oct-61	127	483						
04S/16E-19N01								No	600	151			Apr-61	112	488						
04S/16E-21N01								No	565	39			Apr-61	--	--						
04S/16E-29R01								No	545	110			Jun-61	80	465						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Apr-61	79.95	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Sep-61	80	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Oct-61	79.93	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Nov-61	79.92	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Dec-61	79.94	460						

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>										WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity		
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft		
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Jan-62	79.92	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Feb-62	79.94	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Mar-62	79.93	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Apr-62	79.86	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			May-62	79.93	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Jun-62	79.97	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Nov-62	79.96	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Mar-63	79.96	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Oct-63	80	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Mar-64	80.04	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Mar-65	80.11	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Nov-65	80.27	460						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Oct-66	79.1	461						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Mar-67	78.93	461						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			Oct-67	78.76	461						
04S/16E-29R01S	004S016E29R001S	33.7902952	-115.3202862						540	110			May-70	78.25	462						
04S/16E-30D01S	004S016E30D001S							No	603	610			Oct-61	114	489		Oct-60	5075	110		
04S/16E-30D01S	004S016E30D001S	33.8008503	-115.3347034						603	610			May-61	113.91	489		Oct-60	5075	110		
04S/16E-30D01S	004S016E30D001S	33.8008503	-115.3347034						603	610			Jun-61	114.3	489						
04S/16E-30D01S	004S016E30D001S	33.8008503	-115.3347034						603	610			May-70	118.53	484						
04S/16E-31D01S	004S016E31D001S							Yes	595	600	135-597		Jun-61	95	500		Jun-61	2328	44		
04S/16E-31R01								Yes	555	36			Apr-61	--	--						
04S/16E-32D01								Yes	555	610	265-555		Jun-61	79	476						
04S/16E-32D01S	004S016E32D001S																Oct-61	2750	80		
04S/16E-32E01								No	555	77	63-95, 245-252		Apr-61	--	--						
04S/16E-32M01								Yes	555	555			Jun-61	74	481						
04S/16E-32M01S	004S016E32M001S																Jun-61	2000			
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Apr-61	71.41	477		Jun-61	2000			
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Apr-61	71.61	476						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Jun-61	71.43	477						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Jun-61	73.46	475						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Feb-62	69.32	479						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Mar-62	70.29	478						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Apr-62	72.45	476						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			May-62	73.82	474						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Aug-62	79.95	468						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Sep-62	79.57	468						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Nov-62	77.17	471						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			May-70	77.25	471						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Apr-79	66.95	481						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Jul-80	72.87	475						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Jan-81	74.16	474						
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Oct-81	86.9	461						

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>									WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity	
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft	
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Apr-82	82.01	466					
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Jan-83	90.29	458					
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Jul-84	121.88	426					
04S/16E-32M01S	004S016E32M001S	33.7797398	-115.333592						548	555			Feb-85	120.8	427					
04S/16E-35Z01								No	470	--			Jan-17	13	457					
04S/17E-06C01								Yes	500	501			Oct-61	22	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jan-32	22.5	478		Apr-61	106		
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				May-52	21	479					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Sep-54	21.2	479					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-56	21.4	479					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				May-57	21.6	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Sep-59	21.9	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Apr-61	21.82	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Nov-61	22.4	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jan-62	22.2	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-62	22.14	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Nov-62	22.41	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-63	22.22	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-63	22.31	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-64	22.41	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Nov-64	22.4	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-65	22.51	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Nov-65	22.3	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-66	22.5	478					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-66	22.74	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-67	22.55	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-67	22.95	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Apr-68	22.8	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Nov-68	22.71	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Apr-69	25.02	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-69	24.72	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Apr-70	23.15	477					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-70	23.55	476					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Mar-71	23.57	476					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Apr-79	23.88	476.12					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jul-80	24.4	476					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jan-81	24.52	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Oct-81	25.23	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Apr-82	26.69	473					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jan-83	25.01	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jul-84	25.31	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Feb-85	25.42	475					
04S/17E-06C01S	004S017E06C001S	33.85918308	-115.2394237						500				Jun-85	25.65	474					

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>									WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity	
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft	
05S/14E-24R01								Yes	1,072	733			Jan-33	570	502					
05S/14E-35L01								No	1,270	600		349-784	Sep-61	570	700					
05S/14E-35L01								No	1,270	641			Sep-61	571	699					
05S/14E-35L01								No	1,190	877		526-746	Sep-61	485	705					
05S/14E-35L01								Yes	1,369	501		400-501	Nov-80	Dry	--					
05S/14E-35L01								Yes	1,342	805		599-799	Nov-80	635	708					
05S/14E-35L01S	005S014E35L001S																Nov-61	2		
05S/14E-35L02S	005S014E35L002S																Nov-61	6		
05S/15E-01E01								No	645	755		215-788	Oct-61	146	499					
05S/15E-01L01								Yes	640	790			Oct-61	139	501					
05S/15E-01L01S	005S015E01L001S																Mar-61	1674	42	
05S/15E-01L01S	005S015E01L001S																Mar-60	3150		
05S/15E-02E01S	005S015E02E001S																Nov-60	3300	56	
05S/15E-12N01								Yes	688	746		--	May-61	173	515					
05S/15E-12N01S	005S015E12N001S	33.7440238	-115.3781377						671	746			Apr-61	173	498		May-61	1900		
05S/15E-12N01S	005S015E12N001S	33.7440238	-115.3781377						671	746			Jun-67	172	499					
05S/15E-12N01S	005S015E12N001S	33.7440238	-115.3781377						671	746			May-70	172	499					
05S/15E-12N01S	005S015E12N001S	33.7440238	-115.3781377						671	746			Mar-92	190	481					
05S/15E-12N01S	005S015E12N001S	33.7440238	-115.3781377						671	746			Mar-00	183	488					
05S/15E-13B01								Yes	650	788		--	Sep-61	160	490					
05S/15E-14E01								No	750	799		--	Nov-61	245	505					
05S/15E-14J01								No	710	63		--	--	--	--					
05S/15E-15E01								No	805	808		--	Nov-61	313	492					
05S/15E-23N01								No	880	409		--	Mar-61	367	513					
05S/15E-27B01								Yes	900	644		553-625	Oct-61	395	505					
05S/15E-27B01S	005S015E27B001S	33.71390794	-115.4038719						900	644			May-58	395	505					
05S/15E-27B01S	005S015E27B001S	33.71390794	-115.4038719						900	644			Mar-61	395	505					
05S/15E-27B01S	005S015E27B001S	33.71390794	-115.4038719						900	644			Jun-61	395	505					
05S/15E-27B02								No	900	--		224-705	--	--	--					
05S/15E-27H01								No	904	598		--	Mar-61	429	475					
05S/15E-29F01								No	1,046	680		--	Sep-61	366	680					
05S/15E-2E01								No	700	728		--	Oct-61	210	490					
05S/16E-05B01								No	560	114		--	Jul-61	71	489					
05S/16E-05B02								Yes	548	715		--	Oct-61	69	479					
05S/16E-05E01								No	570	124		--	--	--	--					
05S/16E-05F01S	005S016E05F001S	33.7679373	-115.3378755						544				Oct-00	79	464					
05S/16E-05F02S	005S016E05F002S	33.76787344	-115.3380088						545	250			Jun-99	81	464					
05S/16E-05F02S	005S016E05F002S	33.76787344	-115.3380088						545	250			Oct-00	80	465					
05S/16E-05F02S	005S016E05F002S	33.76787344	-115.3380088						545	250			Oct-00	80	465					
05S/16E-05M01S	005S016E05M001S	33.765729	-115.3441312						557				Oct-00	90	467					
05S/16E-06N01								Yes	604	723		228-331, 334-722	Jun-61	126	478					
05S/16E-07M01								No	614	648			Jun-61	61	553					
05S/16E-07M01								Yes	611	789		280-789	Jul-61	126	485					

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>										WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity		
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft		
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Apr-61	121	483		Feb-59	1324	94		
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Apr-61	126	478		Feb-58	3634	110		
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Jun-61	125	479		Jun-61	1118	124		
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Jun-61	127	477		Apr-59	707			
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Jun-61	127	477		Apr-61	1115			
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Jun-61	126	478						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Jun-61	128	476						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Jun-61	129	475						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Aug-61	127	477						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Oct-61	124	480						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Oct-61	124	480						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Oct-61	125	479						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Oct-61	125	479						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Oct-61	125	479						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Nov-61	127	477						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Nov-62	140	464						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Apr-70	128	476						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Oct-91	194	409						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Feb-92	189	415						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Mar-92	190	414						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Sep-92	188	415						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Apr-93	183	421						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Sep-93	182	421						
05S/16E-07M01S	005S016E07M001S	33.749171	-115.3573315						604	648			Apr-94	179	425						
05S/16E-07P01								Yes	608	347		248-296, 299-347	Apr-61	121	487						
05S/16E-07P01S	005S016E07P001S	33.74557395	-115.3533147						598	347			Sep-52	108	490						
05S/16E-07P01S	005S016E07P001S	33.74557395	-115.3533147						598	347			Jun-90	213	385						
05S/16E-07P01S	005S016E07P001S	33.74557395	-115.3533147						598	347			Oct-90	208	390						
05S/16E-07P01S	005S016E07P001S	33.74557395	-115.3533147						598	347			Mar-91	199	399						
05S/16E-07P01S	005S016E07P001S	33.74557395	-115.3533147						598	347			Feb-92	188	410						
05S/16E-07P02S	005S016E07P002S	33.7453656	-115.3535703						598	767			Oct-00	137	462						
05S/16E-08F01								Yes	560	206		103-168, 172-188	Sep-61	83	477						
05S/16E-08K01								Yes	555	212		124-162, 178-180	Jun-61	83	472						
05S/16E-09E01								No	545	--			Jun-61	--	--						
05S/16E-10Z01								No	--	76			Jun-61	74	--						
05S/16E-18M01								No	646	790			Apr-61	161	485						
05S/16E-18Q01								No	660	37			Jun-61	--	--						
05S/16E-22N01								No	653	516			Dec-61	188	465						
05S/16E-25F01								No	598	680			May-61	135	463						
05S/16E-36M01								Yes	730	357		261-357	Sep-61	274	456						
05S/17E-17F01S	005S017E17F001S	33.70807585	-115.2488671						574	698			Apr-61	108	466						
05S/17E-17F01S	005S017E17F001S	33.70807585	-115.2488671						574	698			May-70	111	463						
05S/17E-17F01S	005S017E17F001S	33.70807585	-115.2488671						574	698			Mar-92	113	461						
05S/17E-19Q01								Yes	535	760		314-758	Apr-61	76	459						

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>										WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity		
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft		
05S/17E-19Q01S	005S017E19Q001S	33.71446456	-115.2472004						538	760			Apr-61	76	462						
05S/17E-19Q01S	005S017E19Q001S	33.71446456	-115.2472004						538	760			Apr-61	76	462						
05S/17E-19Q01S	005S017E19Q001S	33.71446456	-115.2472004						538	760			May-70	75	463						
05S/17E-19Q01S	005S017E19Q001S	33.71446456	-115.2472004						538	760			Feb-92	82	456						
05S/17E-20F01								No	465	10											
05S/17E-21Z01								No					Jan-17	98							
05S/17E-29E01								Yes	533	983			Apr-61	84	449						
05S/17E-29H01								Yes	495	1,025		uncased	Aug-61								
05S/17E-30F01								Yes	570	720		120-288, 314-698	Apr-61	108	462						
05S/17E-30G01S	005S017E30G001S	33.7079481	-115.2388196						543				Mar-00	116	428						
05S/17E-30P01								No	620	147			Jun-61								
05S/17E-30P01S	005S017E30P001S	33.70057607	-115.2494227						607	152			May-57	150	457						
05S/17E-33N01								Yes	597	758		266-758	Apr-61	173	424						
05S/17E-33N01S	005S017E33N001S	33.6861321	-115.2210885						592	758			Apr-61	173	419						
05S/17E-33N01S	005S017E33N001S	33.6861321	-115.2210885						592	758			Apr-61	173	419						
05S/17E-33N01S	005S017E33N001S	33.6861321	-115.2210885						592	758			Oct-61	173	419						
05S/17E-33N01S	005S017E33N001S	33.6861321	-115.2210885						592	758			Apr-70	175	417						
06S/15E-24E01S	006S015E24E001S	33.63391075	-115.3774823						1,995	22			Aug-61	17	1978						
06S/15E-24E02S	006S015E24E002S	33.63529958	-115.3794268						2,000	22			Aug-61	19	1981						
06S/15E-24E03S	006S015E24E003S	33.63279968	-115.3758156						1,995	14			May-52	10	1985						
06S/15E-30Q01S	006S015E30Q001S	33.61613324	-115.4580404						2,200	15			Aug-61	12	2188						
06S/17E-03M01								Yes	565	818			Apr-61	190	375						
06S/17E-03M01S	006S017E03M001S	33.67641019	-115.2035878						566	818			Apr-61	190	376						
06S/17E-03M01S	006S017E03M001S	33.67641019	-115.2035878						566	818			Apr-61	190	376						
06S/19E-28R01S	006S019E28R001S	33.6130791	-114.9955244						354				Sep-90	81	273						
06S/19E-28R01S	006S019E28R001S	33.6130791	-114.9955244						354				Sep-90	82	272						
06S/19E-28R01S	006S019E28R001S	33.6130791	-114.9955244						354				Feb-92	81	273						
06S/19E-32K01S	006S019E32K001S	33.60406264	-115.0196002						390				Feb-92	104	286						
06S/19E-32K01S	006S019E32K001S	33.60406264	-115.0196002						390				Mar-00	97	293						
06S/19E-32K02S	006S019E32K002S	33.6041904	-115.0196919						390				Feb-92	110	280						
06S/20E-33C01S	006S020E33C001S	33.61002386	-114.9013548						392				Sep-90	134	258						
06S/20E-33C01S	006S020E33C001S	33.61002386	-114.9013548						392				Feb-92	135	257						
06S/20E-33L01S	006S020E33L001S	33.60465735	-114.9017964						388	800			Feb-02	125	262						
07S/18E-14F01S	007S018E14F001S	33.56214983	-115.073652						563	1,000			Dec-82	300	263						
07S/18E-14F01S	007S018E14F001S	33.56214983	-115.073652						563	1,000			Feb-92	270	292						
07S/18E-14F01S	007S018E14F001S	33.56214983	-115.073652						563	1,000			Mar-00	270	293						
07S/18E-14H01S	007S018E14H001S	33.56226096	-115.0650739						546	985			Jan-83	270	276						
07S/18E-14H01S	007S018E14H001S	33.56226096	-115.0650739						546	985			Feb-92	258	288						
07S/18E-14H01S	007S018E14H001S	33.56226096	-115.0650739						546	985			Mar-00	257	289						
07S/19E-04R01S	007S019E04R001S	33.5849549	-114.9955658						424				Sep-90	144	280						
07S/19E-04R01S	007S019E04R001S	33.5849549	-114.9955658						424				Mar-00	144	279						
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Jun-61	152	266						
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Oct-61	151	267						

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>		WELL COMPLETION DATA							GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS				
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation		Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl		(Hp)	Mo/Yr	gpm	gpm/ft
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Nov-61	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Jan-62	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Mar-62	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Apr-62	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				May-62	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Oct-62	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Mar-63	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Oct-63	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Mar-64	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Nov-64	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Mar-65	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Nov-65	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Mar-66	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Oct-66	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Mar-67	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Oct-67	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Oct-69	151	267					
07S/20E-04R01S	007S020E04R001S	33.5839135	-114.8910764						418				Apr-70	151	267					
07S/20E-16M01S	007S020E16M001S	33.5591308	-114.9053349						456	1,200			Jun-05	202	254					
07S/20E-16M01S	007S020E16M001S	33.5591308	-114.9053349						456	1,200			Sep-90	206	250					
07S/20E-16M01S	007S020E16M001S	33.5591308	-114.9053349						456	1,200			Feb-92	207	249					
07S/20E-16M01S	007S020E16M001S	33.5591308	-114.9053349						456	1,200			Feb-92	206	250					
07S/20E-17C01S	007S020E17C001S	33.56891386	-114.9166326						433				Feb-92	174	259					
07S/20E-17G01S	007S020E17G001S	33.5644973	-114.9155269						444	1,200			Dec-87	203	241					
07S/20E-17G01S	007S020E17G001S	33.5644973	-114.9155269						444	1,200			Sep-90	189	254					
07S/20E-17G01S	007S020E17G001S	33.5644973	-114.9155269						444	1,200			Feb-92	186	257					
07S/20E-17G01S	007S020E17G001S	33.5644973	-114.9155269						444	1,200			Feb-92	188	256					
07S/20E-17G01S	007S020E17G001S	33.5644973	-114.9155269						444	1,200			Mar-00	199	244					
07S/20E-17K01S	007S020E17K001S	33.55918915	-114.9121462						457	1,200			Dec-87	205	252					
07S/20E-17K01S	007S020E17K001S	33.55918915	-114.9121462						457	1,200			Feb-92	201	256					
07S/20E-17K01S	007S020E17K001S	33.55918915	-114.9121462						457	1,200			Feb-92	199	257					
07S/20E-17K01S	007S020E17K001S	33.55918915	-114.9121462						457	1,200			Feb-92	200	257					
07S/20E-17L01S	007S020E17L001S	33.55882247	-114.9202159						458	1,200			Oct-92	213	245					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Apr-61	168	275					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Apr-70	172	271					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Jul-79	173	269					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Jul-80	169	274					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Jan-81	169	274					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Sep-81	169	274					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Mar-82	170	273					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Jan-83	171	272					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Jul-84	171	272					
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Feb-85	171	272					

WELLS DATABASE  
PROJECT BEACON

WELL DATA <sup>1</sup>										WELL COMPLETION DATA				GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation	Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity		
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl	(Hp)	Mo/Yr	gpm	gpm/ft		
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Jun-85	173	270						
07S/20E-18H01S	007S020E18H001S	33.5625251	-114.926355						443	1,139			Feb-92	183	259						
07S/20E-18K01S	007S020E18K001S	33.5600363	-114.9319802						449	1,200			Oct-92	193	256						
07S/20E-18R01S	007S020E18R001S	33.5573475	-114.9270467						454	1,160			Oct-92	202	252						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-82	248	258						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Feb-92	232	273						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-00	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Oct-00	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jan-01	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Feb-01	234	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-01	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-01	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jul-01	235	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Nov-01	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Nov-01	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-02	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-02	235	271						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Oct-02	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Oct-02	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jun-03	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jun-03	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Nov-03	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Nov-03	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-04	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-04	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Aug-04	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Dec-04	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-05	235	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Aug-05	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Aug-05	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Feb-06	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Feb-06	236	270						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			May-06	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			May-06	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Aug-06	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Aug-06	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Dec-06	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Dec-06	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Feb-07	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Feb-07	236	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			May-07	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			May-07	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Sep-07	237	269						
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Sep-07	237	269						

**WELLS DATABASE  
PROJECT BEACON**

WELL DATA <sup>1</sup>				WELL COMPLETION DATA					GROUNDWATER LEVELS			WELL PERFORMANCE DATA <sup>2</sup>				COMMENTS				
STATE WELL NUMBER (DWR)	STATE WELL NUMBER (USGS)	LATITUDE	LONGITUDE	Well Owner	Published Use	Year	Status (op)	Lithologic Log (YES)	Ground Surface Elevation	Total Depth	Well Diameter	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation		Pump Model	Pumping Test Date	Pumping Rate	Specific Capacity
		NAD 83	NAD 83						feet-msl	feet-bgs	inches		Date	feet-bgs	feet-msl		(Hp)	Mo/Yr	gpm	gpm/ft
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Sep-07	237	269					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Dec-07	237	269					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Dec-07	237	269					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Mar-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jun-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jun-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Sep-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Sep-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Sep-08	236	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jan-09	235	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Jan-09	235	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-09	235	270					
07S/20E-28C01S	007S020E28C001S	33.53725089	-114.8991372						506	830			Apr-09	235	270					
07S/20E-28C02S	007S020E28C002S	33.5372481	-114.8989955						505	1,100			Nov-89	234	271					

**NOTES**

1 Data as provided in the USGS National Water Information System Database - <http://nwis.waterdata.usgs.gov/> and the Department of Water Resources Database - <http://wdl.water.ca.gov/gw/>

2 Data obtained by historical documents

**DEFINITIONS**

NAD-83 North American Datum 1983

feet-msl feet above mean sea level

feet-bgs feet below ground surface

Mo month

gpm gallons per minute

gpm/ft gallons per minute per foot of drawdown

-- data not provided or available in USGS or DWR database.

**TABLE 1  
SUMMARY OF AVAILABLE WATER LEVEL DATA FOR WELLS  
WITHIN CLOSE PROXIMITY TO THE DESERT SUNLIGHT SOLAR POWER PROJECT  
RIVERSIDE COUNTY, CALIFORNIA**

STATE WELL NUMBER (DWR) <sup>1</sup>	STATE WELL NUMBER (USGS)	Ground Surface Elevation	Total Depth	Perforation Interval(s)	Depth to Groundwater		Groundwater Elevation <sup>6</sup>	ACCOUNTING SURFACE 238 ft msl <sup>7</sup>	ACCOUNTING SURFACE 242 ft msl <sup>7</sup>
		feet-msl	feet-bgs		Date	feet-bgs	feet-msl	DIFFERENCE	DIFFERENCE
								feet	feet
04S/16E-19M01	--	610	585	--	Oct-61	127	<b>483</b>	245	241
04S/16E-30D01S	004S016E30D001S	603	610	--	Oct-61	114	489	251	247
04S/16E-30D01S	004S016E30D001S	603	610	--	May-70	118.53	<b>484</b>	246	242
04S/15E-13C01S	004S015E13C001S	683	452	220-248, 317-328	Feb-61	188	<b>495</b>	257	253
04S/16E-19N01	--	600	151	--	Apr-61	112	<b>488</b>	250	246
05S/16E-07P01 <sup>2</sup>	005S016E07P001S	608	347	248-296, 299-347	Apr-61	121	487	249	245
05S/16E-07P01 <sup>2</sup>	005S016E07P001S	598	347	--	Sep-52	108	490	252	248
05S/16E-07P01 <sup>2</sup>	005S016E07P001S	598	347	--	Jun-90	213	385	147	143
05S/16E-07P01 <sup>2</sup>	005S016E07P001S	598	347	--	Oct-90	208	390	152	148
05S/16E-07P01 <sup>2</sup>	005S016E07P001S	598	347	--	Mar-91	199	399	161	157
05S/16E-07P01 <sup>2</sup>	005S016E07P001S	598	347	--	Feb-92	188	<b>410</b>	172	168
05S/16E-07P02 <sup>2</sup>	005S016E07P002S	598	767	--	Oct-00	137	<b>462</b>	224	220
CW#2 <sup>3</sup>	--	--	--	--	Jul-92	--	<b>469</b>	231	227
P-12 <sup>3</sup>	--	--	--	--	Jul-92	--	<b>504</b>	266	262
GEI (2009b) Cross Section C-C' <sup>4</sup>		NA	NA	NA	NA	NA	540	302	302
DWR 91-24 (1979) <sup>5</sup>		NA	NA	NA	NA	NA	520	282	282

**Notes**

- 1 Well locations are shown on Figure -1. Information shown was take from the USGS NWIS database.
- 2 Water elevation data from the NWIS database. Time-series graph of Wells 5S/16E-7P01 and 5S/16E-7P02 as shown on GEI Figure 3.3.3-7 (GEI 2009b). Decline in water levels during the mid-1980's and through the early 1990's is from expanded pumping in support of agriculture (upwards of 20,000 afy). Since the mid-1990's agriculture has been in decline as evidenced by the recovery in the water levels.
- 3 Water elevation data as shown on Figure 3.3.3-11, "Groundwater Contours Near the Project Site - July 15, 1992 (GEI 2009b). Water level data posted for those wells that are the most proximal to the Project Site (see Figure 1).
- 4 Estimate of water elevation based on water level surface plotted onto cross section C-C' (GEI, 2009a Figure 5) in the area of well 5S/16E-13C001 and Kaiser Well CW#4. Water level data interpreted was from 1961 and 1964.
- 5 Estimate of water elevation based on water level elevation map as shown on GEI Figure 3.3.3-10 (GEI 2009b). Figure references modifaciton after DWR 91-24 (1979). Water level data used in development of the contours was from 1974.
- 6 Values in BOLD, are shown on Figure-1 "Site Plan Showing Recent Water Level Data for Wells Adjacent to the Project Site".
- 7 Proposed Accounting Surface elevation after USGS 2008-5113 (Weile et al, 2008), Figure 6, "Map showing the accouting surface in the Parker, Palo Verde and Cibola Valleys and adjacent tribuary areas in California and Arizona".
- Information not present in the USGS NWIS database.
- NA Not applicable. Water elevation data interpreted using graphical data (i.e., cross section and water level maps). No specific well completion, depth to water or elevation data included on the referenced figures.
- CW Chuckwalla Basin Water Supply Well (Kaiser Mine).
- P Piezometer (Kaiser Mine).

**References**

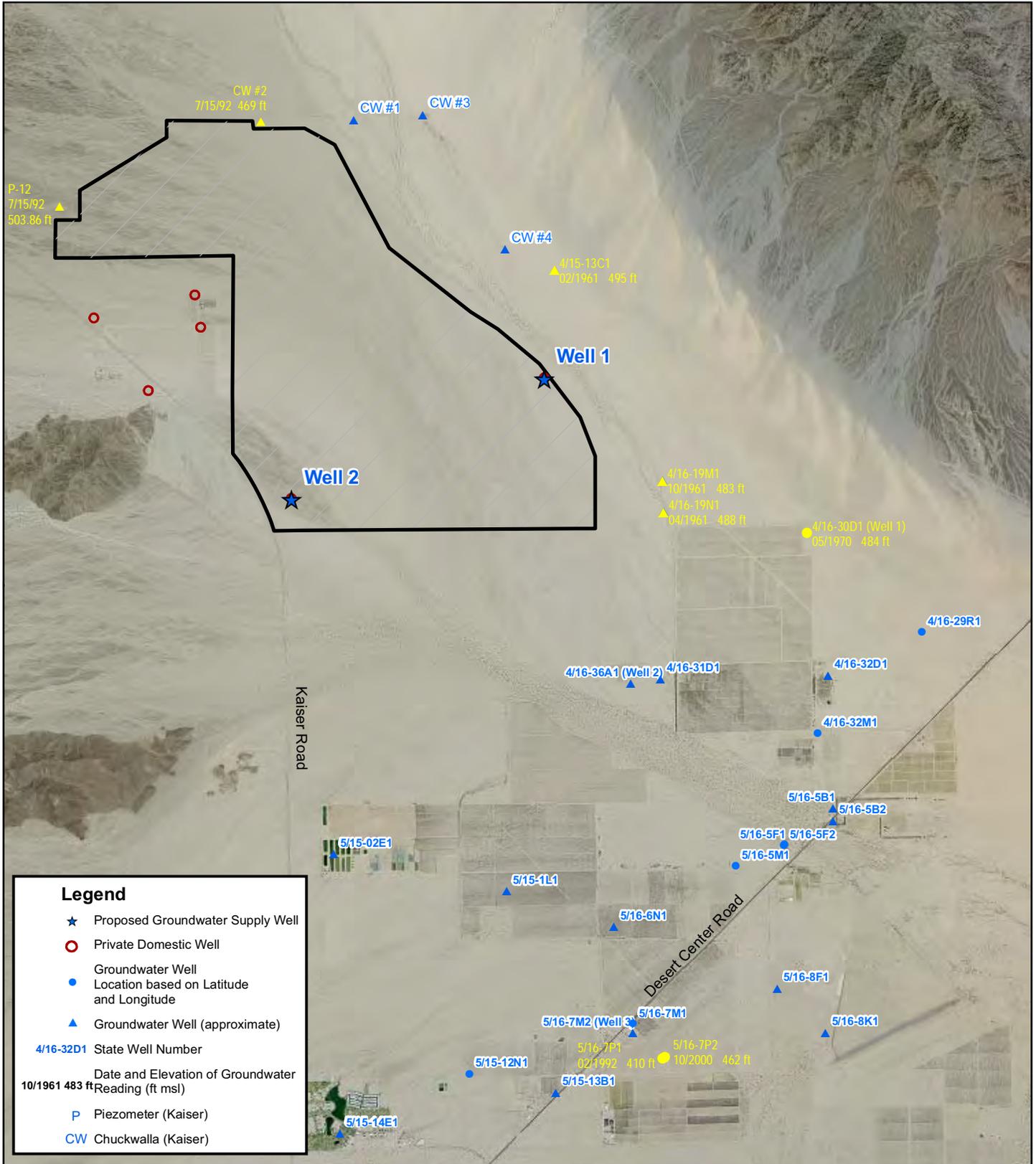
DWR 91-24, Department of Water Resources, 1979, Sources of Power Plant Cooling Water in the Desert Area of Southern California – Reconnaissance Study: Prepared by the United States Department of Interior - Geological Survey, August.

GEI, 2009a, Eagle Mountain Pumped Storage Project No 13123 - Final License Application, Technical Appendices for Exhibit E, Volume 3 of 6 Groundwater Supply Pumping Effects – Attachment A Supplemental Alluvial Aquifer Properties, Chuckwalla Valley Groundwater Basin. April 17, 2009 (GEI Project No. 080473) Figure 5 - Cross Section C-C', April 2009.

GEI, 2009b, Eagle Mountain Pumped Storage Project, Exhibit E - Applicant Prepared Environmental Impact Statement, Volume 2 of 6, Groundwater Resources, Figures 3.3.3-1 through 3.3.3-20, Groundwater Resources Figures (June 22, 2009).

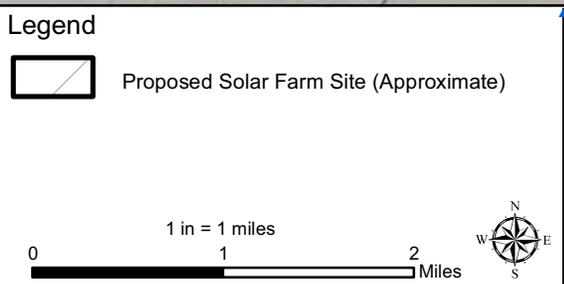
USGS 2010, National Water System Web Interface (NWIS), Groundwater Levels for California, Riverside County. Accessed at: [http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels?county\\_cd=06029&format=station\\_list&sort\\_key=station\\_nm&group\\_key=county\\_cd&sitefile\\_output\\_format=html\\_table&column\\_name=well\\_depth\\_va&begin\\_date=&end\\_date=&TZoutput=0&date\\_format=YYYY-MM DD&rdp\\_compression=file&list\\_of\\_search\\_criteria=county\\_cd](http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels?county_cd=06029&format=station_list&sort_key=station_nm&group_key=county_cd&sitefile_output_format=html_table&column_name=well_depth_va&begin_date=&end_date=&TZoutput=0&date_format=YYYY-MM DD&rdp_compression=file&list_of_search_criteria=county_cd)

Wiele, S. M., Lieke, S.A., Owen-Joyce, S.J., and McGuire, E.H., 2008, Update of the Accounting Surface Along the Lower Colorado River - Scientific Investigations Report 2008-5113 (Prepared in Cooperation with the Bureau of Reclamation): U.S Geological survey, Reston, Virginia, 16p.



**Legend**

- ★ Proposed Groundwater Supply Well
- Private Domestic Well
- Groundwater Well
- Location based on Latitude and Longitude
- ▲ Groundwater Well (approximate)
- 4/16-32D1 State Well Number
- 10/1961 483 ft Date and Elevation of Groundwater Reading (ft msl)
- P Piezometer (Kaiser)
- CW Chuckwalla (Kaiser)



**Desert Sunlight Solar Farm Project**

**Figure 1**  
Water Level Data  
In Vicinity of Project

Project: 60139386.012  
Date: December 2010



T 510 836 4200  
F 510 836 4205

410 12th Street, Suite 250  
Oakland, Ca 94607

www.lozeaudrury.com  
r.chard@lozeaudrury.com

*BY FAX (or email) AND US MAIL*

July 16, 2012

Carolyn Syms Luna, Director  
Riverside County Planning Department  
Riverside Co. Planning Department  
P.O. Box 1409  
Riverside, CA 92502-1409  
FAX: (951) 955-1811

Larry W. Ward  
Riverside County Clerk  
2720 Gateway Dr.  
Riverside, CA 92507  
[accrmail@asrclkrec.com](mailto:accrmail@asrclkrec.com)

Clerk of the Board of Supervisors  
Riverside County Administrative Center  
4080 Lemon Street, 1st Floor  
Riverside, CA 92501  
FAX: (951) 955-1071

RE: enXco Desert Harvest Solar Project  
(State Clearinghouse No. 2011094004)  
CEQA Notice Request

Dear Ms. Syms Luna, Mr. Ward and Clerk of the Board:

I am writing on behalf of Laborers International Union of North America, Local Union 1184, and its members living in Riverside County ("Commenters") ("LIUNA" or "Commenters") regarding the Draft Environmental Impact Report ("DEIR") for the enXco Desert Harvest Solar Project ("Project").

The proposed Desert Harvest Solar Project, a 150-megawatt solar photovoltaic facility would be sited on 1,208 acres of BLM-managed lands north of the community of Desert Center in Riverside County, California. An associated 220-kilovolt generation-intertie transmission line would be sited within a 204-acre right-of-way on BLM-

CEQA Notice Request of LIUNA  
enXco Desert Harvest  
July 16, 2012  
Page 2 of 3

managed land and 52 acres of non-BLM managed land, which would extend from the solar facility site to the planned Red Bluff Substation.

The County of Riverside is the Lead Agency under the California Environmental Quality Act ("CEQA") and a Cooperating Agency under the National Environmental Policy Act ("NEPA"). Riverside County has discretionary authority to issue a Public Use Permit for any gen-tie line alternative, as each crosses private lands subject to County jurisdiction. Riverside County would also require the Applicant to obtain an encroachment permit, a franchise route agreement, and a unified program facility permit. Riverside County has actively engaged in EIS planning and reviewing documentation relating to the proposed project and alternatives.

I hereby request that the County of Riverside ("County") put us on your notice list for any and all notices issued under the California Environmental Quality Act ("CEQA"), referring or related to the Project. In particular, we hereby request that the County mail my firm at the address below notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the County, and/or supported, in whole or in part, through contracts, grants, subsidies, loans or other forms of assistance from the County, including, but not limited to the following:

- Notice of any public hearing in connection with the Project as required by California Planning and Zoning Law pursuant to Government Code Section 65091.
- Any and all notices prepared pursuant to the California Environmental Quality Act ("CEQA"), including:
  - o Notices of any public hearing held pursuant to CEQA.
  - o Notices of determination that an Environmental Impact Report ("EIR") or supplemental EIR is required for a project, prepared pursuant to Public Resources Code Section 21080.4.
  - o Notices of availability of an EIR or a negative declaration for a project prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the California Code of Regulations.
  - o Notices of approval and/or determination to carry out a project, prepared pursuant to Public Resources Code Section 21152(a).
  - o Notice of any Final EIR prepared pursuant to CEQA.

Please note that we are requesting notices of CEQA actions and notices of any public hearings to be held under any provision of Title 7 of the California Government Code governing California Planning and Zoning Law. This request is filed pursuant to Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section

CEQA Notice Request of LIUNA  
enXco Desert Harvest  
July 16, 2012  
Page 3 of 3

65092, which require local agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

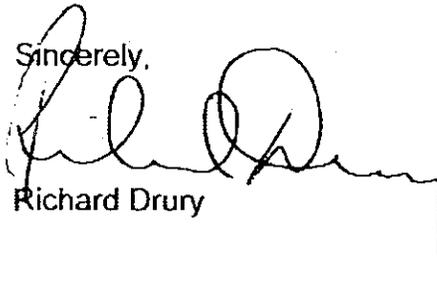
Please note that the requirements of CEQA differ in several respects from the requirements of the National Environmental Policy Act ("NEPA"). Therefore a separate CEQA review and comment process will be required in addition to the NEPA review currently underway. We urge the County to fully comply with all CEQA requirements.

Please mail and fax or email notices to:

Richard Drury  
Lozeau|Drury LLP  
410 – 12<sup>th</sup> Street, Suite 410  
Oakland, CA 94607  
Richard@lozeaudrury.com

Please call me should you have any questions. Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Richard Drury', is written over a horizontal line. The signature is cursive and somewhat stylized.

Richard Drury

## Email: Desert Harvest Solar Project EIS

---

**From:** Olivas, Jay [<mailto:JOLIVAS@rctlma.org>]  
**Sent:** Tuesday, July 17, 2012 5:33 PM  
**To:** Marisa Mitchell  
**Subject:** FW: Desert Harvest Solar Project Draft EIS

Please see attached Draft EIS comments below provided by our Transportation Dept. / Traffic Division.



Jay Olivas, Planner IV  
Riverside County Planning Department  
4080 Lemon Street, 12th Floor  
Riverside, CA 92501  
ph: (951) 955-1195

---

One of the assumptions made in the traffic study was that deliveries from large trucks would typically occur during off-peak hours. The only heavy vehicles included in the trip generation analysis were concrete truck mixers which would arrive and depart during all periods of the day. If this is to be true, the approval of the project permit should include provisions which require deliveries from large/heavy vehicles, except concrete truck mixers, to be made during off-peak periods.

One of my comments to the previous submittal was that traffic counts should not be conducted during atypical traffic conditions. In this case the counts were conducted during the week which included Thanksgiving holiday. Also, the traffic study did not include the raw count sheets. Without the raw counts sheets it is difficult to verify the numbers used in the analysis are correct.

## Email: Desert Harvest Solar Project EIS

---

**From:** North, Tiffany [<mailto:TNorth@co.riverside.ca.us>]  
**Sent:** Tuesday, July 17, 2012 4:14 PM  
**To:** Elser, Lynnette A  
**Subject:** Desert Harvest Solar Project - Draft EIS Corrections

Good afternoon Lynette-

I have reviewed several sections of the Draft EIS prepared by BLM for the Desert Harvest Solar Project. I respectfully provide the following corrections with regard to the discussion of the County of Riverside's Solar Power Plant Program and Zoning Ordinance sections:

1. In Section ES.2 – Lead and Cooperating Agency Roles and Responsibilities, the County of Riverside paragraph references a “unified program facility permit.” I assume this is referring to the County’s comprehensive, integrated legislative solar power plant program but it is not clear. The sentence should be revised to state, “Riverside County would also require the Applicant to obtain an encroachment permit and a franchise agreement containing terms consistent with the County’s solar power plant program, including consistent with Board of Supervisors Policy B-29.”
2. In Section 1.6.2. (Page 1-8) Again, the section references a “unified program facility permit.” I assume this is referring to the County’s comprehensive, integrated legislative solar power plant program but it is not clear. The sentence should be revised to state, “The County of Riverside has discretionary authority to issue a Conditional Use Permit (CUP) and a Public Use Permit (PUP) for any gen-tie line alternative, as each gen-tie line alternative crosses private lands subject to County jurisdiction. Riverside County would also require the Applicant to obtain an encroachment permit and a franchise agreement containing terms consistent with the County’s solar power plant program, including consistent with Board of Supervisors Policy B-29.”
3. In Section 1.10 - Other Applicable Plans and Program, the Riverside County’s Solar Power Plant Program should be referenced as it is applicable to the Project. I have provided some detail about the County’s Solar Power Plant Program below.

### Solar Power Plant Program

On November 8, 2011, the Riverside County Board of Supervisors adopted General Plan Amendment No. 1080 (the “General Plan Amendment” or “GPA”), Land Use Ordinance Amendment No. 348.4705 (the “Zoning Amendment”) and Board of Supervisors Policy No. B-29 entitled “Solar Power Plants” (the “Board Policy”). As determined by the Board of Supervisors, these legislative actions were “adopted as part of a comprehensive, integrated legislative program”. Together, the GPA, Zoning Amendment and Board Policy comprise the Riverside County Solar Power Plant Program (the “Solar Power Plant Program”).

The General Plan Amendment directly addresses solar power plants in the General Plan for the first time by adding a new countywide land use element policy, which provides:

“LU 15.15. Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside.”

The Zoning Amendment defines “solar power plants” and authorizes solar power plants as conditionally permitted uses with approval of a conditional use permit on lots 10 acres or larger in 19 different zoning classifications, including the W-2, A-1, and N-A zones applicable to the Project. Before adoption of the Zoning Amendment, solar power plants were not a permitted or conditionally permitted use anywhere in the unincorporated area of the County, and were prohibited under Ordinance No. 348, the County Land Use Ordinance.

The Board Policy addresses several issues regarding the development of solar power plants. It provides for payments by solar power plant owners in three different circumstances:

- Where the solar power plant project involves the use of County property.
- Where the solar power plant project involves the use of County roads or other County right of way.
- Where the solar power plant project involves a conditional use permit or other land use approval and a development agreement.

The Board Policy also provides incentives and credits to reduce any required payment, and provides for security or other arrangements to ensure that sales and use taxes lawfully owed for construction of a solar power plant are paid and allocated as required by law. Specific exceptions to application of the Board Policy are identified, and any applicant is given a right to request an exception to the Board Policy.

The Board of Supervisors identified that the purposes of the Board Policy “are to implement the . . . General Plan . . . , to ensure that the County does not disproportionately bear the burden of solar energy production, to ensure the County is compensated in an amount it deems appropriate for the use of its real property, and to give solar power plant owners certainty as to the County’s requirements.”

4. In Chapter 4, Section 4.11 - Lands and Realty, I note that several of the proposed alternatives mention “utility” uses as being permitted in the applicable zones, either with a plot plan or conditional use permit. The actual text of these sections of Ordinance No. 348 (the County’s zoning ordinance) refer to “public utilities,” not just “utilities.” For example, the Alternative B discussion in the Draft EIS references the N-A zone. The actual N-A zone text of Ordinance No. 348 includes “public utility substations,” not just “utility substations.” enXco is not a

public utility. Therefore, the discussion of public utility uses or public utility facilities is incorrect. Moreover, it is more accurate to indicate that the County's adoption of the Solar Power Plant Program in November 2011, including adoption of the Zoning Amendment (RCO No. 348.4705) now authorizes solar power plants as conditionally permitted uses with approval of a conditional use permit on lots 10 acres or larger in 19 different zoning classifications, including the W-2, A-1, and N-A zones applicable to the Desert Harvest project. Further, Section 18.29, subsection (a)(2) of Ordinance No. 348 allows transmission lines in any zone with a Public Use Permit. Subsection (a)(2) states in its entirety: "Facilities for the storage or transmission of electrical energy where the County is not preempted by law from exercising jurisdiction. This subsection shall take precedence over and supersede any conflicting provision in any zone classification. Facilities for the storage or transmission of electrical energy shall not be subject to the development standards of the zone classification in which they are in." Any public use permit, or other Ordinance No. 348 approval, issued for the Desert Harvest Project will also be subject to the County's Solar Power Plant Program referenced above.

Please let me know if you have any questions regarding the above corrections. I would be happy to discuss these items with you at any time.

Thank you.

Tiffany N. North  
Deputy County Counsel  
Office of Riverside County Counsel  
Telephone (951) 955-6300  
Facsimile (951) 955-6363

*Please note: Our office is closed every Friday thru fiscal year 2010/2011 per order of the Board of Supervisors on June 15, 2010.*

NOTICE: This communication is intended for the use of the individual or entity to which it is addressed and may contain attorney/client information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this communication is not the intended recipient or the employee or agent responsible for delivering this communication to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by reply email or by telephone and immediately delete this communication and all its attachments.