

## **APPENDIX G – DRAFT EIS COMMENTS AND BLM RESPONSES**

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The 45-day comment period for public review of the Draft EIS began with the publication of the Notice of Availability in the Federal Register on Friday March 19, 2010. The BLM distributed press releases announcing the dates, locations, and times of the public meetings to local and regional print and broadcast media. The Draft EIS was posted on the BLM Southern Nevada District Office website at: [http://www.blm.gov/nv/st/en/fo/lvfo/blm\\_programs/energy/proposed\\_solar\\_millennium.html](http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/proposed_solar_millennium.html), and distributed to agencies and individual who have requested copies.

Four public meetings were held during the public comment period (from March 19, 2010 – May 3, 2010) to receive comments on the Draft EIS. Dates and locations of these meetings, and the number of attendees are as follows:

### Beatty, NV – 10 attendees

Date: April 6, 2010

Time: 6pm – 8pm

Location: Beatty Community Center Hall, 100 S. A Avenue, Beatty

### Amargosa Valley, NV – 63 attendees

Date: April 7, 2010

Time: 6pm – 8pm

Location: Amargosa Valley Community Center, 821 E. Amargosa Farm Road, Amargosa Valley

### Pahrump, NV – 24 attendees

Date: April 13, 2010

Time: 6pm – 8pm

Location: Pahrump Library, 701 East Street, Pahrump

### Las Vegas, NV – 19 attendees

Date: April 14, 2010

Time: 6pm – 8pm

Location: Centennial Hills YMCA, 6601 North Buffalo Drive, Las Vegas

During the 45-day comment period, the BLM received 37 comment documents (e.g., letters, emails, faxes, etc.) from individuals, private companies, interest groups, and federal and state agencies commenting on the Draft EIS. A list of comment documents received, the content of each letter, and BLM's responses to comments are provided below. Each comment letter was assigned a reference number and each comment was identified with a number. Where appropriate, changes and additions are reflected in the Final EIS to respond to comments.

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Comment Document 1  
Public Hearing on the Amargosa  
Farm Road Solar Power Project  
Transcript  
Beatty, NV 4.6.2010

Comment No.  
01-01-01

18 JOHN BOSTA: My name is John Bosta,  
19 B-o-s-t-a. I live in Amargosa Valley. I have a  
20 question about the groundwater model. You say that  
21 you're looking at 435 acre feet of water and using  
22 the groundwater flow. Is that groundwater flow on  
23 one well or is it on the cumulative effect of the  
24 three wells planned?

Comment No.  
01-01-02

25 And then my second question is does each

Responses to these comments are provided on a  
separate page following this comment document.

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Comment No. 01-01-02

1 plant require 435 acre feet of water or is that a  
2 total for both of the plants being developed?

3 SANDRA FAIRCHILD: Do we want to respond to  
4 these comments? I mean, I can answer those  
5 comments --

6 GREG HELSETH: Go ahead.

7 SANDRA FAIRCHILD: -- because they're in the  
8 Draft EIS, or does someone on the table, front table,  
9 like to respond?

10 JASON HIGGINS: Go ahead.

11 SANDRA FAIRCHILD: Well, the Draft EIS  
12 considered pumping the requested amount for three  
13 wells. Subsequent to the release of the Draft EIS,  
14 it was determined that one well would be used for the  
15 project. The 400 acre feet that they're proposing to  
16 use for this project will be for the entire plant,  
17 for two facilities, two power blocks.

Comment No. 01-01-03

18 JOHN BOSTA: Which one of the three wells  
19 will be used?

20 SANDRA FAIRCHILD: I don't know off the top  
21 of my head. I think it was the -- there's three  
22 wells considered. I think there was a well in the  
23 center portion. I think up here on the -- I believe,  
24 Jason, correct me if I'm wrong, is this the new well,  
25 the one that's right in the middle?

Responses to these comments are provided on a separate page following this comment document.

1 JASON HIGGINS: The center.

2 SANDRA FAIRCHILD: The center well is one  
3 that they're considering moving forward for use for  
4 this project.

Comment No.  
01-01-04

5 JOHN BOSTA: Now, is that on Funeral  
6 Mountain Ranch or is that on the Dewitt property? My  
7 question is is this well located on the Funeral  
8 Mountain Ranch or is that well located on the Dewitt  
9 property? And if it is located, how is the water  
10 going to be transported through pipes to the project?

Comment No.  
01-01-05

11 SANDRA FAIRCHILD: I don't know the answer  
12 to which well that is actually located, but there's  
13 two alternatives that are considered for moving the  
14 water from that location to the project site.  
15 They'll either move the point of diversion through  
16 the Nevada Department of Water Resources to the state  
17 engineer's process, change the point of diversion to  
18 another location on the project site, or they will be  
19 constructing a pipe to convey that water from that  
20 site to the project area. And I don't think at this  
21 point in time that decision has been made. Does that  
22 answer your question?

23 JOHN BOSTA: Yes. Thank you.

Responses to these comments are provided on a  
separate page following this comment document.

Comment No.  
01-02-01

4                   LARENE YOUNGHANS: LaRene Younghans is  
5 L-a capital R-e-n-e, Y-o-u-n-g-h-a-n-s. My comment  
6 is I just want the BLM to approve the dry process so  
7 It will use the least amount of water.

8                   SANDRA FAIRCHILD: Thank you.

9                   JASON HIGGINS: That is the BLM's preferred  
10 alternative.

A response to this comment is provided on a  
separate page following this comment document.

13 EDWARD GERING: Last name is Gering,  
14 G-e-r-i-n-g. And I represent the International  
15 Brotherhood of Electrical Workers, Local Union 357 in  
16 Las Vegas, Nevada. We have approximately 3800  
17 members who reside in the communities of Las Vegas,  
18 Pahrump, Amargosa, Beatty and surrounding  
19 communities.

20 We are wholeheartedly behind this project  
21 and projects like this, as we feel that they will  
22 provide our members with good opportunities for  
23 employment at good wages and will also put Nevada in  
24 a favorable position hopefully to lead the nation in  
25 the production of renewable energy.

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Comment No.  
01-03-01

A response to this comment is provided on a  
separate page following this comment document.

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16

1 So we'd like to see that all the issues of  
2 the communities that will be affected are addressed  
3 in a positive manner, and we would be wholeheartedly  
4 a hundred percent behind this type of project and  
5 other projects like it. Thank you.

Comment No.  
01-04-01

8 KEVIN EMMERICH: It's Kevin Emmerich,  
9 E-m-m-e-r-i-c-h. The first question or comment I  
10 have is you got the preferred alternative, which is  
11 dry-cooled, then you've got the required no action  
12 alternative, then your only other offered alternative  
13 as wet-cooled, which is pretty unrealistic. I mean,  
14 what is that, 4,000 acre feet? You know you don't  
15 have that in Amargosa Valley, so I'd like to request  
16 have another more reasonable alternative that's off  
17 the site because you don't really provide that in  
18 your EIS.

Comment No.  
01-04-02

19 And then the other comments or questions I  
20 have it says in the EIS you're going to have a  
21 detention basin for flooding somewhere. And one of  
22 the options is to have it somewhere I guess to the  
23 north, which is also off the site. And I'm not sure  
24 if I'm interpreting that right but it seems to have  
25 that indication.

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separate page following this comment document.

17

Comment No.  
01-04-03

1 And then on the map here in the EIS it says  
2 there's an option of making a new road, Highway 95,  
3 which I guess would be a new access road. And is  
4 there going to be an environmental assessment for  
5 that? Will that happen before you approve the  
6 project? Those are some of the details I'm curious  
7 about.

Comment No.  
01-05-01

15                   LARENE YOUNGHANS: I just have a question.  
16                   How many people will this employ after the  
17                   construction?

18                   SANDRA FAIRCHILD: According to the analysis  
19                   that we've conducted in the Draft EIS, the  
20                   construction, the peak construction force for during  
21                   construction will be around 1300 folks, and then  
22                   after the project is constructed they are  
23                   anticipating to employ up to 180 full-time employees.

24                   LARENE YOUNGHANS: Thank you.

A response to this comment is provided on a  
separate page following this comment document.

## RESPONSES TO COMMENT NO. 01-01-01 THROUGH 01-05-01

### Response to Comment No. 01-01-01

Solar Millennium has filed an application (No. 79699) with the Nevada Division of Water Resources Nevada State Engineers Office to change the place and manner of use of Certificate 5717. The water right has an annual duty of 603 afy which has been pumped approximately 413.88 afy on average over the last 25 years. Solar Millennium intends to drill a new well and move 400 afy from its current point of diversion (POD) located in the NE 1/4 of the NE 1/4 of Section 23, Township 16 South, Range 48 East, to a new well (POD) to be located approximately 300 feet east of the original POD. This will allow for redundancy should one of the wells fail. Meters will be placed on both wells to ensure there is no exceedance of the permissible annual duty.

### Response to Comment No. 01-01-02

The operational water requirement for two 232 MW (gross 250 MW) dry-cooled solar power plants is 400 afy.

### Response to Comment No. 01-01-03

Permit 15893, Certificate 5717 located in the NW 1/4 of the NE 1/4 of Section 23, Township 16 South, Range 48.

### Response to Comment No. 01-01-04

The certificated water right is held by Geneerco. The water right has a priority date of 12-13-54.

### Response to Comment No. 01-01-05

As stated in Section 2.3.5.1, a new pipeline will be constructed from the point of diversion to the project site.

### Response to Comment No. 01-02-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process. The BLM preferred alternative is the Proposed Action (dry-cooled alternative).

Response to Comment No. 01-03-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 01-04-01

A wet-cooled solar facility is a viable alternative; however, the level of effort to acquire the amount of water needed for a wet-cooled solar project and the potential legal action from concerned stakeholders increases time and costs to develop a wet-cooled solar project in this region.

The FEIS studies a reasonable range of alternatives, including three fully-developed alternatives and many that were evaluated but not brought forward for detailed evaluation because they failed to meet Applicant's objectives. The BLM concurred. These dismissed alternatives included alternative sites.

Response to Comment No. 01-04-02

Detention basins will be constructed within the project footprint. There are no plans to construct a regional flood control facility north of the project site.

Response to Comment No. 01-04-03

No new road will be constructed off of Highway 95. Solar Millennium will work with Nye County to upgrade an existing road off of Valley View Blvd to the project site. This upgrade will be subject to additional permits and approvals from various agencies (e.g. BLM, NDEP, and Nye County). Any modifications to roadways or lands managed by the BLM will be subject to compliance with Title V of the Federal Land Policy Management Act, BLM right-of-way regulations, and other federal laws, including the National Environmental Policy Act.

Response to Comment No. 01-05-01

The Project is expected to employ between 170 to 200 full-time employees during the Project's 30-year operational life.

Comment Document 2  
Public Hearing on the Amargosa  
Farm Road Solar Power Project  
Transcript  
Amargosa NV, 4.7.2010

Comment No.  
02-01-01

20 MATT LYDON: Yes, I'm Matt Lydon, that's  
21 M-a-t-t, last name is spelled L-y-d-o-n. I'm a  
22 business representative for Plumbers and Pipe Fitters  
23 Local 525 here to speak on behalf of this project. I  
24 feel that Solar Millennium has mitigated the changes  
25 to accommodate the area, and also speaking on behalf

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Responses to these comments are  
provided on a separate page following  
this comment document.

13

1 of 2600 members, of those 2600 members, 1300 are  
2 unemployed. This will create a great situation for  
3 them to get reemployed. Thank you.

Comment No.  
02-02-01

4 PAT MINSHALL: Pat Minshall,  
5 M-i-n-s-h-a-l-l. Well, I think most of us would like  
6 to see a solar plant here in Amargosa Valley. We do  
7 not want to see it on main street in the middle of  
8 our town. I've done quite a bit of research and have  
9 not been able to find a single solitary solar plant  
10 in the world, and there might be, in the middle of a  
11 town. I think there are a lot of alternatives and I  
12 think we should be looking at an alternative  
13 placement.

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provided on a separate page following  
this comment document.

14 JOHN CHRISTIANSEN: John Christiansen  
15 spelled C-h-r-i-s-t-i-a-n-s-e-n. Does that count as  
16 part of my three minutes? I am a citizen of North  
17 Las Vegas and I'm also business manager of Sheet  
18 Metalworkers Local 88 in Las Vegas and represent 2200  
19 members and their families there.

Comment No.  
02-03-01

20 This project is important to me and I'm in  
21 support of this project for a couple of reasons, most  
22 importantly this project helps eliminate the carbon  
23 footprint that we're all aware of. Reading in the  
24 paper the rain in the northeast, studies are proving  
25 that this is a direct result of global warming. This

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Comment No.  
02-03-01  
(continued)

1 is the sort of power projects that we need for our  
2 country and for our generations.

3 I brought my son, Garret. Stand up, Garret.  
4 He's 13 years old going into high school next year  
5 and a good looking kid. And for him and a country  
6 that I want him to enjoy the types of things that  
7 being a native Nevadan, and both of us are, have  
8 enjoyed. The wildlife, the fishing, the hunting and  
9 that, I want that stuff left for him and for his kids  
10 and my grandkids. This project is the type of  
11 project where we need to start turning for the energy  
12 source. This part of the country is a great area to  
13 have this.

14 Also, and if you'll bear with me just a  
15 minute, the jobs are important, but more importantly  
16 these jobs that are created enhance existing careers  
17 and create careers where people can have benefits,  
18 health benefits, pension plans. People can work at  
19 these plants and retire with dignity and take care of  
20 their family and make sure that they have the health  
21 care and the benefits that they need. These are good  
22 jobs that enhance existing careers and create careers  
23 where people can work with dignity and retire with  
24 dignity. And those are a couple of reasons I'm in  
25 support of this project. Thank you.

Comment No.  
02-04-01

1                   CORDELL SANDERS: Cordell Sanders,  
2                   C-o-r-d-e-l-l, S-a-n-d-e-r-s. I'm a representative  
3                   of the Sheet Metalworkers Local 88. I'm out of North  
4                   Las Vegas. I'm here to support this project because  
5                   this green energy is something that we've needed in  
6                   this valley for a long time, not just Amargosa Valley  
7                   but the Las Vegas Valley, because it's a dry climate.  
8                   It has sunshine 90 percent of the time.  
9                   We should be utilizing this energy. It's  
10                  going to provide jobs for the future. And I'm a  
11                  member of Local 88. And like John said, we have  
12                  members that are unemployed and it will provide jobs  
13                  in the future. Thank you.

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provided on a separate page following  
this comment document.

Comment No.  
02-05-01

14                   ROLAND RAJM: My name is Roland Rajm,  
15 R-a-j-m, and I'm a resident of Amargosa and I am  
16 against this project. And the reason that I'm  
17 against the project is because, like the lady said,  
18 it is the only solar plant that I've been able to  
19 find on the internet that's sitting on top of a town.  
20 The closest one that there is two miles away.

Comment No.  
02-05-02

21                   This is the EIS that I downloaded from the  
22 internet. I couldn't finish it all, just barely  
23 half. I tried to read it, didn't have time. Now  
24 it's commendable that North Las Vegas and everybody  
25 else wants the jobs: 13, 1500 of them. I believe

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16

1                   that not even ten of them will come from this town.

2                   All of the benefits are for everybody else  
3 except us. We get nothing from this. We stand only  
4 to lose. When the three years are up, when the  
5 construction is down, this town is not going to be  
6 Amargosa, it's going to be Solar Millennium because  
7 there won't be anything else. Thank you.

Comment No.  
02-06-01

8 JOHN BOSTA: My name is John Bosta,  
9 B-o-s-t-a. A first comment that I have on the EIS is  
10 related to the alternatives. If I'm correct,  
11 alternative A is wet cooling, alternative B is --  
12 excuse me, A is dry, B is wet, and then there's the  
13 other alternative, which is take no action.

14 At last night's meeting it was pointed out  
15 that the wet cooling is no action so, therefore, that  
16 leaves only one alternative and, therefore, the EIS  
17 does not present an alternative to this project.

Comment No.  
02-06-02

18 The other thing that bothers me is that we  
19 worked three years on an area plan, and our area plan  
20 for land use has no solar project south of Farm Road,  
21 and probably one-third of this project is south of  
22 Farm Road. In fact, it even anticipates moving Farm  
23 Road. The land south of Farm Road in the EIS shows  
24 no plan for how that land is going to be used.

Comment No.  
02-06-03

25 The scoping meetings that we had, much of

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Comment No.  
02-06-03  
(continued)

1 the information has not been included in the EIS. In  
2 the buffer they show fences and trees to buffer the  
3 wind, and I cannot imagine how you can construct a  
4 fence high enough to hide the project, other than the  
5 cooling towers, that can stand the force of the wind  
6 here in the valley.

7 If they plant trees, then water will be  
8 needed to grow the trees, and I imagine that must be  
9 in the area of 35 to 65 gallons of water a day, and  
10 we don't have that kind of water here in our valley.

Comment No.  
02-06-04

11 The next part is that the people that live  
12 on Sandy Lane, their visual view of the valley  
13 looking back towards the northwest is going to be  
14 totally obliterated.

Comment No.  
02-06-05

15 The other part that has been brought up is  
16 that I don't think that the EIS has adequately  
17 covered the dangers of explosions and fires to the  
18 population, especially those people living on Sandy  
19 Lane. Thank you.

Responses to these comments are  
provided on a separate page  
following this comment document.

Comment No.  
02-07-01

20                   JAN CAMERON:  Jan Cameron, C-a-m-e-r-o-n.  I  
21   too live in this valley, as opposed to all of the  
22   folks that were kind enough to come out from Las  
23   Vegas.  I am slightly more optimistic than some  
24   people here.  I am assuming that more jobs than five  
25   will come to this valley.  I'm actually hoping that a

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Comment No.  
02-07-01  
(continued)

1 large percentage of the jobs of this plant will grow  
2 out of this valley, as they should, because it is  
3 Amargosa Valley, A-m-a-r-gosa Valley, not Las Vegas,  
4 not North Las Vegas. This is our valley, we live  
5 here.

Comment No.  
02-07-02

6 Second of all, I too would have been, as I  
7 think all of you know who are in this room, much  
8 happier with a different location for that plant.  
9 I'm not thrilled with the idea of it being on Farm  
10 Road. I'm certainly not thrilled with the idea of it  
11 being as far east as it is, as close to Sandy Lane as  
12 it is.

13 On behalf of the vast majority of the people  
14 in this valley, I want you to know what I said from  
15 the very beginning, we do not want Farm Road moved,  
16 period. Farm Road is our only east-west thoroughfare  
17 that goes from one side of the valley to the other  
18 and there are things that can be put on the south  
19 side of it that do not have to be encompassed in a  
20 fence and, therefore, require the block, the movement  
21 of Farm Road. We do not want Farm Road moved.

Comment No.  
02-07-03

22 A minor point, the Beatty Fire Department is  
23 also in very close coordination with this fire  
24 department. They actually have been the most closely  
25 cooperating agency throughout the existence of the

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provided on a separate page following  
this comment document.

Comment No.  
02-07-03  
(continued)

1 two fire departments. They were omitted from this  
2 plan in your mitigation discussions.

Comment No.  
02-07-04

3 I am concerned that the site that is shown  
4 in the EIS is the original site, which encompassed  
5 this building as well as our park across the street  
6 and our school next door and all of these other  
7 buildings. I was expecting by this point in time  
8 that it would have shown a scaled back footprint  
9 rather than the original request, which was including  
10 all of this land. And it bothers me that the  
11 original request is still being shown in the EIS.

Comment No.  
02-07-05

12 I too am concerned about the Sandy Lane  
13 folks who built their homes there. I know some of  
14 the people on Sandy Lane are perfectly happy. I know  
15 that others are not. And the main reason is they  
16 built their homes wanting to look at the vista that  
17 they had and they're not seeing that vista with this  
18 plant sitting there on the western side of them.  
19 There may be only six houses that are concerned about  
20 it, but there are people. We live here.

21 I do appreciate the efforts that are being  
22 made to try to mitigate the vision of the plant  
23 itself but I again hope that you will address the  
24 issue of Farm Road and work with those folks to try  
25 to make what goes in there better than what they feel

20

1 is looking at right now. Thank you.

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provided on a separate page following  
this comment document.

Comment No.  
02-08-01

2                   JOHN EGAN:  Hi, I'm John Egan, J-o-h-n,  
3   E-g-a-n, with NextLight Renewable Power, another  
4   power company that does just solar.  We're here in  
5   support of the project tonight.  I think the main  
6   reason is we at NextLight believe all solar is good.  
7   Anything we can do to reduce our carbon impact on  
8   this world is a good thing.  We need to do this.  
9   Thank you.

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provided on a separate page  
following this comment document.

Comment No.  
02-09-01

10                   HOWARD BLUMENFELD: Howard, H-o-w-a-r-d,  
11 Blumenfeld, B-l-u-m-e-n-f-e-l-d. A bunch of  
12 questions. How much are you going to save us in  
13 electricity? That's one question. Number two, you

Comment No.  
02-09-02

14 say over the project's 30-year life, does that mean  
15 it's done in 30 years? Okay, that doesn't tell us  
16 anything there.

Comment No.  
02-09-03

17                   As far as to build it, you've got the  
18 military reservation. That's government land. What  
19 are you even doing here? That's a good question. I  
20 think those things ought to be answered. I can't  
21 blame the people. I live in this valley here too,  
22 but, I mean, what do you say to this?

Comment No.  
02-09-04

23                   And then, question, what is solar compared  
24 to nuclear? They've not laid down costs. You're not  
25 telling us anything there. I'm for clean air but we

Responses to these comments are provided on a separate page following this comment document.

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1 recycle, but these are things you're not telling us a  
 2 thing about. I think that should be considered. I  
 3 mean, how many miles do you have to go? You're on  
 4 the military reservation. You don't even have to  
 5 come to us. And that's BLM, or government land.

Comment No.  
02-09-05

6 So I understand other people are upset, but,  
 7 you know, what is it going to do? You got water.  
 8 You got water, you know, wet and dry. At Boulder  
 9 City you're right on Lake Mead. Somebody said oh,  
 10 the land isn't flat. They can't adjust panels and  
 11 make them the same? You have what, six acres over  
 12 there? You can do a lot over there too. So I don't  
 13 know what the purpose is.

Comment No.  
02-09-06

14 And also who is going to audit what happens  
 15 to the water? Something we drink, you follow?  
 16 You're not saying anything there. You use water to  
 17 what, to cool down the turbines? What happens to  
 18 that water? Is it recycled? Is it going to go into  
 19 the ground and pollute the water supply? You're not  
 20 answering that either. I think that is a big  
 21 concern.

Comment No.  
02-09-07

22 So as far as dollars and cents, you know,  
 23 let's talk about it. Are you going to cut our  
 24 electric bills in half? I mean, putting people back  
 25 to work, that's not a discussion about that. That's

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provided on a separate page following  
this comment document.

1 it, questions, not comments.

2 GENNE NELSON: It's Genne Nelson, G-e-n-n-e,  
3 N-e-l-s-o-n. I live in Amargosa. There's a lot of  
4 issues. I'm just going to touch on two of them. The  
5 first is air quality and primarily talking about  
6 dust. There's a lot of information about the  
7 emissions that come from the equipment and so on and  
8 so forth.

9 The main concern out here is the dust  
10 itself. And they say that they want to control the  
11 dust because of the mirrors but we've seen what men  
12 can do out here. So I think at the very least that  
13 these nice models are just as good as the information  
14 that goes into them, that there should be some  
15 accountability and some air quality monitoring for  
16 particulate that is provided to make sure that they  
17 are meeting the standards that they say that they can  
18 meet.

19 And it's easy to say that. And I know we've  
20 had problems in the past with NDOT that, you know,  
21 well, we say we have problems but we have no way to  
22 prove it. And if you institute monitoring, then we  
23 have a way to prove that we are or are not having  
24 problems with that.

25 GREG HELSETH: On the monitoring question,

Comment No.  
02-10-01

Responses to these comments are  
provided on a separate page following  
this comment document.

1 I'll go ahead and answer that. There will be a  
 2 monitor assigned to the project once a -- if a  
 3 favorable Record of Decision is reached, there will  
 4 be a further -- during construction a CIC. It's a  
 5 monitor that the applicants will hire and they will  
 6 report to the BLM that will constantly monitor dust,  
 7 air quality, whether or not the fencing is going up  
 8 correctly, whether they're doing things according to  
 9 the plan of development and report back to us. And  
 10 we could stop the project for any violation.

11 So there will be a full-on monitor during  
 12 the course of the construction. And then the BLM  
 13 will, during the lifetime of the project, will  
 14 continue to monitor the project frequently, so just  
 15 to answer the question.

Comment No.  
02-10-02

16 GENNE NELSON: Okay. And I can agree with  
 17 that but after construction there also needs to be  
 18 regular monitoring collected and not just at random  
 19 but that there be instruments in place.

Comment No.  
02-10-03

20 And the other would be the factor of noise.  
 21 They are basing it on a standard of 55 decibels, and  
 22 they say that's what the EPA does. I don't think  
 23 that's quite fair because I think you have to look at  
 24 what is the ambient situation out here already.

25 Rural residential is not necessarily the

Responses to these comments are  
provided on a separate page following  
this comment document.

Comment No.  
02-10-03  
(continued)

1 same as residential in town. And I think you may  
2 need to modify that 55 limit to looking at what is  
3 the loss for the people, what they have right now  
4 versus what they will have if they go to a 55 decibel  
5 limit.

6 A lot of the people out here have swamp  
7 coolers. Their windows are open half the year. And  
8 especially at night, noise is very disruptive. So I  
9 really think these things need to be looked at in a  
10 little more detail than the modeling. Thank you.

Comment No.  
02-11-01

14 EUNICE HERNANDEZ: My name is Eunice  
15 Hernandez, E-u-n-i-c-e, H-e-r-n-a-n-d-e-z. I live  
16 right on the view and I'm probably one of the present  
17 to hear that noise and to have to worry about all  
18 that, but I'll be fine because the jobs that is  
19 bringing for us is going to be good, because my dad,  
20 he hasn't worked for two years, and he's supporting a  
21 family of six. And that money is money that we need.  
22 And you guys are complaining about the noise  
23 and about how it will look, and I'm worried about how  
24 my family will survive the year. So I don't think  
25 that's fair. Thank you.

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Comment No.  
02-12-01

1                   STEPHEN BURNAGE: Stephen with a P-H,  
2 B-u-r-n-a-g-e. I represent a company called RetCo  
3 that has filed a 299 application to build a  
4 transmission line from south of Las Vegas into this  
5 area.  
6                   I want to speak on behalf of the project but  
7 also give assurance to everybody that the Amargosa  
8 Valley is a very special place. I know it's a very  
9 special place for everybody who lives here. If the  
10 world is going to reduce its carbon footprint,  
11 development in Amargosa Valley is the perfect place  
12 for it to take place.  
13                   I think it's the job of all of us developers  
14 to engage everybody -- local community, the unions,  
15 the other generation companies, investors -- to make  
16 sure that it's a win-win for everybody.  
17                   So I want to speak on behalf of the project  
18 but also just assure everybody that for the  
19 developments that follow this excellent development,  
20 that we'll do our best to work with everybody. And  
21 anybody is free to sort of contact me to sort of ask  
22 a little bit further about what may be following.  
23 But I think they're probably about a year away from  
24 actually having to stand up in front of you and hold  
25 a similar session. Thank you.

Responses to these comments are  
provided on a separate page following  
this comment document.

Comment No.  
02-13-01

3 CURTIS STENGEL: Curtis Stengel,  
4 C-u-r-t-i-s, S-t-e-n-g-e-l. I had listened to these  
5 neighbors tell their thoughts and I had just a couple  
6 of questions in regards to the offset of Farm Road,  
7 should it take place. Will there be an offset with  
8 the same power line that goes down that right-of-way?  
9 Because that's where my power comes from, and I'd be  
10 real upset if I didn't have power.

Comment No.  
02-13-02

11 The other thing is there's a buried  
12 fiberoptic T1 line, and I don't know if that's been  
13 addressed, but that's on the same right-of-way and it  
14 would have to be relocated or discontinued. And I  
15 hope that you would address that. Thank you.

Responses to these comments are  
provided on a separate page following  
this comment document.

Comment No.  
02-14-01

16                   CHRIS WILE: Chris Wile, C-h-r-i-s, W-i-l-e.  
17                   I represent -- I'm a business rep for International  
18                   Brotherhood of Electrical Workers 357 in Las Vegas.  
19                   We have -- the west here has a tremendous amount of  
20                   natural resources with having the sun, the sun rays  
21                   that we have here. With this plant there's more  
22                   maintenance than there is with most PV -- in most  
23                   photovoltaic applications, so there is more  
24                   continuous jobs when the plant is built, after the  
25                   plant is built.

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this comment document.

27

1                   I'd also like to welcome everybody to come  
2                   down to our apprenticeship. We have a wind generator  
3                   as well as some photovoltaic stuff at our  
4                   apprenticeship as well as our union hall. So not  
5                   only do we talk about this stuff, but we actually do  
6                   this stuff. And this is one of the most efficient  
7                   ways of using the sun's rays, and I'm also in support  
8                   of this project.

Comment No.  
02-15-01

11 BILL WAHL: Good afternoon. I'm Bill Wahl,  
12 W-a-h-l. I'd like to address the union members. I'd  
13 certainly like to have some apprenticeship programs  
14 up here in Amargosa Valley. I'd like to have your  
15 business cards. We'll be glad to get in touch with  
16 you. Thank you.

Responses to these comments are  
provided on a separate page following  
this comment document.

19 J.W. CUNNINGHAM: I'm J.W. Cunningham,  
20 C-u-n-n-i-n-g-h-a-m. I am almost past the age of  
21 working, but I like the idea of these solar companies  
22 coming in because it offers opportunities for our  
23 young people not to have to leave the valley, like  
24 this little young lady over here was talking about  
25 her father hasn't worked in two years.

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Responses to these comments are  
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this comment document.

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28

1 The other thing that actually concerns me is  
2 the unions, are they going to bring in all people  
3 from out of town or is it going to be an opportunity  
4 for the people here in the valley to be employed?

5 I think solar energy is a thing that is  
6 coming. Nobody is going to fight it, it's going to  
7 be here, whether it be on our main street downtown,  
8 and I don't see no downtown here yet, but they're  
9 coming and coming fast, folks. But let's look at it  
10 through a little more open mind for our young people  
11 and that way they don't have to go to Vegas and God  
12 only knows where else to get a job. Thank you.

15                   LINDA BROMELL: Linda Bromell,  
16   B-r-o-m-e-l-l. Most of the people I talk to out here  
17   I don't think hardly anyone has an objection to this  
18   plant being out here. The problem is Amargosa Farm  
19   Road is Amargosa Farm Road. This road should not be  
20   moved. It is our main road. I know right now we're  
21   a tiny town but this is where all of our schools and  
22   everything is. This road should absolutely not be  
23   moved.

24                   BLM had told me last year sometime that they  
25   were looking into getting people to release the land

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1   farther out towards 95 where this could be pushed  
2   back a little because it had been tied up for years  
3   and these people either needed to do something or get  
4   off the brick. So if it could be moved back, Farm  
5   Road should absolutely not be moved. It is not  
6   conducive to this town. Thank you.

7 BILL VERBECK: Last name Verbeck,  
8 V-e-r-b-e-c-k, first name is Bill. I'm with Great  
9 Basin College, and I also represent the Economic  
10 Development Authority for Nye County. And I join  
11 with the residents here and it truly is, if this  
12 project goes forward, it is about our economy and  
13 jobs.

14 And I look forward to working with not only  
15 our labor unions that are present here tonight but as  
16 the gentleman said before me, let's look at our  
17 locals in this part of the valley and certainly in  
18 Pahrump too.

19 You may be aware we are leading the nation  
20 in unemployment. Twenty percent is a more accurate  
21 figure than the 15.2 percent you're hearing. Our  
22 underemployed is another 20 to 30 percent. We have  
23 people here, as the young lady said, and we're here  
24 as a college and as a community to do everything we  
25 can in this county to get as many of our locals

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this comment document.

1 employed as we possibly can.

Comment No.  
02-18-01  
(continued)

2  
3  
4  
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6  
7  
8  
9

We provide two training programs in solar  
voltaic, whatever it takes, construction, OSHA 10.  
Those two are online. I truly do, however, hope that  
we can move forward with some kind of a partnership.  
Essentially we are merging, if you will, union  
apprentices and journeymen with our locals in some  
form of a chapter so we can get our folks employed.  
Thank you.

14 BILL BARRACKMAN: Bill Barrackman,  
15 B-a-r-r-a-c-k-m-a-n. My concern is this is not being  
16 done by an American company. And we hear the phrase  
17 quite often to free ourselves from -- make ourselves  
18 independent from foreign control sources of energy.

19 As I understand, this is a German company.  
20 And when you look at what they did in southern Spain,  
21 the power rates are about three times what it is from  
22 fossil source fuels energy in southern Spain, and as  
23 a result of that what happened is businesses moved  
24 out of southern Spain and went to other areas where  
25 they could get power for a third cheaper.

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this comment document.

1 I feel like that, you know, the profit  
2 motive here for this German company is huge, and I  
3 feel like an American company or even something  
4 sponsored by the federal government, we have a corp.  
5 of engineers that could come in here and build this  
6 at cost and provide a much lower cost of electricity  
7 for the people.

8 And if Amargosa Valley could assure people a  
9 flat rate on their energy costs out over the next  
10 several years, that would be one of the greatest  
11 stimuli that we can have to bring people into this  
12 valley to settle here and also build their businesses  
13 here.

14                    REXINE REEVES: R-e-x-i-n-e, R-e-e-v-e-s. I  
15 live on North Sandy Lane. And I'm very near -- I saw  
16 the pictures of how those cellualars are going to be  
17 so close to our home. It was to be farther but it's  
18 not, it's closer.

19                    And I have spoken before and I'm just saying  
20 now, I'm too nervous to speak in public right now at  
21 the moment. And I'm not liking it. I don't see why  
22 BLM can -- why BLM can't free some of that land  
23 farther away and move towards 95.

Responses to these comments are  
provided on a separate page following  
this comment document.

24 BILL DEWITT: Bill Dewitt, D-e-w-i-t-t. And  
25 I own property along Farm Road. And Farm Road in its

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this comment document.

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33

1 present condition is a disaster. It's not well  
2 maintained. It floods when there's a lot of rain,  
3 and if it is relocated and if they did a proper job,  
4 it should be smooth and to a point where the water  
5 would go underneath Farm Road and not block it when  
6 there's a lot of rain.

7 So I would be in favor of the relocation of  
8 Farm Road, assuming it is done according to Nevada  
9 state standards for roads of that size, not just the  
10 way it is now. Thank you very much.

## RESPONSES TO COMMENTS 02-01-01 THROUGH 02-21-01

### Response to Comment No. 02-01-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 02-02-01

Alternatives analyzed in this EIS are described in Chapter 2 (Proposed Action and Alternatives). Alternatives eliminated from further analysis, and the reasons for their dismissal from further analysis are described in section 2.2.1. Solar Millennium has applied for a right-of-way for the particular parcel at issue, for various reasons. Relatively few sites meet the necessary criteria established by the Proponent. In any event, BLM's action is to grant, deny, or grant with modifications the requested right-of-way. If the decision is to deny or grant with modifications the right-of-way, the Proponent may decide to pursue other options, including alternative sites.

### Response to Comment No. 02-03-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 02-04-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 02-05-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 02-05-02

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-06-01

Three alternatives were analyzed in this EIS - Solar Millennium's proposed action (dry-cooled); a wet cooled alternative which was originally proposed; and a No-Action alternative. The wet-cooled and No Action alternatives are two very different alternatives, with significantly different effects.

Response to Comment No. 02-06-02

Proposed uses of lands south of Amargosa Farm Road are shown on Figures 2-1 and 2-2.

Response to Comment No. 02-06-03

A Development Agreement has been made and entered into by and between Nye County and Solar Millennium to ensure the land use impacts on public services in connection with the proposed Project are mitigated. The goal of the Development Agreement is to "promote the health, safety, and general welfare of the County and its inhabitants, to minimize uncertainty in planning for and securing orderly development of the Property and surrounding areas, to insure attainment of the maximum efficient utilization of resources within the County in a way that provides the highest economic benefit and least fiscal cost to its citizens, and to otherwise achieve the goals and purposes for which the laws governing development agreements were enacted." A copy of the approved Development Agreement between Nye County and Solar Millennium is provided in Appendix F.

Response to Comment No. 02-06-04

See response to Comment No. 02-06-03. As part of the Development Agreement, the Proponent and Nye County have agreed that the proposed Project will contain design elements to mitigate the visual impact of the project. Accordingly, subject to modifications mutually agreeable to the County and Proponent, the proposed Project shall conform to the Landscape and Buffer Plan included in Exhibit C of the Development Agreement (see Appendix F).

Response to Comment No. 02-06-05

Though catastrophic events, such as fires, are not anticipated, the proponent will implement a stringent safety plan that identifies best management practices to reduce and mitigate fire hazard or other potential safety events. Also, as per the Development Agreement between Nye County and Solar Millennium, the Developer (Solar Millennium) will provide assistance for fire, police, and medical services. Details can be found in the Development Agreement in Appendix F.

Response to Comment No. 02-07-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-07-02

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-07-03

Beatty Fire Department has been added to the Final EIS as a potential responder for additional fire support at the site.

Response to Comment No. 02-07-04

The Proponent's initial application for a right-of-way and subsequent Plan of Development erroneously stated the area of the right-of-way to be 7,810 acres. The actual area, by legal description is 7,630 acres. On August 6, 2009, the Proponent sent a letter to the BLM requesting a reduction in the acreage from 7,630 acres to 6,320 acres. The Proponent's decision to release a portion of the lands from further consideration was based upon refinement of the Project layout following surveys conducted in the spring of 2009. The lands released from further consideration are shown on Figure ES-2 and Figure 1-2.

Response to Comment No. 02-07-05

The Proponent has committed to mitigation measures that will reduce visual impacts to the greatest extent feasible by use of: color mitigation, landscape screening, restoration of disturbed areas, and night lighting mitigation. A Development Agreement has been made and entered into by and between Nye County and Solar Millennium to ensure the land use impacts on public services in connection with the proposed Project are mitigated. The goal of the Development Agreement is to "promote the health, safety, and general welfare of the County and its inhabitants, to minimize uncertainty in planning for and securing orderly development of the Property and surrounding areas, to insure attainment of the maximum efficient utilization of resources within the County in a way that provides the highest economic benefit and least fiscal cost to its citizens, and to otherwise achieve the goals and purposes for which the laws governing development agreements were enacted." A copy of the approved Development Agreement between Nye County and Solar Millennium is provided in Appendix F.

Response to Comment No. 02-08-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-09-01

If approved, this Project would not directly sell electricity to ratepayers. Given the many factors that determine electricity rates, it is impossible to determine whether the proposed Project would lead to a decrease in rates. It is also outside the scope of this EIS to determine whether the Project itself would lead to a decrease in electrical power rates. This inquiry should be directed to the Public Utilities Commission of Nevada. Importantly, the Project would lead to substantial employment, increased tax revenues, and other socioeconomic benefits if approved.

Response to Comment No. 02-09-02

As stated in Section 2.3.16 (Decommissioning), the lifespan of the proposed Project is expected to span at least 30 years. At the end of the Project's useful lifespan, the facilities will either be repowered or decommissioned. When the facility is no longer viable, a facility closure and decommissioning plan will be developed which describes closure requirements and the anticipated bond level necessary to satisfy BLM requirements in 43 CFR Parts 2800 and 2900.

Response to Comment No. 02-09-03

The BLM's action for this EIS is to either grant or deny Solar Millennium's application for a right of way on lands managed by the BLM. The BLM must decide whether, and if so, under what conditions it will grant a right of way to enable construction and operation of the proposed project.

Response to Comment No. 02-09-04

The comment is unclear. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-09-05

The BLM's action for this EIS is to either grant or deny Solar Millennium's application for a right of way on lands managed by the BLM. The BLM must decide whether, and if so, under what conditions it will grant a right of way to enable construction and operation of the proposed project.

Response to Comment No. 02-09-06

It is the responsibility of the Nevada Office of the State Engineer to approve and control the amount of groundwater pumped from a certificated water right. Solar Millennium intends to meter all wells to be used during construction and operation of the proposed Project. Water supply and use is described in section 2.3.5 in the Final EIS.

Response to Comment No. 02-09-07

See response to Comment No. 02-09-01.

Response to Comment No. 02-10-01

Dust monitoring stipulations will be determined by the Nevada Department of Environmental Protection - Bureau of Air Pollution Control (NDEP-BAPC). Before construction can commence on the Project site a Surface Area Disturbance Permit must be obtained, and within it a Dust Control Plan must be developed that includes best practical methods of fugitive dust control to be used by the permittee to control fugitive dust in detail. NDEP-BAPC has complete regulating authority over projects in this location considered to be minor sources in regards to air emission control and monitoring. This topic is addressed in section 3.1.

Response to Comment No. 02-10-02

See response to Comment No. 02-10-01.

Response to Comment No. 02-10-03

In the absence of Nye County and Nevada State noise code regulations, the EPA 55 dBA noise code threshold was adopted and applied to the project. Mitigation measures to minimize noise impacts during construction and operation of the project are described in Section 4.5.4.

Response to Comment No. 02-11-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-12-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-13-01

Solar Millennium will be responsible for relocation of any utilities affected by the construction of the proposed project. All costs will be incurred by Solar Millennium.

Response to Comment No. 02-13-02

See response to Comment No. 02-13-01.

Response to Comment No. 02-14-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-15-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-16-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-17-01

The right-of-way applications for BLM lands north of the proposed project site are still pending. The Proponent intends to move Amargosa Farm Road approximately 0.25 miles south of the existing roadway. The realigned portion of Amargosa Farm Road would extend from the vicinity of Sandy Lane to Valley View Road; a distance of approximately 3.5 miles. The terms and conditions associated with the realignment of Amargosa Farm Road are subject to the Development Agreement made by and between Nye County and the Proponent. A copy of the Development Agreement is provided in Appendix F.

Response to Comment No. 02-18-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-19-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 02-20-01

The BLM land immediately north of the Project area has a pending solar energy development right-of-way application on file with the BLM Pahrump Field Office (Cogentrix – NVN 083150). The Proponent filed an overlapping or “second-in-line” right-of-way application on these lands (NVN-087366); however, subsequent discussions between Cogentrix and BLM staff indicate Cogentrix intends to seek approval to develop a solar energy project at this location within the next 2 to 3 years. Although the BLM’s right-of-way regulations provide that conflicting applications may be resolved through a competitive process (see 43 CFR §§ 2804.23(c), 2806.50, it is unlikely that the Proponent’s overlapping application could be processed in a timeframe that met the Proponent’s objectives.

Response to Comment No. 02-21-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

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Comment Document 3  
Public Hearing on the Amargosa  
Farm Road Solar Power Project  
Transcript  
Pahrump, NV 4.13.2010

23 DAN RODRIGUEZ: Thank you. I'm Dan  
24 Rodriguez. I'm the CEO of the Pahrump Chamber of  
25 Commerce. Rodriguez is R-o-d-r-i-g-u-e-z. And on

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12

1 behalf of our membership of 500 businesses in the  
2 valley, and we do have members in Amargosa, members  
3 in Beatty, members in Las Vegas, we're very excited  
4 to see a project of this nature in this area.

5 And the way the economy has been with the  
6 potential of bringing more business, more jobs, more  
7 money into the county is a good thing. And I really  
8 commend everyone thus far of looking at all the  
9 issues and all the, you know, crossing all the Ts and  
10 dotting all the Is.

11 And this is a phenomenal experience that I  
12 know that Solar Millennium is going through, and for  
13 all of us it's a new experience. And on behalf of  
14 our membership, we want to cross our fingers and  
15 hopefully welcome you to our community as a major  
16 employer. Thank you very much.

Comment No. 03-01-01

Response to Comment No. 03-01-01  
Comment noted. The BLM appreciates the  
commenter's participation in the EIS process

Comment No. 03-02-01

17  
18  
19  
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21  
22

MATT LYDON: That's Matt, M-a-t-t, last name  
is L-y-d-o-n. I'm a business representative from  
Plumbers and Pipe Fitters Local 525 and we stand in  
favor of this project. We have 244 of our members  
live in Nye County and hopefully it will give them  
some employment opportunities. Thank you.

Response to Comment No. 03-02-01  
Comment noted. The BLM appreciates the  
commenter's participation in the EIS process.

23                   DARRELL FAG: My name is Darrell Fagg,  
24 F-a-g-g is my last name. I'm with the Ironworkers  
25 Local 433. I also have quite a few people that live

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Response to Comment No. 03-03-01  
Comment noted. The BLM appreciates the  
commenter's participation in the EIS process.

1 here in Pahrump that asked me to come and state that  
2 the work for big time, we need the work real bad and  
3 we can also use some new members that live in this  
4 area and up in Amargosa. So we're looking forward to  
5 starting as soon as possible.

Comment No. 03-04-01

6

CORDELL SANDERS: Cordell Sanders, that's

7

C-o-r-d-e-l-l, S-a-n-d-e-r-s. I'm a resident of

8

Southern Nevada. I'm in support of the project. I'd

9

like to see it employ people in Amargosa and in

10

Pahrump. And it's a project that, put it this way,

11

it will employ anybody that has ability to do good

12

work out here in Amargosa and Pahrump. That's it.

Response to Comment No. 03-04-01

Comment noted. The BLM appreciates the  
commenter's participation in the EIS process.

13                   RANDY SOLTERO: My name is Randy Soltero,  
14 R-a-n-d-y, S-o-l-t-e-r-o. I represent the Sheet  
15 Metalworkers Union here in Southern Nevada. I'm a  
16 resident of Southern Nevada. And we have members  
17 that live out here, and so certainly that's a big  
18 deal for us to see a project like this come about.

19                   But what I believe is more important is that  
20 I've had the opportunity to work with the people from  
21 Solar Millennium and to see that they truly are a  
22 responsible partner. They are looking to do the  
23 right thing and I think you see that with the  
24 dry-cooling system that they're using for this plant  
25 rather than the wet-cooling system.

Debbie Hines, CCR #473, CSR #11691, RPR  
Pahrump, Nevada (775)727-9775

Response to Comment No. 03-05-01  
Comment noted. The BLM appreciates the  
commenter's participation in the EIS process.

1                   I've traveled to Spain to look at projects  
2 that they have over there and see that they are very  
3 responsible and very concerned about the  
4 environmental impact that could happen on a community  
5 or region, and they take those steps to make sure  
6 that those issues are addressed and are a responsible  
7 partner in a community. And so that's probably -- as  
8 a resident of Southern Nevada, that's probably what's  
9 most important to me.

Comment No. 3-5-1 (continued)

10

And again we would also like to see the

11

folks from the valley, Amargosa Valley, Beatty,

12

Pahrump go to work. It's another big issue to us,

13

but again the environmental portion of it is equally

14

as important. Thank you.

15 BILL VERBECK: Thank you. Bill, B-i-l-l,  
16 Verbeck, V-e-r-b-e-c-k. I represent EDEN, the  
17 Economic Development Authority for Nye County, along  
18 with Great Basin College, our Career Connections,  
19 which is basically a workforce development center.  
20 I applaud again Solar Millennium and all the  
21 Amargosa people, certainly your advisory board that  
22 has brought this to this particular state of  
23 development.  
24 Obviously on behalf of the college and EDEN  
25 I fully support this project. I join with the folks

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Response to Comment No. 03-06-01  
Comment noted. The BLM appreciates the  
commenter's participation in the EIS process.

1 here that we too want to see jobs. It's all about  
2 the economy and jobs when it comes down to it, and we  
3 look forward to working with our union good folks in  
4 partnership in anticipation that we can put people to  
5 work. Particularly we do have OJT funds and other  
6 resources we can bring to the party along with  
7 training, so I look forward to meeting you gentlemen  
8 later and working with you all the way through the  
9 process. Thank you.

10 JONATHAN DAVID MCMAHON: I am a Local 88  
11 member. I work in Vegas. It's the only work we  
12 have. I've been laid off for a while. One of my  
13 biggest concerns is I don't want to see what happened  
14 with the prison happen with this job out here. You  
15 get an outside, out-of-state contractor. There's  
16 enough people in this state that need the work that  
17 are willing to do the work and are, excuse me, very  
18 good at what we do.

19 The work needs to stay here and it needs to  
20 stay with our brothers. And bring it on is probably  
21 one of the best things that could possible happen to  
22 this community, Vegas. We commute all the way to  
23 Vegas every day. 2:00 o'clock, 3:00 o'clock in the  
24 morning we get up, we travel. We get there, we get  
25 the job done. It's usually a 16-hour day because

Debbie Hines, CCR #473, CSR #11691, RPR  
Pahrump, Nevada (775)727-9775

Response to Comment No. 03-07-01  
Comment noted. The BLM appreciates the  
commenter's participation in the EIS process.

1 it's four hours back and forth. We make sure we get  
2 the job done.

3 Now them guys coming out here, if there's  
4 work, you're damn straight they're going to come out  
5 here. The guys from Beatty, same difference.  
6 Amargosa is a stone's throw compared to going to  
7 Vegas. Keep the work here as opposed to giving it  
8 away like they did with the prison up the road.

9 Thank you. I'm sorry, Jonathan David McMahon

10 J-o-n-a-t-h-a-n, M-c-M-a-h-o-n.

Comment No. 03-08-01

15

LOYAL WATKINS: Loyal Watkins, L-o-y-a-l,

16

W-a-t-k-i-n-s. I'm a 26-year resident of Pahrump,

17

and everything that I've read and heard about you

18

guys is good, and we look forward to it and hope you

19

get it. Thanks.

Response to Comment No. 03-08-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Comment Document 4  
Public Hearing on the Amargosa  
Farm Road Solar Power Project  
Transcript  
Las Vegas, NV 4.14.2010

Comment No. 04-01-01

4 MATT LYDON: That's Matt, M-a-t-t, Lydon,  
5 L-y-d-o-n. I'm a representative of Plumbers and Pipe  
6 Fitters Local 525. We stand in favor of this  
7 project. We feel that it will create a good economy  
8 for the rural areas, Amargosa, Pahrump, and we're  
9 totally in favor of this project. Thank you.

A response to this comment is provided on a separate page following this comment document.

Comment No. 04-02-01

10                   LAMARE JONES: Good evening to the panel.  
11           My name is Lamare Jones, L-a-m-a-r-e, Jones,  
12           J-o-n-e-s. I'm representing International  
13           Brotherhood of Electrical Workers, Local 357. We are  
14           truly definitely in favor of the project and we'd  
15           like to have great consideration of having Nevadans  
16           working is the only thing I can say.

A response to this comment is provided on a separate page following this comment document.

Comment No. 04-03-01

17 JOHN HIATT: John Hiatt with Red Rock  
18 Audubon Society, that's H-i-a-t-t. As the first  
19 project in the Amargosa Valley to reach this level or  
20 this point in the process of approval, I think it's  
21 important that this EIS -- this EIS will set the  
22 precedent for all the rest of the many projects  
23 proposed in that valley, hence it's very important  
24 what happens here.

25 I'm a little bit puzzled and perplexed by

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Pahrump, Nevada (775)727-9775

Responses to these comments are provided on a separate page following this comment document.

13

Comment No. 04-03-02

1 some of the stuff that I see in that EIS. I see, for  
2 instance, under Biological Impacts I see that there's  
3 no mention of any mitigation for biological damage.  
4 I'm kind of surprised at that since there's  
5 mitigation proposed for other things like soils but  
6 nothing for biological.

Comment No. 04-03-03

7 Under Water, for drawing, I'm very happy  
8 it's dry cooling as opposed to wet cooling but I'm  
9 still surprised at how much water is going to be  
10 used: 250 gallons a minute, 24/7, 365 days a year  
11 would be the average withdrawal.

Comment No. 04-03-04

12                   And when it talks about what happens with  
13 that water, it says that basically there will be no  
14 problems with any wastewater created. I'm assuming  
15 that a lot of that water is going to go for washing  
16 mirrors. I'm sure you're not going to use the  
17 groundwater as it comes out of the pipe for that,  
18 you're going to purify it, and that means that  
19 there's going to be a brine stream as part of the RO  
20 process. Where is that going to go? Is that just  
21 going to be put back in the ground to eventually get  
22 down to groundwater again?

Comment No. 04-03-05

23                   Process water for the wet cooling of  
24 ancillary equipment, there's going to be wastewater  
25 from that which will also contain anti-scale

Debbie Hines, CCR #473, CSR #11691, RPR  
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14

1 chemicals and so on that are necessary to make that  
2 work. What's going to happen to that? There's no  
3 mention whatsoever of hazardous water that will be  
4 coming off of that, or maybe it's not hazardous but  
5 at least contaminated water.

Responses to these comments are provided on a separate page following this comment document.

Comment No. 04-03-06

6                   And there's really no discussion about  
7 impacts on surrounding area and how the surrounding  
8 area will really impact this. For instance, sand  
9 movement in that area when the wind blows is a major  
10 issue, but I really don't see that discussed and  
11 mentioned as a major issue.

Comment No. 04-03-07

12                   I don't know if you people have really done  
13 thorough studies of what kind of pitting you can  
14 expect on your mirrors, but if you look at any kind  
15 of a bottle or aluminum can or anything else that's  
16 out there in that area now and seen what it looks  
17 like after it's been there for a year, it's covering  
18 is sandblasted off of it.

19                   So I think those things really need to be  
20 looked at in detail, and I don't see the information  
21 in this document that I thought should be there on  
22 those. So I'll also be providing written comments  
23 but those are some initial comments. Thank you.

Responses to these comments are provided on a separate page following this comment document.

24

CORDELL SANDERS: Cordell Sanders, that's

25

C-o-r-d-e-l-l, S-a-n-d-e-r-s, and I'm here, I

Debbie Hines, CCR #473, CSR #11691, RPR  
Pahrump, Nevada (775) 727-9775

Responses to these comments are provided on a separate page following this comment document.

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15

1

represent Sheet Metalworkers Local 88. And I'm here

2

in favor of the project because it's green energy.

3

It's something that's needed in Nevada. We should be

4

taking advantage of the sun that's out here. It's

5

going to employee people in Amargosa, Pahrump and

6

here in the valley and I support it.

7 DONALD MULHERN: Donald Mulhern,  
8 M-u-l-h-e-r-n. I'm with Sheet Metalworkers Local 88  
9 representing members here in Southern Nevada. I just  
10 want to stress the point that these jobs that are  
11 going to be created out here need to go to Southern  
12 Nevada residents.

13 I've been out on Public Works projects.  
14 There's 50 percent out-of-state people working on  
15 them and that's unacceptable with the talent that's  
16 in Las Vegas and Southern Nevada. A lot of our  
17 members live in Pahrump which is a stone's throw  
18 away. I think that should be mandatory, that local  
19 residents of Southern Nevada be the first ones on the  
20 project. Thank you.

A response to this comment is provided on a separate page following this comment document.

21 ROBERT CONWAY: Robert Conway, C-o-n-w-a-y.  
22 I just feel that this project is a benefit to the  
23 community, to the state, to the environment and to  
24 all the residents of Nevada. I think it will not  
25 only provide some jobs during the construction

Debbie Hines, CCR #473, CSR #11691, RPR  
Pahrump, Nevada (775)727-9775

A response to this comment is provided on a separate page following this comment document.

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18

1 portion but that all of the crafts that will be used  
2 during the construction will help a lot of residents  
3 looking for a career as opposed to just a job.

4 Any of the folks that we start in our  
5 apprenticeship training program, along with all the  
6 other building crafts, we don't just provide a single  
7 job. Once they become an apprentice, they're on the  
8 path to a career. It's a lot more than just this one  
9 job. So any of the residents that end up working on  
10 this job could end up being a permanent member of  
11 whatever craft it is they become trained in for their  
12 entire working career.

13 And that's pretty much all I really wanted  
14 to say. I just think it's a great idea. In regards  
15 to everybody trying to go green, I think this is a  
16 good, another good step towards that.

17                   And with the tax base that exists in  
18                   Amargosa Valley now, they barely have enough funds to  
19                   sustain basic necessities. The amount of taxes that  
20                   this will bring in for the local community can only  
21                   make things better, not just for the residents but  
22                   especially the kids, you know, in regards to the  
23                   schools and any after-school programs or recreational  
24                   facilities that might be created along with all of it.  
25                   I think the tax base on this is supposed to

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A response to this comment is provided on a separate page following this comment document.

1                   be somewhere on the scale of two to three times the  
2                   current budget for the whole area. I know those are  
3                   all projections so I can only go off of what I've  
4                   been told, but with fingers crossed I'd like to think  
5                   that it works out to be just that way so that the  
6                   courts, fire services, police services, hospital,  
7                   ambulance service, you know, all the necessities that  
8                   a good little community needs could only be helped by  
9                   something like this out in the middle of nowhere I think.

10 WILLIAM H. DEWITT: This is to the Bureau of  
11 Land Management, Renewable Energy Project Manager,  
12 4701 North Torrey Pines Drive, Las Vegas.

13 To whom it may concern: We own property on  
14 the corner of Casada Way and Amargosa Farm Road  
15 directly across from Solar Millennium's proposed  
16 solar project. We have been active landowners in  
17 Amargosa since the early 1990s. Our land has a mix  
18 of farming, residential and commercial uses. Solar  
19 Millennium's proposed project will border on our  
20 property on the west, north and east sides.

21 Solar Millennium would like to relocate Farm  
22 Road to a quarter mile south of its current position.  
23 As adjacent landowners, we support the relocation of  
24 the road because we believe a new and improved road  
25 will benefit the community.

Debbie Hines, CCR #473, CSR #11691, RPR  
Pahrump, Nevada (775)727-9775

Comment No. 04-07-01

A response to this comment is provided  
on a separate page following this  
comment document.

20

1 The existing paved road is at a substandard  
2 condition. It is not graded to current standards and  
3 is prone to closure during flooding. Floods can  
4 cause vehicle delays and public safety problems. A  
5 new road will eliminate these issues by bringing the  
6 road up to current engineering standards.

7                   Moving the road a quarter mile south will  
8                   also allow Solar Millennium to have their entire  
9                   project located north of Farm Road. If the road is  
10                  not moved far enough south, the power plant and  
11                  related buildings will have to straddle both sides of  
12                  the road. This does not seem sensible to us. It  
13                  will be better for the community if all Solar  
14                  Millennium's facilities are on the north side of Farm  
15                  Road.

16                  To our knowledge we're the only landowner  
17                  along Farm Road that are adjacent to the proposed  
18                  solar site. We support the relocation of Farm Road  
19                  because we think a new and improved road will help  
20                  the community prosper in the future.

21                  And it's signed William H. De Witt and  
22                  Mary R. De Witt, my wife.

## RESPONSES TO COMMENT NO. 04-01-01 THROUGH 04-07-01

### Response to Comment No. 04-01-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 04-02-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 04-03-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 04-03-02

Mitigation for impacts to biological resources is provided in Sections 4.6.1.4 and 4.6.2.4 as well as in Appendix A.6. Final mitigation measures for federally listed species have been developed as a part of the Section 7 consultation between BLM and USFWS.

### Response to Comment No. 04-03-03

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 04-03-04

Process and wastewater management is described in sections 2.3.5.

### Response to Comment No. 04-03-05

Wastewater produced under the wet-cooled alternative is described in Section 2.4.

### Response to Comment No. 04-03-06

Dust monitoring stipulations will be determined by the Nevada Department of Environmental Protection - Bureau of Air Pollution Control (NDEP-BAPC). Before construction can commence on the project site a Surface Area Disturbance Permit must be obtained, and within it a Dust Control Plan must be developed that includes best practical methods of fugitive dust control to be used by the permittee to control fugitive dust in detail. NDEP-BAPC has complete regulating authority over projects in this location considered to be minor sources in regards to air emission control and monitoring.

Response to Comment No. 04-03-07

Parabolic trough technology has been in use for over 30 years. Experience to date shows that mirror reflectance is maintained at near beginning of-life performance over several decades of use. However, a small number of mirrors break each year, largely as a result of severe wind gusts. A program to periodically replace broken mirrors is included in Solar Millennium's Operation and Maintenance plans and costs.

Response to Comment No. 04-03-08

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 04-04-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process

Response to Comment No. 04-05-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process

Response to Comment No. 04-06-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process

Response to Comment No. 04-06-02

Comment noted. The BLM appreciates the commenter's participation in the EIS process

Response to Comment No. 04-07-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process

BLM, Pahrump Field Office  
Attn: Greg Helseth  
Renewable Energy Project Manager  
4701 N. Torrey Pines Drive  
Las Vegas, NV 90130

May 3, 2010

[solar\\_millennium@blm.gov](mailto:solar_millennium@blm.gov)

RE: Amargosa Farm Road Solar Energy Project

Dear Mr. Helseth,

Thank you for the opportunity to comment on the draft EIS for the Amargosa Farm Road Solar Energy Project. We have some concerns about the potential impacts of this project on the natural resources of the Amargosa Valley and surrounding areas.

**Groundwater resources:** A major concern is the groundwater resource in this very arid area. We appreciate the decision by the developer to not proceed with a wet-cooled option but 400 acre feet of water per year is still a lot of water in this very dry desert. We are disappointed that the draft EIS doesn't really address the issue of the Amargosa Valley hydrographic basin as an over-allocated and over-pumped basin. Nor does the document acknowledge that there may be long-term interstate impacts from continued groundwater pumping in the Amargosa Valley. The information that has been made available as a result of the Yucca Mountain project indicates that the groundwater underlying the Amargosa Valley is part of the Death Valley Regional Flow System. As such, groundwater pumping in the Amargosa Valley is likely to eventually impact spring flows in Death Valley and at Ash Meadows. The draft EIS fails to differentiate between pumping for agricultural use and pumping to support major industrial uses such as proposed by the developers of the subject solar energy generating facility. The volume of agricultural pumping is determined by the price of hay and electricity and rarely reaches the maximum allowed, while the industrial use will consume every bit of water permitted. As a new permanent use of groundwater is proposed, this is the appropriate time to require mitigation for groundwater pumping. We suggest that the proponent be required to purchase and retire groundwater rights equivalent to what they are planning on using. Because this is the first of several similar projects proposed for the Amargosa Valley it is essential that proper precedent be set which will allow these projects to be as sustainable as possible. We also suggest that the proponents of this and the other projects being proposed contribute funds so that the United States Geological Survey can complete its groundwater flow model for the area and also extend that model to the southern part of the Amargosa drainage. It is imperative that appropriate studies be carried out so that we can understand how groundwater moves into and through the Amargosa Valley since it is clear that the Valleys' groundwater is not being replenished by local rainfall.

**Invasive plants:** Currently, there are significant invasive plant problems associated with agricultural development in the Amargosa Valley and this project could greatly increase

Comment No.  
05-01

Comment No.  
05-02

Comment No.  
05-03

Responses to these comments can be found on a separate page following this comment document.

Comment No.  
05-03  
(Continued)

the problem if not managed properly. Grading for the installation of the facility will create an ideal environment for the proliferation of weeds and runoff water from mirror washing will provide enough moisture to cause a permanent weed problem. The draft EIS does not detail how weed growth will be controlled. Will it be done with persistent herbicides? If so, this means that the land will really not be reclaimable if and when the project is terminated.

Comment No.  
05-04

**Flood control and drainage:** The draft EIS states that drainage issues will be addressed by constructing a drainage channel around the periphery of the project and possibly an offsite detention basin upstream of the project. Redirection of sheet flooding flows to channels will have significant hydrologic impacts downstream of the project due to increased flow volumes during rain events. If an upstream detention basin is constructed that will also have environmental impacts by reducing wildlife habitat and providing another opportunity for the proliferation of invasive plant species. Drainage is not just a matter of protecting the proposed facility from flood damage but also a matter of the downstream impacts of changing the drainage pattern of an area of several thousand acres. This section of the document is inadequate.

Comment No.  
05-05

**Cumulative impacts:** The cumulative impacts section of the document acknowledges that there is pressure from the Department of the Interior to increase the output of renewable energy from public lands but then states that unless a final Plan of Development for a project has been submitted, the BLM is not obligated to consider that potential project in its cumulative effects analysis. We believe that this is not the proper approach to analyzing cumulative impacts. We believe that the cumulative impacts analysis should be based on the assumption that the majority of these projects will be built in some form. If this is not done then there is no way to deal with the impacts when and if those projects are constructed. It is not feasible to mitigate for the impacts of major industrial development after it has happened. It can only be done by looking forward, not backward. Another alternative would be to put a cap on the number of acres in any particular valley that would be allowed for industrial development and base the cumulative effects analysis on that acreage cap. However the problem is addressed, the mitigation requirements must be spelled out prior to issuance of right of way permits.

Comment No.  
05-06

**Dark night sky:** One of the features of the Amargosa Valley at present is the very dark night sky. Historically, electric power generating facilities are brightly illuminated at night with no consideration given to the light pollution emitted. We feel that lights at this and other proposed electric generating facilities should only be "on" as needed and all light sources should be shielded so that the light source itself is not visible to off site observers.

Comment No.  
05-07

In conclusion, the two areas in the draft EIS that are critically important are the discussions of water use and the cumulative impacts of industrialization of the Mojave Desert for renewable energy production. As the first EIS for a renewable energy project in southern Nevada, the environmental impacts analysis in this document will set the standard for all the projects to come. It is essential for the future of the Mojave Desert that the full long term impacts of renewable energy projects be fully and carefully

Responses to these comments can be found on a separate page following this comment document.

Comment No. |  
05-07 |  
(continued)

evaluated in a transparent process, and that we do not irreversibly degrade and destroy one of the last great open landscapes in the United States.

Sincerely,

John E. Hiatt  
Conservation Chair, Red Rock Audubon Society  
8180 Placid Street  
Las Vegas, NV 89123

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## RESPONSES TO COMMENTS 05-01 THROUGH 05-07

### Response to Comment No. 05-01

The BLM's action for this EIS is to either grant or deny Solar Millennium's application for a right of way on lands managed by the BLM. The BLM must decide whether, and if so, under what conditions it will grant a right of way to enable construction and operation of the proposed project. The BLM has no authority to make a determination as to the sufficiency of groundwater to support future development in the project area. As part of the water appropriation permit application review and authorization, the Nevada State Engineer has the authority to approve and control the amount of groundwater pumped from basins in Nevada. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin. To address uncertainties associated with groundwater use for project construction and operation, Solar Millennium has agreed to acquire and forego the use of no less than 236 afy of existing water rights within the Amargosa Desert Hydrographic Basin (No. 230). Details regarding specific mitigation measures are provided in Appendix A in the Final EIS.

### Response to Comment No. 05-02

Solar Millennium proposes to contribute \$6,000 annually, for the life of the project, to the operation and maintenance of the existing Amargosa Monitoring Network. At current cost levels, \$6,000 is the estimated cost of operating 3 monitoring wells for one year. This includes field measurements and overhead costs. Based on Euclidean geometry, three non-collinear points in space are required to define a plane. In this case, the simplified groundwater table is the defined plane and non-collinear points are monitoring wells in the network.

The Amargosa Monitoring Network is an integral component of the Death Valley Regional Flow System model (DVRFS) and the Southern Amargosa Embedded model (SAMM). SAMM is a refinement to a portion of the DVRFS which will enable improved modeling of the Amargosa Valley by utilizing a smaller grid size and more detailed hydrogeologic framework. To date, BLM has contributed \$250,000 and committed additional future support towards the most recent update of DVRFS and SAMM, as well as \$30,000 to the Amargosa Monitoring Network for the next 4 years of operation.

#### Response to Comment No. 05-03

As stated in Appendix A.6, a Noxious Weed Management Plan will be developed in conjunction with the BLM using only BLM-approved herbicides and methods. Information regarding herbicide use and development of the Noxious Weed Management Plan can be found in Sections 4.6.1.4 and 4.13.1.5.

#### Response to Comment No. 05-04

Information about Jurisdictional Waters, Drainages, and Riparian Areas has been added to Section 3.4 and 4.4 in the Final EIS.

#### Response to Comment No. 05-05

The DEIS followed Council on Environmental Quality guidelines in developing the cumulative analysis. In addition, the final EIS contains substantive improvements in the cumulative analysis, and the reader is referred to Section 4.17 of the FEIS for further information on cumulative analysis.

Among other things, that section explains why many proposed solar projects likely will not be built, but also fully evaluates cumulative impacts of assuming many are.

BLM is preparing a Solar Programmatic EIS that may amend land use plans to allow or restrict solar and other renewable energy development on BLM lands, including by establishing solar energy development zones.

Although the PEIS will not be done in time for BLM to make a decision on the Proponent's right-of-way application, the BLM Field Office is working with BLM in Washington, D.C. to ensure consistency with the developing PEIS to the extent possible.

#### Response to Comment No. 05-06

The Final EIS proposes shielding and as-needed lighting as stated in Section 4.12.5 Mitigation, "The Proponent shall consider location and type of lighting to minimize potential light pollution to the greatest extent practicable. Measures may include (but not be limited to) light hoods/shields, directional lighting, minimum required brightness, setbacks from project perimeter, and 'as-needed' usage." These measures will significantly reduce night lighting pollution.

Response to Comment No. 05-07

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

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"David Sweetman" <d-sweetman@att.net>

To <solar\_millennium@blm.gov>

cc <shielarau@poweb.net>

03/27/2010 05:08 PM

Subject: N-084359 2800 (NVS3100) Draft EIS for Armargosa Solar

Hello Greg,

In review of the CD of the draft EIS, I noted the following:

- |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comment No.<br>06-01 | 1. The summary is not clear what the "dust hazard" (not just PM <sub>10</sub> or PM <sub>2.5</sub> ) results are of clearing all vegetation from ~4000 acres of land. There should be some identification of how much dust/sand will be moved as a function of wind velocity. For example, when the wind velocity exceeds 40 mph, there will be a dust/sand hazard, whether there is vegetation or not. Since the land is cleared, the minimum velocity to generate sufficient dust or sand to cause problems downwind needs to be identified and specific mitigation methods identified. The detailed description has some highly technical information, but that information is not correlated to a useful description of what is likely to occur when the wind blows. |
| Comment ID<br>06-02  | 2. While the use of 400 afy for dry cooling is a major improvement over wet cooling, there is no quantification of recovery. For example, when used for irrigation, ~65% of the water used is returned to the local area. None of the water used for makeup (~25% of the annual usage?) is recovered and I suspect most of the water used for cooling will not be recovered (at least not locally). So, using water for cooling is not the same as for irrigation and there needs to be some estimate of actual recovery, both locally and wherever else. The model identified in Chapter 3 and described in Appendix B did not clarify the issue.                                                                                                                       |
| Comment No.<br>06-03 | 3. There should be some comparison of the water sustainability of the project. For example, if the project uses (with no recovery) 400 afy and the occupied land is ~6000 acres and the annual moisture is ~1/4 <sup>th</sup> afy, then the project is using less water than is provided by nature (assuming moisture recovery is >30% (moderate permeability??)). There is review of water conditions for the entire area, but not specifically within the project land area. The appearance is that the 400 afy is trivial compared with total water usage and regeneration within the total area (which is probably true), but there should be details on the specifics within and directly adjacent to the project.                                                  |
| Comment No.<br>06-04 | 4. There is no reason why the project could not have a virtually infinite life (i.e., well past the proposed 30-year potential decommissioning); however, there will be required replacement of various components during the 30 years of projected operation. What are the expected life times of the HTF, the reflectors, the tracking mechanisms, the turbines, the salt storage, etc.??? When will replacement be no longer economically viable?? How long will the project affect (or not affect) the local environment??                                                                                                                                                                                                                                           |
| Comment No.<br>06-05 | 5. You mention "radionuclide contamination at the Nevada Test Site" but do not identify if some of those radioactive materials are present and detectable at areas outside of the Test Site, specifically is there any surface radioactivity from the Test Site that would be further transported by this project. My guess is the answer is NO, but there should be some clarification that the above/below ground nuclear events over the preceding ~50 years have had little or no effect on the composition of the surface in the project area. Similarly, there should be identification that if                                                                                                                                                                    |

Responses to these comments can be found on a separate page following this comment document.

Comment No. 06-05 (continued) and when any radioactive materials are stored or processed at Yucca Mountain, there would be no known effects in the project area.

Comment No. 06-06 6. Figure 2.5 Plant Schematic is quite nice; however, there is no schematic, theory of operation, specifications, or detailed description of the operation of the "dry" cooling tower. While there are textbooks on cooling tower theory, the specifics of the cooling tower that will actually be used should be described in detail.

Comment No. 06-07 On a separate topic, the cover letter noted a 45-day comment period; however, since there were no dates in the letter, one can only guess when the actual comment period occurs (given that monitoring the Federal Register is a major undertaking).

Thanks.

David Sweetman  
P.O. Box 189  
Dyer, NV 89010  
775-572-3359  
[www.quadd.info](http://www.quadd.info)

Responses to these comments can be found on a separate page following this comment document.

## RESPONSES TO COMMENTS 06-01 THROUGH 06-07

### Response to Comment No. 06-01

Emissions models included fugitive dust from grading in their calculations in the Draft EIS and Final EIS.

### Response to Comment No. 06-02

A study conducted by the USGS (Professional Paper 1703E) at an adjacent field to the proposed Project location estimated that return flow from irrigation ranged from 8% to 16% not 65%. Losses to evapotranspiration make up most of the loss.

### Response to Comment No. 06-03

Comment is unclear. Chapter 3.4 provides a general overview of current water resources conditions in the regional and local area. Chapter 4.4 describes how implementation of the Proposed Action (dry-cooled alternative) or other alternatives would affect local water resources in the regional and local area.

### Response to Comment No. 06-04

The expected useful life of major components is anticipated to be 30 years or more. With proper maintenance, the hardware should last through the useful life of the overall plant, which could reach 40 years. However, given the quantities of tracking mechanisms and collector tubes, Solar Millennium expects a very small percentage of the devices to fail and need replacement each year. This component replacement requirement would be reflected in their maintenance plans and costs. Experience to date shows that mirror reflectance is maintained at near beginning-of-life performance over several decades of use. However, a small number of mirrors break each year, largely as a result of severe wind gusts. A program to periodically replace broken mirrors would be included in Solar Millennium's Operation and Maintenance plans and costs. Rotating equipment such as turbines and salt pumps are also expected to have 30+ year life. A major turbine overhaul is planned every 5 years or so; pump impellers will need to be repaired or replaced periodically. But with a sound maintenance program, this equipment will last 30 years or more. BLM's requirements mandate reclamation of the proposed project site following Project decommissioning. A decommissioning plan will ensure that these requirements are met.

#### Response to Comment No. 06-05

It is unclear if the question is addressing dust or water, in regards to surface radioactivity.

Dust creation mitigations are a part of the dust control plan that will be developed before a surface area disturbance permit is issued as required by NDEP-BAPC. Dust is also monitored during operations through permitting with NDEP-BAPC.

Groundwater quality is discussed in the Draft EIS, and according to DOE 2008 "Elevated concentrations of fluoride, sulfate, arsenic, and total dissolved solids are present in some areas, and traces of naturally occurring uranium are also present;" radionuclides were not tested for.

On March 3rd, 2010 the Department of Energy filed a motion to withdraw the Yucca Mountain License application; at this time there is no reason to believe that the Yucca Mountain project will ever be in operation.

#### Response to Comment No. 06-06

It is beyond the scope of this EIS to include theory of operation, detailed specifications, or detailed descriptions of the operation of a dry-cooled solar plant. The level of detail regarding plant components and their process described in Chapter 2 is sufficient for analysis in this EIS.

#### Response to Comment No. 06-07

See Chapter 5 (Consultation and Coordination) in the Final EIS. The 45-day comment period is consistent with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act regarding the review of draft environmental impact statements. Significant effort was made to advise people of the schedule and duration for the review well in advance. The BLM announced dates and locations of public meetings on their website, and media releases including newspaper advertisement and postal mailers.





Bureau of Land Management

Mr. Edgwart Munton  
PO Box 219  
Amargosa Vly, NV 89000-0219



ar\_millennium@blm.gov)

Place Postage Here

9213082301

FRC

Mr. Gregory Helseth  
Las Vegas Field Office  
4701 N. Torrey Pines Dr.  
Las Vegas, NV 89130

# Environmental Impact Statement for:

Amarqosa Farms Road, Amarqosa Valley, NV 89020

## Review & Comments

By; Richard Williams April, 2010  
[cplrich@cox.net](mailto:cplrich@cox.net)  
702-396-4549

### PDF Chapter 1

#### Introduction Purpose & Need.

Because of executive order 13212 of May 18, 2001, these two long awaited projects are nearing the final review and approval process. Since I have been asked to review and comment on these two Solar Thermal Projects, I have endeavored to ask only those questions that are either not clear to me in the PDF files that were sent to me. It is my own personal hope to see that these two and many more take place while influencing our environment at the smallest possible levels. Therefore, as I review and study all of the documentation sent I will endeavor to respectfully add my thoughts, comments and questions.

First of all I have closely zeroed in on the building site using Google Earth.

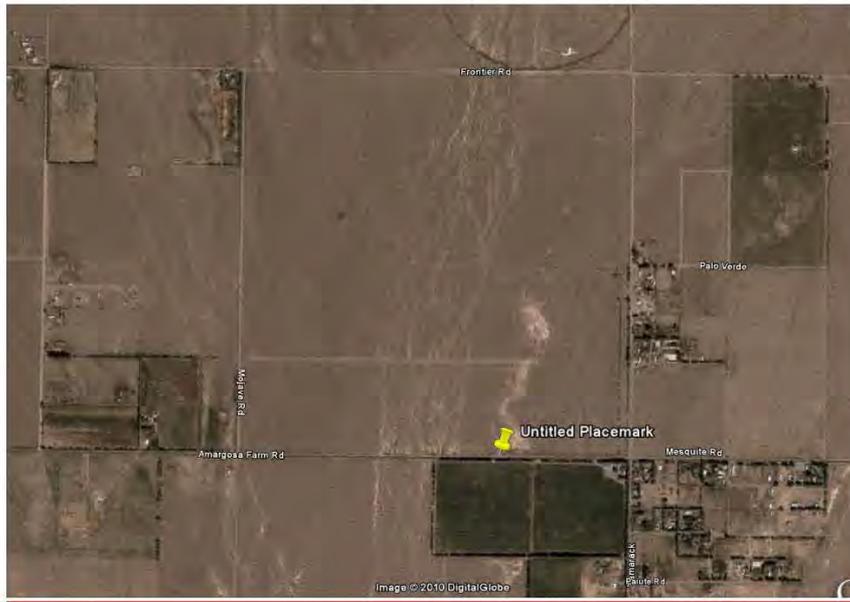
Comment No.  
08-01

**Comment:** I notice that there are "stretch marks" shown in the aerial views I have seen of this particular area and wonder if these are rainwater wash marks in the earth. It is impossible to tell by these photos if that will be large enough to interfere with the project and necessitating some sort of diverting of this wash. It might not be large enough to seriously impact the job site and if occasional rain water does indeed collect and run through this area then something should be planned to avoid any washouts of structures that will be built.

**Thought:** Maybe a new reinforced stone or cement storm water path could be established to protect the environment and the job site.

[Response to Comment No. 08-01](#)  
See Appendix E - Conceptual Stormwater Control Plan

**Page Break: Please Scroll Down.**



**PDF Chapter 2:**

Comment No.  
08-02

**Questions:** Concerning manpower requirements for this project some thoughts came to mind about the remoteness of this area and where the labor force might be coming from like places in Las Vegas, Pahrump or even out of state. As an idea that could be a suggestion about this subject, I thought it might be advisable to establish very close by or even on site an area that could provide housing such as trailer homes or RV's. This in itself would be more eco-friendly rather than car pooling or even individuals driving very long distances to get to the jobsite. It must also be kept in mind that with some roads and highways during the winter months traveling can be dangerous with ice and snow. I do see what looks to be farmland or private homes in the area so electrical provisions could be easily done to provide those staying on site a means of having light and power while working there. I have seen this in my own electrical construction career on some distant jobsites. Men in construction that are willing to travel far to those jobs would need a place that could provide them with some sort of home comforts.

Response to Comment No. 08-02  
There are no plans for Solar Millennium to provide on site or nearby housing for workers.





<p>Comment No. 08-03</p>	<p><b>Comment:</b> In 2.2.1.2 it was mentioned that a collaborative venture would be made using the Ferrostaal AG company out of Spain that has a lot of experience already in this Solar Trough Power production. This can help to avoid costly mistakes and inefficiencies that are sure to come into the public's eye because many will be interested in this project.</p>	<p><u>Response to Comment No. 08-03</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>
<p>Comment No. 08-04</p>	<p><b>Idea:</b> I think the differences between the wet and dry systems can be minimized more to bring them in line with one another. 6-9% inefficiencies could be offset with some "out of the box thinking." If we can put a man on the moon we can build this solar power plant and make it work effective and efficient.</p>	<p><u>Response to Comment No. 08-04</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>
<p>Comment No. 08-05</p>	<p><b>Question:</b> On your Fig 2-4 Sheet 1 you show wind fencing but it only seems to be on the west and east sides of the project. Maybe I just cannot see it in the plot plan but this does concern me a little because of the heavy winds experienced here in the desert that destroyed one of my own solar projects.</p>	<p><u>Response to Comment No. 08-05</u> Wind fencing will be located on the east and west side of the project.</p>
<p>Comment No. 08-06</p>	<p><b>Observation:</b> There was a large amount of text in this PDF that described in detail the operational parameters of this power plant design. I did get through it because I found it interesting. I thought it was complete but somewhat lacking in its ability to relate some basic information to those that might not be well versed in Power Production Facilities. I was able to follow along with most but not all of the information. Seeing it in action would clarify certain points.</p>	<p><u>Response to Comment No. 08-06</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>
<p>Comment No. 08-07</p>	<p>In another point here I was wondering if it would be important to have every solar trough "grounded" due to perhaps and short circuits in motors or feeds to them or in the event of a possible lightning strike. I am sure studies have been done on historical meteorological records of storms in this area. The peripheral grounding grid could serve as an additional grounding means to the individual point grounds for each row or group. Maybe they should all be tied in together with proper cad welding techniques. This whole PDF was very informative and detailed and I do have a good idea about what it takes to put it together.</p>	<p><u>Response to Comment No. 08-07</u> The proposed project will be designed to meet all applicable industry standards to reduce the risk to human health and the environment, and would be operated in a manner that complies with safety standards and practices.</p>
<p><b><u>PDF Chapter 3</u></b></p>		
<p>Comment No. 08-08</p>	<p><b>Comment:</b> After looking over the Chapter 3 PDF on environmental risks that could affect the local area I am convinced that all the possible studies have been done and that all affects that could be have been evaluated. As an interesting note I was in construction before hard hats were mandated and also before Environmental Impact Statements had to be done for new construction. It is also interesting to note that most of New York City was built before any of these before mentioned things were in place. Pretty soon every new proposed baby will have to have an EIS done before it is okayed to have one. I am in full</p>	<p><u>Response to Comment No. 08-08</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>

<p>Comment No. 08-09 (continued)</p>	<p><b>agreement into protecting the only earth we have to live on. We can go to the extremes at times.</b></p> <p><b>Observation: I know these reports take years to put together and I can only spend so much time going over everything. From toxic fumes to green house gases, vegetation growth to dust hazards for those in the area, everything seems to have been thought about and planned for. Well done.</b></p>	<p><u>Response to Comment No. 08-09</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>
<p>Comment No. 08-09</p>	<p><b>Thought: Since no location can be considered ideal with all parameters meeting a perfect score, the only other reasonable thought or idea is notably what I have heard from the Japanese of late. They are suggesting and maybe already planning to build similar power plants in orbit around the earth. Even this would have an impact on the earth. Maybe some shadowing and the beamed down microwave converted energy would have to have receiving stations that would have to have a no fly zone and buffer. Modern civilization cannot go backward in time and standards of living. We must have our electrical energy needs met with every possible form and way of providing it.</b></p> <p><b><u>PDF Chapter 4</u></b></p>	<p><u>Response to Comment No. 08-09</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>
<p>Comment No. 08-10</p>	<p><b>Comment: Truly this whole plan was studied quite well with a lot of extraneous information beyond my own scope of expertise but I browsed through it anyway. I am not overwhelmed by the taking away of approximately 106,000 acres for these projects away from the natural wildlife in the area. There is a possibility that some species might even benefit from it. As in all projects animal life suffers to some extent like big buildings where migrating birds slam into the sides when some fly at night. Aircraft running into large flocks of birds like the emergency landing in the Hudson of recent times and even wind generators that kill something like a half of one percent of all birds killed by various means.</b></p>	<p><u>Response to Comment No. 08-10</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>
<p>Comment No. 08-11</p>	<p><b>Suggestion: I did not see anything like what I am about to propose in this Chapter but I could have overlooked it with my failing eyesight. Could there be something or someway of warning off any flocks of birds that might inadvertently land on the focus point of these solar troughs? (1/2 of the Radius) This could kill them with the highly concentrated solar rays or fry their feet to the solar tube absorber rendering them permanently disabled. In other words has any one planned for a scare tactic to keep them away from these troughs? If this hasn't been planned for, or there is nothing in the budget planning allocation that was set aside for this, I suggest that there should be. Even a simple noisemaker can scare migrating birds away. It might also help to avoid opposition from animal rights groups on this point.</b></p> <p><b><u>PDF Chapter 5</u></b></p>	<p><u>Response to Comment No. 08-11</u> The focus points of the solar troughs are insulated heat condenser elements that can be touched without risk of injury.</p>
<p>Comment No. 08-12</p>	<p><b>Comment: In 5.3 of Chapter 5 PDF I noticed that I am not listed as one of the reviewers of this EIS study. I really didn't expect to see myself listed but I do hope you take me seriously about this review and commenting I am doing. I know I am in distinguished company when I am doing this review and that is reward enough. This Chapter did give me an overview of who all was involved.</b></p>	<p><u>Response to Comment No. 08-12</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.</p>

### PDF Chapter 6

Comment No. 08-13	<b>Comment: I could be in solitary confinement for 20 years and not get through the extensive Bibliography of Resources that you listed in this Chapter. However, I am sure someone reviewing these documents will want to check further something that was written in the EIS draft. Great List.</b>	<u>Response to Comment No. 08-13</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.
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### PDF Chapter 7

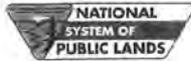
Comment No. 08-14	<b>Comment: I really appreciated this Glossary of terms as where used within these PDF documents. Since many of the words and terms were not known to me, I did find them extremely useful in gaining a foothold to grasp the material presented.</b>	<u>Response to Comment No. 08-14</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.
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### PDF Chapter 8

Comment No. 08-15	<b>Comment: The Index provided was also very helpful to find once again those references that were made about certain items or points.</b>	<u>Response to Comment No. 08-15</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.
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Comment No. 08-16	<b>Final Comment: I truly believe in the coming of age in Solar Power Technologies. I am behind it in every way that I can help you. I wish all the collaborating governmental agencies, local city governments, interested groups, individuals and societies the best of luck. Sincerely Submitted.</b>	<u>Response to Comment No. 08-16</u> Comment noted. The BLM appreciates the commenter's participation in the EIS process.
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COMMENT FORM

Amargosa Farm Road Solar Energy Project  
Draft Environmental Impact Statement

Name CURTIS STENGER PLANNING COMMITTEE  
Organization (if applicable)  
Address HC 69 Box 454J AMARGOSA VALLEY, NV 89020  
City State Zip Code  
Add to Mailing List: YES  NO  Withhold personal information: YES  NO

Comment No.  
09-01

COMMENT: IF SOLAR MILLENNIUM GETS THEIR  
WAY AND CHANGES AMARGOSA FARM ROAD  
TO ACCOMMODATE THEIR DEVELOPMENT  
PLAN WHO PAYS FOR R & R OF POWER  
LINE, PHONE LINES AND FIBER OPTIC  
LINE ?  
I DON'T WANT FARM ROAD  
RIGHT OF WAY CHANGED. THE TIME  
IT TAKES FOR EMERGENCY SERVICES  
TO REACH MY NEIGHBORHOOD IS  
ALL READY TOO MUCH TIME.

Response to Comment No. 09-01  
Solar Millennium will be responsible for relocation of any utilities affected by the construction of the proposed project. All costs will be incurred by Solar Millennium.

(Use additional sheets as needed.)

Public comments must be postmarked by May 3, 2010

SEND COMMENTS TO:

Gregory Heiseth, Las Vegas Field Office, 4701 N. Torrey Pines Drive, Las Vegas, NV 89130

\*Copies of comments will be available for review at the local BLM office during regular business hours. Individuals requesting review or from disclosure under the Freedom of Information Act must check "Yes" on the extent allowed by law.

\*Copies of comments will be available for review at the local BLM office during regular business hours. Individuals requesting review or from disclosure under the Freedom of Information Act must check "Yes" on the extent allowed by law.



Bureau of Land Management

For more information, please contact Gregory Helseth (solar\_millennium@blm.gov).

FOLD HERE

CURT STENGER  
FROM  
HC 69 BOX 454J  
AMARGOSA VALLEY, NV  
89020

LAS VEGAS NV 890  
NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**Bureau of Land Management**  
Pahrump Field Office  
Attention: Gregory Helseth  
4701 North Torrey Pines Drive  
Las Vegas, NV 89130

William and Mary De Witt  
PO Box 10  
Amargosa Valley, NV 89020  
(775) 372-5355  
FAX (775) 372-5356

April 14, 2010

BLM, Las Vegas Field Office  
Attn: Greg Helseth  
Renewable Energy Project Manager  
4701 N. Torrey Pines Drive  
Las Vegas, NV 89130

Re: Amargosa Farm Road Solar Energy Project (NVN-084359)

To Whom It May Concern:

Comment No.  
10-01

We own property on the corner of Casada Way and Amargosa Farm Road, directly across from Solar Millennium's proposed solar project. We have been active landowners in Amargosa Valley since the early 1990s. Our land currently has a mix of farming, residential, and commercial uses.

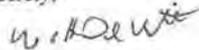
Solar Millennium's proposed project will border our property on the west, north, and east sides. Solar Millennium would like to relocate Farm Road to a quarter mile south of its current position. As adjacent landowners, we support the relocation of the road because we believe a new and improved road will benefit the community.

The existing paved road is at a substandard condition. It is not graded to current standards and is prone to closure due to flooding. Floods can cause vehicle delays and public safety problems. A new road will eliminate these issues by bringing the road up to current engineering standards.

Moving the road a quarter mile south will also allow Solar Millennium to have their entire project located north of Farm Road. If the road is not moved far enough, the power plant and related buildings will have to straddle both sides of the road. This does not seem sensible to us. It will be better for the community if all of Solar Millennium's facilities are on the north side of Farm Road.

To our knowledge, we are the only landowners along Farm Road that are adjacent to the proposed solar site. We support the relocation of Farm Road because we think a new and improved road will help the community prosper in the future.

Sincerely,



William H. De Witt  
Mary R. De Witt

Response to Comment No. 10-01  
Comment noted. The BLM appreciates the commenter's participation in the EIS process.

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**Planning Department**  
**168 North Edwards Street**  
**Post Office Drawer L**  
**Independence, California 93526**

Phone: (760) 878-0263  
FAX: (760) 878-0382  
E-Mail: [inyoplanning@inyocounty.us](mailto:inyoplanning@inyocounty.us)

**Water Department**  
**336 South Jackson St.**  
**Post Office Box 337**  
**Independence, California 93526**

Phone : (760) 878-0001  
Web : <http://www.inyowater.org>

April 21, 2010

BLM, Las Vegas field Office  
Attn: Greg Helseth  
Renewable Energy Project Manager  
4701 N. Torrey Pines Drive  
Las Vegas, NV 89130

**Re: Draft Environmental Impact Statement for the Amargosa Farm Road Solar Energy Project, DES 10-10**

To Whom It May Concern:

Thank you for the opportunity to provide input regarding the draft Environmental Impact Statement for the Amargosa Farm Road Solar Energy Project (DEIS). The County Board of Supervisors has consistently expressed its support for appropriate renewable energy projects, and encourages smart and sustainable economic development. However, the DEIS is flawed in several respects, which should be addressed in the final EIS or a recirculated DEIS. The following bullets summarize the Inyo County Departments of Water and Planning comments regarding the DEIS.

Comment No.  
11-01

- **Table 2-5.** Under Water Resources, the section that should discuss the wet cooled alternative discusses the dry cooled alternative. This is possibly an editorial error. In any case, the wet cooled alternative's impact on water resources should be presented.

Response to Comment No. 11-01

The sentence describing the Proposed Action (dry-cooled alternative) in the wet-cooled column has been deleted.

Comment No.  
11-02

- **Section 4.4.** We recognize that the USGS Death Valley Regional Flow System Model is the best available tool for conducting an analysis of the potential impact of the project on regional groundwater resources. However, as acknowledged in the DEIS, because of the regional nature of the model, the large cell size, the regional scope of the calibration data set, potential inaccuracies in the historic pumping data set, and simplification of the geology, the model's ability to accurately render water level changes at Devils Hole is limited. We urge you to treat the model results cautiously, to require as mitigation a groundwater monitoring program that will detect any adverse impacts to groundwater levels or flows early, and reduce groundwater extraction in the

Response to Comment No. 11-02

Comment noted. Model results are treated cautiously and used in conjunction with other data to evaluate potential impacts to groundwater resources. The limitation of the model is fully described in the EIS.

Comment No.  
11-02  
(continued)

event that impacts to groundwater resources and groundwater dependent resources become foreseeable.

Comment No.  
11-03

- **Section 4.2.2.** The analysis of the impact of the wet cooling alternative on water resources is inadequate, and if this alternative is selected, the DEIS must be revised and recirculated. It is assumed that 4,600 acre-feet per year (afy) of existing water rights could be acquired and used for the project with no impact to water resources. This conclusion rests on the assumption that any rights so acquired are currently being fully exercised, and that the transfer of those rights to the project would not affect the hydrology of the basin in any way. The location and status of the groundwater rights that would need to be acquired to implement the wet cooled alternative is not identified in the DEIS, therefore it cannot be concluded based on the information in the DES that those rights are presently being fully exercised. Given the practice of periodically fallowing alfalfa fields, it is likely that rights held by Amargosa Valley irrigators are not fully exercised every year. To evaluate the potential impact of the wet cooling alternative on water resources, a model scenario similar to one done for the dry cooling alternative should be developed: 2003 pumping plus an additional 4,600 afy extracted from wells in the vicinity of the project for the period 2010 - 2039. This model scenario should be used to evaluate the effect of project on Devils Hole water levels, and on groundwater discharge in the Furnace Creek area of Death Valley National Park. A credible analysis of the wet-cooling alternative may reveal significant impacts, thereby supporting the preferred dry-cooling alternative.

Response to Comment No. 11-03

The BLM preferred alternative is the Proposed Action (dry-cooled alternative). The BLM acknowledges the commenter's statement that water rights may not be fully exercised each year; however, as such, it would very difficult to evaluate the potential effects a wet-cooled power plant would have on Devils Hole water levels and the Furnace Creek area of Death Valley National Park. As cited in section 4.4.2, it could be assumed that the water that would be acquired for a wet-cooled option is fully used on an annual basis by the current water right holder, in the current capacity. Any change to recharge rates from conversion of the water right from agricultural use to industrial use would be dependent upon the amount of water used historically, types of crop grown, and site conditions (e.g. soil type, method of irrigation, etc).

Comment No.  
11-04

- **Section 4.11.2.** It is noted that the wet cooled alternative would require 840 acres of irrigated land to be fallowed. Such a large area of permanently fallowed land is potentially an impact to air quality due to blowing dust. We are concerned with this potential impact due to the project's location adjacent to Death Valley National Park.

Response to Comment No. 11-04

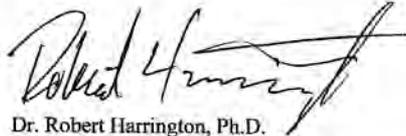
Under the Proposed Action (dry-cooled alternative), the Proponent intends to use up to 600 acre-feet of the annual duty associated with the project well (the annual duty is 602 afy). The 160 acres of agricultural lands associated with this water right, will be fallowed during the 39-month construction period. Following construction, the Proponent will continue to lease 400 afy from the water right holder for operational water for the life of the project, and relinquish the 203 acre-feet back to the water right holder. The Nevada State Engineer generally allots 5 afy/acre for irrigation; therefore the water right holder will be allowed to irrigate up to 80 acres with the remaining 203 afy annual duty, and the remaining 80 acres will be fallowed. Accordingly, any dust-related impacts from land fallowing will be mitigated as part of the proponents compliance with the surface area disturbance permit, as well as other permits they may be obtained through NDEP-BAPC.

Thank you for the opportunity to comment on the DEIS. It is recommended that the dry-cooled alternative be adopted. You may call Joshua Hart at (760) 878-0263 or email him at [jhart@inyocounty.us](mailto:jhart@inyocounty.us), or Dr. Harrington at (760) 878-0001 or by email at [bharrington@inyocounty.us](mailto:bharrington@inyocounty.us), if you have any questions. Please send any future notices regarding actions that may impact the County to the Planning Department's attention.

Sincerely,



Mike Conklin  
Planning Department Director



Dr. Robert Harrington, Ph.D.  
Water Department Director

cc: Board of Supervisors; Kevin Carunchio, CAO; County Counsel; Greg James; Michael King; Public Works Department; Death Valley National Park; file



# Valley Electric Association, Inc.

800 East Highway 372  
P.O. Box 237  
Pahrump, Nevada 89041-0237  
Telephone (775) 727-5312  
(800) 742-3330 (In Nevada)  
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April 23, 2010

Mr. Greg Helseth  
Renewable Energy Project Manager  
4701 N. Torrey Pines Drive  
Las Vegas, NV 89130

Re: Comments to the Solar Millennium Draft Environmental Impact Statement

Dear Mr. Helseth:

Valley Electric Association (VEA) has received a copy of the Draft Environmental Impact Statement (EIS) for Solar Millennium, LLC's proposed 2-250MW solar generating facility (BLM record number N-084359). We have had an opportunity to review the document and our comments to the document are as follows:

- |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                               |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comment No. 12-01 | 1. <u>Section 2.2.1.1</u> -the EIS makes reference to 2-232MW solar generating plants. The nameplate rating of the plants as provided by Solar Millennium to VEA for the purpose of executing system studies is 2-250MW.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>Response to Comment No. 12-01</u><br>The proposed Project includes the construction and operation of two dry-cooled solar power plants, each with a nameplate capacity of 250 MW and a net output of approximately 232 MW. |
| Comment No. 12-02 | 2. <u>Section 2.34</u> - Valley Electric would like to propose that the section reads as follows:<br><br><i>The Project electrical components consist of the solar field electrical systems, the electrical system within the power blocks, and the Project switchyard. Transmission of power from the proposed Project will be "wheeled" through Valley Electric Association (Valley Electric). Valley Electric Association is currently reviewing Solar Millennium's application for interconnection. System studies are being conducted to identify what system improvements will be required as a result of this proposed interconnection. Valley Electric will make a separate right of way application and prepare the associated Environmental Assessment as required to accommodate any facility improvements identified as a part of the interconnection study.</i> | <u>Response to Comment No. 12-02</u><br>Section revised to include the commenter's proposed text.                                                                                                                             |
| Comment No. 12-03 | 3. <u>Section 3.11.3.6</u> - The EIS states that the power lines adjacent to the project area are 115kV distribution lines. VEA's power lines in that area are not distribution lines, and they are rated 138kV, not 115kV.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>Response to Comment No. 12-03</u><br>The information has been revised in the FEIS.                                                                                                                                         |

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- |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comment No. 12-04 | 4. <u>Section 3.9.4.2</u> -VEA would like to change the description in this section to the following: "Valley Electric is a nonprofit cooperative electric utility that is based in Pahrump, Nevada".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>Response to Comment No. 12-04</u><br>The requested edits have been made in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Comment No. 12-05 | 5. <u>Section 4.17.3</u> -The location of Solar Millennium's proposed project will require that VEA relocate roughly four (4) miles of distribution feeder lines for all of the feeders north of our Valley Substation. VEA also would like to clarify the first sentence in the fifth paragraph on page 4-105. The transmission lines owned by VEA (138kV voltage) that are that are located south of US 95 and west of NV 160 as referenced in this paragraph will not be upgraded. In order to accommodate this solar project a new 230kV line along with a new 230kV switchyard would have to be built. If the proposed solar project does not materialize, it will not be necessary to add the new 230kV line, the new 230kV switchyard, or to upgrade the existing 138kV line. | <u>Response to Comment No. 12-05</u><br>This information has been added to Section 2.3.4 in the FEIS. The construction of the new line and switchyard are part of VEA's long-term upgrade plans, which VEA has developed and may undertake apart from large-scale solar development within VEA's service area. Finally, if the Amargosa project is not approved or built, the new line and switchyard may serve any project that would be built on the same lands, pursuant to right-of-way applications now pending before BLM. |
| Comment No. 12-06 | 6. <u>Table 4-32</u> : There is a typographical error in this table; in the first column that references Valley Electric, the dates should be 2010-2012, not 2010-1012. Also, the existing 138kV lines near the project site will not be upgraded; new 230kV lines as well as a new 230kV switchyard will be added for interconnecting Solar Millennium's project to the VEA electrical grid.                                                                                                                                                                                                                                                                                                                                                                                        | <u>Response to Comment No. 12-06</u><br>The requested edits have been made in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Comment No. 12-07 | 7. <u>General Comment</u> : With respect to how Valley Electric is characterized, we would prefer in the report to be referenced to in the following manner: <i>Valley Electric Association, Inc.</i> or <i>VEA</i> for short once the full name is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>Response to Comment No. 12-07</u><br>References to Valley Electric Association have been changed in the FEIS per commenter's request.                                                                                                                                                                                                                                                                                                                                                                                         |

VEA appreciates the opportunity to review this document as well as your willingness to consider and incorporate our comments into the final EIS. If you have any questions regarding our comments, please do not hesitate to call me at (775)727-2164, or email me at [carletl@vea.coop](mailto:carletl@vea.coop).

Sincerely,

*Carlet Langford*

Carlet Langford, P.E.  
Manager of Engineering  
Valley Electric Association, Inc.



## Valley Electric Association, Inc.

---

September 23, 2010

Mr. Greg Helseth  
Renewable Energy Project Manager  
4701 N. Torrey Pines Drive  
Las Vegas, NV 89130

**RE: Additional comments on Solar Millennium Draft EIS, BLM Record No. N-084359**

Dear Mr. Helseth

Valley Electric Association, Inc. ("VEA") previously submitted a letter dated April 23, 2010 concerning the Draft Environmental Impact Statement (DEIS) for Solar Millennium LLC's proposed 2-250 MW Amargosa solar generating facility (BLM Record No. N-084359). In that letter, VEA stated, among other things:

*In order to accommodate this solar project a new 230kV line along with a new 230kV switchyard would have to be built. If the proposed solar project does not materialize, it will not be necessary to add the new 230kV line, the new 230kV switchyard, or to upgrade the existing 138kV line.*

This statement is clarified as set forth below:

There are a number of large scale solar generation projects currently in VEA's interconnection queue, some of which have right-of-way applications currently before BLM for land near or adjacent to the improvements described in BLM Record No. N-094359 (the "Improvements"). As such, the Improvements could possibly provide the critical infrastructure necessary for the delivery of power from a variety of projects. VEA intends to seek approval of these transmission upgrades so long as the costs of those efforts are fully sponsored by an interconnection customer, whether that is Solar Millennium, or ultimately an interconnection customer with a later queue position in VEA's interconnection queue.

VEA intends to submit a SF-299 right-of-way application and a Plan of Development for the Improvements within the next ninety days. VEA's submission of these documents to BLM will initiate BLM's permitting and environmental review process for the Improvements.

Thank you for your consideration of these comments. If you have any questions, please do not hesitate to call me at (775) 727-2138, or email me at [curtl@vea.coop](mailto:curtl@vea.coop).

Sincerely,

A handwritten signature in black ink, appearing to read "Curt Ledford". The signature is fluid and cursive, with a large loop at the end.

Curt Ledford  
General Counsel

CC: Ralph Hollenbacher, Solar Millennium, LLC



April 23, 2010  
Gregory Helseth  
Pahrump Field Office  
Bureau of Land Management  
4701 North Torrey Pines Drive  
Las Vegas, NV 89130-2301  
solar\_millennium@blm.gov

Dear Gregory,

Comment No. 13-01 | On behalf of the Nevada Wilderness Project (NWP), we wish to provide comments on the Draft Environmental Impact Statement (DEIS) for the Amargosa Farm Road Solar Energy Project (solar project) proposed by Solar Millennium. We support the proposed action for a dry-cooled solar thermal power project. We do not support the wet-cooled alternative because of the concerns about over-allocation of existing water use in the Mojave region of Nevada and the fragile nature of the natural resources in the area. We also do not support the no action alternative because we recognize the need to reduce the United States' dependency on non-renewable sources of energy in order to ameliorate global climate change and national security threats.

Response to Comment No. 13-01  
Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Comment No. 13-02 | We ask that the Bureau of Land Management (BLM) consider the cumulative impacts of land use and management activities as they are related to cultural resources and wildlife and their habitats in a more holistic fashion. We believe that additional development of BLM lands should not occur unless significant wildlife habitat mitigation or conservation on public lands occurs in tandem.

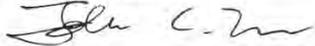
Response to Comment No. 13-02  
Comment noted. The DEIS followed Council on Environmental Quality guidelines in developing the cumulative analysis. The BLM's action for this EIS is to either grant or deny Solar Millennium's application for a right of way on lands managed by the BLM. The BLM must decide whether, and if so, under what conditions it will grant a right of way to enable construction and operation of the proposed project. Overall management of BLM lands are described in District-specific Resource Management Plans. The Las Vegas RMP/EIS, approved by Record of Decision on October 5, 1998, guides management of BLM lands in the Southern Nevada District.

This solar project and other future development on BLM lands should have conservation offsets for cumulative impacts in the form of strong, permanent protection of landscapes that possess high quality wildlife habitats, cultural or other unique resources. This protection may be in the form of administrative designations, assuming such designations have strong, enforceable management language that will remove threats to further degradation of resources, or through specific agency requests for legislative designations that would add important areas to the National Landscape Conservation System. This is a much-needed paradigm shift for how the BLM does business regarding development projects on public lands.

We recognize that there is significant pressure on the BLM to help solve our energy and climate crisis, but we see this push as an opportunity to provide clean, domestic energy while also providing strong conservation on other BLM lands that would leave wildlife, cultural and other resources with better, permanent protection than they are currently afforded. With the BLM's multi-use mandate, consideration of the important role of the agency as a steward for wildlife habitats and other unique resources has to be made during this push for renewable energy production on public lands, and we do not want to see this opportunity to provide stronger protection of resources in tandem with development squandered.

Please inform me of any further developments related to the Amargosa Farm Road solar project and the DEIS/NEPA process. We are happy to make ourselves available to meet and discuss or further develop any ideas and mitigation options that NWP can provide. Do not hesitate to contact me.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John C. Tull". The signature is fluid and cursive, with the first name "John" being the most prominent.

John C. Tull  
Conservation Director  
Nevada Wilderness Project  
8550 White Fir Street  
Reno, NV 89523  
775-746-7851  
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**National Parks Conservation Association®**  
*Protecting Our National Parks for Future Generations®*

Mojave Field Office  
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#213  
Barstow, CA 92311  
Phone: 760.937.7887

April 27, 2010

Gregory Helseth  
Bureau of Land Management  
Pahrump Field Office  
4701 North Torrey Pines Drive  
Las Vegas, NV 89130-2301

**Re: Comment on Draft Environmental Impact Statement for Proposed  
Amargosa Farm Road Solar Energy Project**

Dear Gregory Helseth:

On behalf of our 320,000 members, the National Parks Conservation Association (NPCA) would like to thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for Solar Millennium's Proposed Amargosa Farm Road Solar Energy Project. NPCA is a non-profit organization dedicated to the protection and enhancement of National Parks for current and future generations. Our members care deeply for America's shared natural and cultural heritage that is preserved by units of the National Park System.

Comment No.  
14-01

NPCA recognizes the need to combat the worst effects of global climate change through a diversified approach that includes the development of industrial-scale renewable energy generation systems, coupled with energy conservation, energy efficiency measures, and distributed generation. Our organizational position on large-scale renewable energy generation systems in desert landscapes is that they are preferentially sited on disturbed lands, utilize the least water intensive technologies, cause the least possible harm to natural systems, are built close to existing transmission corridors, and provide benefit to communities with minimal long-term environmental, health, or safety costs.

A response to this comment is provided on a separate page following this comment document.

Solar Millennium has proposed the construction and operation of two 232-MW solar power plants. The project would occupy approximately 4,350 acres of what is currently desert habitat, and would include the construction of solar fields, power blocks, an office and maintenance building, parking area, laydown area, switchyard, and a stormwater detention basin. Additional elements of the proposed project would include access roads and optional water pipelines. Solar



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Millennium's proposed solar energy generating system would utilize parabolic trough solar thermal technology to produce electrical power using steam turbine generators fed by solar steam generators.

Comment No.  
14-02

Because the proposed location of this project is in the Amargosa Valley east of Death Valley National Park and has the potential to negatively impact both water levels in the Devils Hole unit of Death Valley National Park and the endangered Devils Hole pupfish (*Cyprinodon diabolis*), NPCA is encouraged that the preferred alternative in the DEIS is to employ air-cooled technology, which significantly decreases the water consumption necessary for the generation of energy. NPCA commends Solar Millennium and the Bureau of Land Management for this thoughtful approach to the intersection of energy generation and water consumption, particularly in the Amargosa Valley, where Devils Hole is located. The Nevada State Engineer has ruled that the Amargosa Desert hydrographic basin is over-appropriated by 18,000 acre-feet per year and applications for new water rights will be denied.

Because of the potential impacts to the critically endangered Devils Hole pupfish from the drawdown, and because of Death Valley National Park's mandate under the National Park Organic Act of 1916, the Endangered Species Act of 1973, and the California Desert Protection Act of 1994 to preserve unimpaired for future generations the water and wildlife resources under its stewardship, NPCA has continuing concerns that we feel must be addressed in an EIS for the proposed project. We have organized our concerns and recommendations into the following categories:

Comment No.  
14-03

- **Full disclosure of planned water sources and corresponding analysis.**

The DEIS describes three water sources for the project and presents groundwater model analysis for impacts to water levels in Devils Hole based on these wells. If Solar Millennium plans to change this approach to acquiring groundwater for this proposed project, that change must be clearly presented and transparently disclosed to the public in the DEIS process. Solar Millennium and the BLM cannot wait until the release of the EIS to revise groundwater analysis, particularly since this is such a crucial issue to the survival of the Devils Hole pupfish and the resources that Death Valley National Park was set aside to protect. Further, the BLM and Solar Millennium must base their analysis of groundwater depletion impacts to Devils Hole on current and historic levels of water use for the actual water rights that Solar Millennium seeks to lease or

Responses to these comments are provided on a separate page following this comment document.



Comment No.  
14-03  
(continued)

purchase. If Solar Millennium purchases or leases rights to 400 acre-feet/year from a source that was not using its full amount of water, that will present a different net impact to Devils Hole. Groundwater modeling to predict that net impact should be disclosed to the public in the DEIS. If Solar Millennium plans to change its stated approach to acquiring groundwater for this proposed project, NPCA recommends that the BLM re-issue this DEIS with the analysis included and fully disclosed to the public for comment, as required by the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321-4347).

Comment No.  
14-04

- **Clarification of amount of water needed for mirror washing.** The DEIS presents two different stated needs for the amount of water required for mirror washing (Section 2.3.6.1, "Water Requirements"). Table 2-3, "Summary of Operational Water Usage," projects 200 acre-feet/year for mirror washing under the dry-cooled alternative, while projecting 149 acre-feet/year for the wet-cooled alternative. There is no explanation provided for the discrepancy between these two projected mirror washing water requirements. Considering that this is a difference of 16,618,401 gallons each year in a hydrologic basin with a potential to impact Death Valley National Park's senior water right at Devils Hole, as well as the Devils Hole pupfish, NPCA requests that the DEIS provide a clear and transparent analysis of how much water is required for mirror washing for the preferred alternative of this proposed project.

Comment No.  
14-05

- **Water mitigation.** Appendix B, the proposed project's Groundwater Monitoring Report, discloses that "an additional 400 afy of pumping reduces simulated water levels at Devils Hole by less than 0.05 ft or 0.6 in after 200 years." NPCA feels that any water drawdown in Devils Hole should be mitigated, and proposes a commonsense mitigation for this project of purchasing and retiring water rights at the same distance or closer to Devils Hole on a 1:1 ratio for the amount of water consumed. Under this proposed mitigation solution, for 400 acre-feet/year of consumption, 400 acre-feet/year would be retired from water rights at the same distance from, or closer to, Devils Hole than the proposed site of water extraction.

Comment No.  
14-06

- **Clarity on the comparison of alternatives.** Table 2-5, "Summary of Impacts by Resources for the Amargosa Farm Road Solar Energy Project Proposed Action, Wet-Cooled Alternative, and No Action Alternative"

Responses to these comments are provided on a separate page following this comment document.



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Comment No.  
14-06  
(continued)

provides no comparison between these alternatives. Instead, it appears that the impacts section of the “preferred alternative” has been cut-and-pasted into the “wet-cooled alternative” and the “no action alternative” for each one of the resource categories. NPCA recommends that this table be revised to provide the public with a real and meaningful summary analysis of the differences between the alternatives.

Comment No.  
14-07

- **Analysis and discussion of the potential impact to Death Valley National Park’s Night Sky Resources.** There is no discussion in 4.12, “Visual Impacts,” or 4.19, “Cumulative Impacts,” of the proposed project’s impact to the night sky resources of Death Valley National Park, or the potential for the cumulative impacts of this proposal and reasonably projected future development in the Amargosa Valley region to impact the night sky resources of Death Valley National Park. NPCA recommends that this analysis be included in the DEIS.

Responses to these comments are provided on a separate page following this comment document.

Thank you for the opportunity to contribute to this process. The National Parks Conservation Association looks forward to continued involvement in the environmental process on this project. Please feel free to contact me directly at (760) 957-7887, or at DLamfrom@npca.org, in order to continue this dialogue to ensure that this proposed project does not degrade the federally mandated protection of Death Valley National Park.

Sincerely,

David Lamfrom  
California Desert Field Representative  
National Parks Conservation Association

## RESPONSES TO COMMENT NO. 14-01 THROUGH 14-07

### Response to Comment No. 14-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 14-02

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 14-03

The Draft EIS described three water sources under consideration for project use. Following issuance of the Draft EIS, it was determined that one of the three wells would fulfill the project water requirements. Solar Millennium has filed an application with the Nevada Division of Water Resources Nevada State Engineers Office to change the place and manner of use of this water right. The amount of water needed for the project has not changed. Therefore, the re-issuance of the Draft EIS is not required. This updated information is included in the Final EIS.

### Response to Comment No. 14-04

The water needs for mirror washing cited in Table 2-4 in the Draft EIS was incorrect for the wet-cooled alternative. Under both the dry- and wet-cooled alternatives, water needs for mirror washing are 200 afy. This information has been revised in the Final EIS.

### Response to Comment No. 14-05

See response to comment 05-01.

### Response to Comment No. 14-06

The water resources summary in Table 2-5 has been updated for clarity.

Response to Comment No. 14-07

Visual impacts were based on preliminary engineering and design, which did not consist of a lighting plan. Therefore, effects to night sky associated with Death Valley National Park could not be assessed. However, the Proponent has committed to specific mitigation measures that will be incorporated in the FEIS that will mitigate impacts to night sky to the greatest extent feasible (i.e., mitigation of night lighting).

solar\_millennium@blm.gov

Comment: Amargosa Farm Road Solar Energy Project DEIS

Draft Environmental Impact Statement for the Amargosa Farm Road Solar Energy Project (NVN-084359): BLM/NV/LV/ES-10/16+1793

From:

Michael Voegele  
7404 Oak Grove Ave  
Las Vegas, NV 89117

Comment on Flood Control.

Basis:

The flood control approach for the Amargosa Farm Road Solar Energy Project is summarized on page 2-34 of the Draft Environmental Impact Statement (DEIS).

"The site will be graded generally following the existing contours of the site in order to minimize the amount of disturbance and to allow a balanced distribution of material. Flood protection of the property from off-site flows will be provided by means of a continuous concrete lined channel around the northern and western perimeter of the site. The channel will be designed to effectively intercept the 100-year storm event off-site runoff and convey the concentrated flow to the southwest corner of the property. The southwest corner of the property has been identified as one of the historic discharge locations of the Fortymile Wash. The channel will discharge within the property limits and energy dissipation facilities will be provided in order to disperse the concentrated flow back to a shallow sheet flow condition prior to leaving the property boundary."

Comment No.  
15-01

The proposed solar field improvements described in the DEIS (based upon the Draft Conceptual Stormwater Control Plan provided in Appendix E) will change the historic drainage patterns within the boundaries of the Project site (page 4-20). The stated goal of the flood control plan is to maintain historic drainage patterns off site in both quantity and manner of flow in conformance with NRS Chapter 543 following guidelines set forth in Section 400 of the Hydrologic Criteria and Drainage Design Manual."

Considering that there are multiple Right-of-Way requests for solar facility development in the Amargosa Valley, it is imperative that there be a coordinated flood management planning effort. Without such an effort, there can be no confidence in the design bases for flood control for the individual facilities. Data or assumptions used in the design of

Response to Comment No. 15-01

A coordinated regional flood plan approach for the area was pursued jointly with BLM, Nye County and adjacent solar company right-of-way applicants. All parties agreed to the positive pursuit of the approach, however coordinated funding, schedule variations and design responsibility for such a facility was determined to be an overwhelming challenge at this point in time.

Flood control performed on an individual project basis can be achieved by discharging intercepted and conveyed storm flows in a manner consistent with historic quantity and manner prior to leaving the project property. This is precisely what the proposed project design proposes by use of detention/retention basins to limit post-development flows to pre-development levels and by using energy dissipating/spreading structures to return the discharged flows to sheet flow in identified historic locations.

Comment No.  
15-01  
(continued)

flood control measures based on the current and historical streamflow and flood characteristics of the Amargosa River and Fortymile wash will change if the approach reported on page 4-112 of the DEIS were implemented.

"An alternative for Regional Flood Control Facilities was presented to BLM and Nye County staff in 2009. The alternative would provide a regional off-site detention basin at the apex of the Fortymile Wash located north of US 95 and would effectively and considerably reduce existing condition peak storm flow downstream of US 95. Reducing off-site peak flows impacting the site, and other proposed facilities, would allow for reduction in size of perimeter flood control facilities necessary for protection of the Project site. All properties downstream of the detention basin would benefit from this approach."

The DEIS also concludes (page 4-22) : "[T]he Regional Flood Control concept ..... is currently under consideration as a viable alternative." The DEIS notes that all properties downstream of the detention basin would benefit from this approach and that the alternative is being evaluated by both BLM and Nye County staff.

Recommendation:

Comment No.  
15-02

Implementation of a retention basin is a meaningful solution to flood control. Given the sparse historical flood data, the likelihood of significant flooding, and the ephemeral and migratory nature of braided washes, the flood control plans for all of the proposed solar facilities must be considered together. Further, the impacts of flood control for the various facilities are connected and need to be addressed as such. The intent of this comment is not to raise an impediment to the development of the Solar Millennium Amargosa Farm Road Solar Energy Project. Rather, it is provided to motivate continuation of work that is already started to develop a coordinated effort to implement a retention basin designed to meet the needs of all of the facilities developed in the Amargosa Valley. As the DEIS notes, certification of flood zone location and flood damage prevention and permits are the responsibility of the Nye County Planning Department and must meet Nye County Code (page 1-15). Presumably, an effective retention basin would be located north of Highway 95, and the design should involve the Department of Transportation because of existing Right-of-Way for the highway. Nye County, the BLM, the Department of Transportation, and the developers should work together to develop the flood control plans for the areas with proposed solar facilities, whether or not a retention basin is selected as the appropriate approach for flood control. The EIS should reflect a commitment to this approach, and not just a statement that it is under evaluation .

Response to Comment No. 15-02  
See response to Comment No. 15-01

John F. Bosta  
2010

April 30,

P.O. Box 42

Amargosa Valley, NV 89020

(775) 372-9038

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Southern Nevada District

Pahrump Field Office  
4701 N. Torrey Pines

Las Vegas, NV 89130-2301

SUBJECT: Draft Environmental Impact Statement (EIS) for the Solar Millennium Amargosa Farm Road Solar Power Project, Nye County, NV

ATTN: Gregory Helseth, Project Manager

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) for the Solar Millennium Amargosa Farm Road Solar Power Project, Nye County, NV

Comment No.  
16-01

I am concerned that the fast track of solar energy projects is not in the best interest of the citizens living in the Amargosa Desert of Nevada and the citizens of the United States. This fast track process will allow the foreign investors and corporations to collect the American Recovery and Reinvestment Act of 2009 (ARRA) for the 30% of the total cost of the project has been changed. Originally to qualify, projects had to break ground by December 31, 2010 and spend at least five percent (5%) of the total project cost in 2010.

A response to this comment is provided on a separate page following this comment document.

<p>Comment No. 16-01 (continued)</p>	<p>However, First Solar in California reported to California/Nevada Regional Office of the Wilderness Society that the Treasury issued new guidelines at the end of March. Now, developers have the flexibility to begin construction by December 31, 2010 either on-site or off-site by beginning manufacturing of panels or other associated equipment intended for the specific project site. Companies will take on some risk by starting manufacturing off-site before they have their permits in hand.</p> <p>Developers do not need to receive their permits by the end of this year, which gives more flexibility to the permitting schedule. However, in order to meet the DOE loan guarantee, they will need their permits by September 2011.</p>
<p>Comment No. 16-02</p>	<p>Before the Public meeting held in Amargosa Valley April 7, 2010 to review and comment on the Draft EIS, I had two different conversations with two individuals about the EIS.</p> <ol style="list-style-type: none"> <li>1. A BLM staff member expressed the fact that BLM hopes to complete the EIS process within 12 months instead of the usual 28 months or more. The timeline to complete the Final EIS is sometime in June 2010 and approve the Right of Way for this project. If this goal of less than 24 months is not completed the said project cannot begin construction before December 31, 2010.</li> <li>2. A Solar Millennium staff member told me that Solar Millennium has built a factory in the east to manufacture the receiver tube that contains the heat transfer fluid. Is this off-site manufacturing?</li> </ol>
<p>Comment No. 16-03</p>	<p>However, the project construction has already begun without an approved ROW, for example:</p> <ol style="list-style-type: none"> <li>1. Solar Millennium has already surveyed the footprint.</li> <li>2. Using the name Amargosa Valley Solar 1, LLC applied for water rights permit number 79699 and permit number 79783 for 400 AFA to change the Place of Use (POU) and Man or Use (MOU) of Permit 15893. The water right application mitigation is included in Appendix A – Proposed Avoidance, Minimization and Mitigation is Mitigation Measure A.4 WTR-3, which is a mitigation application for construction of the Draft EIS, which has not been approved.</li> </ol>
<p>Comment No. 16-04</p>	<p>The fast track does not allow enough time for a complete public review of all applications of needed permits and studies required for this project.</p>
<p>Comment No. 16-05</p>	<p>The ES-1.4.2 Wet-Cooled Alternative has been eliminated as an alternative by Solar Millennium, which was announced in a news release</p> <ol style="list-style-type: none"> <li>1. <b>Berkeley, California – November 16, 2009</b> – Solar Millennium, LLC, a large-scale solar thermal parabolic trough power plant developer, today announced that it would utilize advanced dry-cooling technology for its two proposed solar thermal power plants being developed by the company in the Amargosa Valley outside Las Vegas. Solar Millennium, LLC, is the U.S. project development arm of Solar Trust of America, LLC, and an integrated industrial solar solutions company operating in the southwestern United</li> </ol>

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
16-05  
(continued)

States.

2. Therefore, the Final EIS should contain only the alternatives, ES-1.4.1 and ES-1.4.3.

Comment No.  
16-06

The ES-1.4.4 Other Alternatives Considered But Not Evaluated in Detail, in accordance with Title 40 CFR Section 1502.14 alternatives were not carried forward for further analysis if the alternative is inconsistent with the basis policy objectives of the 1998 Las Vegas Resource Management Plan/EIS, which is obsolete.

**§ 1502.14 Alternatives including the proposed action.**

This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (§1502.15) and the Environmental Consequences (§1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public.

In this section agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

The adopted 1998 Las Vegas Resource Management Plan does not include renewable energy development of geothermal, wind, and solar power; management of site type rights-of-way for renewable energy and other uses; visual resources management; land tenure adjustments to meet community growth needs; evaluation of existing and potential new Areas of Critical Environmental Concern; Off-Highway Vehicle Designation and Special Recreation Management; and Nye County FEMA floodplain maps. The BLM should not allowed to tier insufficient Nye County Comprehensive Plan, non existing tortoise plans, and plans that have not been developed for renewable energy projects in the 1998 Las Vegas RMP/EIS.

Responses to these comments are provided on a separate page following this comment document.

Comment No. 16-06 (continued) | BLM has not briefly discuss the reasons why the six alternatives in section ES-1.4.4 were eliminated from the detailed study pursuant to 1502.14 (a) & (b) other than quoting the section number.

Comment No. 16-07 | Under the United State Constitution the powers of government are divided between the federal government and the state governments. One power of the states is zoning and land use. The BLM Resource Management Plan must be consistent with officially approved and adopted local land use plans, as long as such local plans are consistent with federal law and regulations pursuant to 43 CFR section 1610.3-2(e).

As the local government having jurisdiction and planning authority, Nye County Master Plan or Comprehensive Plan (NCCP) was adopted April 5, 1994, which has not been updated except for the Nye County Water Resources Plan August 3, 2004 and the Amargosa Valley Area Plan (AVAP) September 23, 2009.

The NCCP Section 2.2 Federal Lands; "The Federal Government owns and manages certain parcels of land within Nye County and has the ability to acquire additional lands pursuant to Article I, Section 8, Clause 17 of the U.S. Constitution and Chapter 328 of the Nevada Revised Statutes. Nye County intends to develop objectives, and polices for federal lands within Nye County."

1. The application for BLM ROW for land south of Farm Road conflicts with Advisory Town Boards request for BLM land at the corner of School Lane and Farm Road and the corner of School Lane and Ranch Road, which will be used for Future Community and Utility Facilities needed by the town. The AVAP Map 6 Public Buildings, Services and Facilities includes these two of five sites that the Advisory Amargosa Town Board asked Nye County to acquire for future town development.

2. Nye County made a prior request for these additional lands before Solar Millennium made the application for the solar project ROW.

Comment No. 16-08 | The Adopted Amargosa Valley, Nevada AREA PLAN has not been considered in the design of the Solar Field. The Project Area Figure 1-2 page 1-7, Figure 2-3 DRY COOLING-REROUTE OPTION 1 page 2-11, and Figure 2-4 DRY COOLING-REROUTE OPTION 2 page 2-13 is a major change of design presented in Figure 9 Preliminary Site Layout within the ROW area page 18 of 71 Updated Plan of Development.

1. The Solar Fields have been designed to include the existing Farm Road as part of their project. This design conflicts the AVAP Map 4 Future Land Use. The Special Development Area for Solar, Wind, and Other is north of Farm Road.

2. The proposed development of T&T Road north of the solar field has not been included in the EIS. The ROW application does not include extending any roads north of solar field. This extension of the road would require a

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 16-08 (continued)</p>	<p>BLM road right-of-way, which require another EIS. 3. The new road must be constructed pursuant to Nye County Ordinance 135 Section 16.20.070 (A) Road or Street Dedication a. Road right-of-way shall be dedicated to the County b. Roads along a section line shall be 80 feet (40 feet on each side of the section line).</p>
<p>Comment No. 16-09</p>	<p>4. Solar Millennium presented two road alternatives at the Special Advisory Town Board meeting April 8, 2010 for the extension of T&amp;T Road. a. Extend T&amp;T Road north all the way to Highway 95, which would pass through the Cogentrix right-of-way application. b. Extend Frontier St. east from Valley View Blvd. to T&amp;T Rd. 5. The GOAL TRN-5 to maximize the continuity of the street network to provide a direct system of access throughout the community to minimize response time for emergency vehicles and Policy TRN-5E to align all new roads and streets, whenever practicable, with existing roads and streets by continuation of the centerlines thereof will be eliminate the planned roads in AVAP Map 5 TRANSPOTATION. Frontier St. will be extended west to east between Valley View Blvd. to Powerline Rd.. Casada Way will be extended south to north between Farm Rd. and Frontier St.. T&amp;T Rd. will be extended south to north between Farm Rd. and Frontier St..</p>
<p>Comment No. 16-10</p>	<p>6. The proposed ROW for Solar Millennium solar project use of the T.16S., R.48.E Sec.1-all; Sec.2-E½; Sec.11- E½; Sec.12-all and T.16S., R.49.E Sec. 5- W½, NW¼, E½, SW¼; Sec.6-all; &amp; Sec.7-all is not consistent with officially approved and adopted local land use plans.</p>
<p>Comment No. 16-11</p>	<p>7. The existing Farm Road is a county road within the easement provided in the original land patents that were issue by federal land acts. When these patents were subdivided or parceled the federal easements were dedicated to the county for roads. 8. BLM would need to give and dedicated easements to the county to build new roads. 9. Private land would need to be parceled and easements given to the county for roads. 10. The county would need to dedicate the old Farm Road easements to BLM, which would be included in the approved ROW issued to Solar Millennium.</p>
<p>Comment No. 16-12</p>	<p>EIS Section 3.4.5.2 Flood Occurrence pages 3-33 &amp; 3-34 provides information about a peak stream flow of approximately 3,000 cubic feet per second in 1995 that severely scoured and eroded the channel, causing extensive road damage to highway 95. Manmade channeling of the forty-mile wash into narrow culverts under the highway caused the damage. This same problem will occur when the forty-mile wash and the four other washes that originate on Yucca Mountain ROW flowing into the proposed ROW is canalled into concrete channels located at the northern boundary. The Conceptual Stormwater Control Plan, Appendix E is incomplete.</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No. 16-13	<p>1. Section 1.1 Project Overview &amp; Study Purposes intended to provide only a conceptual plan of the project site from onsite and offsite storm flows.</p> <p>2. The purpose of an EIS is to obviate the need for speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action.</p>
Comment No. 16-14	<p>3. Section 2.1 Compliance uses methodologies that do not apply to Amargosa Valley. Nye County Guidelines for Design and Review of Development Engineering Submissions, Dated February 2005 (NCGDRDES), which was adopted by Resolution No. 2005-02 for the Pahrump Regional District only and not for the entire county. Per the Nye County Guidelines tiered the Clark County Regional Flood Control District's Hydrologic and Drainage Design Manual (CCRFCE Manual to be used for all methodologies not covered in the Nye County Guidelines.</p>
Comment No. 16-15	<p>4. The compliance references for uses methodologies are grossly misleading when they cite guidelines that are not the "applicable," lawful, EPA approved State Implementation Plan (SIP) for Nevada, Nye County, and Amargosa Valley.</p>
Comment No. 16-16	<p>5. There is no evidence of a public notice and notice of hearing noticing the public that the Solar Millennium intended to use the NCDGRDES as any part of a NEPA site specific or cumulative impact determination.</p>
Comment No. 16-17	<p>6. The Draft EIS does not take into consideration of the cumulative flood impact of of the other three proposed solar projects north of the Solar Millennium project.</p>
Comment No. 16-18	<p>7. The proposed Flood Plain Protection Plan in the Adopted Amargosa Valley, Nevada AREA PLAN has not been considered in the Conceptual Stormwater Control Plan.</p> <p>a. Policy FPP-1C, which requires the necessary precautions to protect surrounding property. The floodwaters from the Tonopah Wash and Forty-mile Wash will diverted around the Project Area, which increase the flooding of the surrounding property.</p> <p>b. Policy FPP-1D requires review of proposed drainage improvements by the Nye County Floodplain Administrator as a condition of project approval. As of the date Solar Millennium has not presented any plan for review and approval.</p> <p>c. Policy FPP-1F requires that all new plans for development within or adjacent to a floodplain show the projects relationship to the floodplain and that the development will not endanger that project of the surrounding areas. The Conceptual Stormwater Control Plan shows only the protection of the project. The surrounding areas will be endangered by the run-on diverted around the project and the run-off from the Storm Drainage Outfall.</p>
Comment No. 16-19	<p>This ROW should not be approved by BLM until the Revision to the Las Vegas Resource Management Plan and Associated Environmental Impact Statement has been completed and approved for the Las Vegas Field Office and the</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
16-19  
(continued)

Pahrump Field Office. Clark County and Nye County have different Master Plans and Ordinances. The revision of the 1998 Las Vegas RMP has to be separated into two RMPs, one for the Las Vegas Field Office and one for the Pahrump Field Office.

The federal land policy and management act, 43 U.S.C. section 1701, declared the national policy to be that "the national interest will be best realized if the public lands and their resources are periodically and systematically inventoried and their present and future use is projected through a land use planning process coordinated with other federal and state planning efforts." See 43 USC section 1701(a)(2).

43 U.S.C. section 1712(c) sets forth the "criteria for development and revision of land use plans." Section 1712(c)(9) refers to the coordinate status of a county which is engaging in land use planning, and requires that the "secretary [of interior] shall coordinate" the land use inventory, planning, and management activities ... with the land use planning and management programs of other federal departments and agencies and of the state and local governments within which the lands are located."

Section 1712 also provides that the "secretary shall assist in resolving, to the extent practical, inconsistencies between federal and non-federal government plans." This provision also gives preference to those counties which are engaging in the planning process over the general public, special interest groups of citizens, and even counties not engaging in a land use planning program. In view of the requirement that the secretary [of the interior] "coordinate" land use inventory, planning and management activities with local governments, it is reasonable to read the requirement of assisting in resolving inconsistencies to mean that the resolution process takes place during the planning cycle instead of at the end of the planning cycle when the draft federal plan is released for public review.

43 CFR section 1610.3-2(a); The section further requires that the secretary [of the interior] shall "provide for meaningful public involvement of state and local governmental officials in the development of land use programs, land use regulations, and land use decisions for public lands." When read in the light of the "coordinate" requirement of the section, it is reasonable to read "meaningful involvement" as referring to on-going consultations and involvement throughout the planning cycle, not merely at the end of the planning.

Comment No.  
16-20

The BLM has no duty to make its plan consistent with a local government plan, if the BLM is not notified by the local government of the existence of its local plan. The BLM was sent a draft of the AVAP for review and BLM made and returned comments on the draft. So, one can conclude that BLM has

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 16-20 (continued)</p>	<p>not been notified by the local government of the existence of the local plan, which is AVAP. The Revision of the 1998 Las Vegas RMP makes no reference to the AVAP.</p>
<p>Comment No. 16-21</p>	<p>BLM, Nye County staff, local governmental official and Solar Developers have met to discuss the mitigation measures in closed meeting, which excluded the public. The meetings were held in Beatty, which is not in the boundary of the Pahrump Field Office, on November 10, 2009 and April 28, 2010. These project changes and mitigations are now presented in the Draft EIS, which are inconsistent with the local AVAP.</p>
<p>Comment No. 16-22</p>	<p>The fugitive dust from unpaved roads and open land will be the dominant air pollutant, which is particulate matter PM<sub>10</sub> and PM<sub>2.5</sub>. Section 3.1.3 page 3-10 makes reference to the Pahrump Valley nonattainment for PM<sub>10</sub> and the Memorandum of Understanding (MOU) successfully negotiated with EPA and the Nye County Ordinance to regulate construction and other ground-disturbing activities, and has implemented a mandatory program of Best Practicable Methods for use on all ground disturbances of 0.5 acres or greater, 1. This said MOU and Ordinance is for Pahrump Valley only and not the rest of the county.</p>
<p>Comment No. 16-23</p>	<p>Section 3.1.3 page 3-10 also makes reference to air quality data available for the Yucca Mountain Project. The Yucca air quality makes the follow comment in the EIS. 1. If there are not enough air quality data to determine the status of attainment of a remote or sparsely populated area, the area is listed as unclassified. For regulatory purposes, unclassified areas are considered to be in attainment. Section 176(c)(1) of the Clean Air Act requires Federal agencies to ensure that their actions conform to applicable implementation plans for achieving and maintaining National Ambient Air Quality Standards for criteria pollutants. In addition, this section of the Act assigns primary oversight responsibility to the agencies, not to the Environmental Protection Agency or the States. Specifically, for there to be conformity, a Federal action must not contribute to new violations of standards for ambient air quality, increase the frequency or severity of existing violations, or delay timely attainment of standards in the area of concern (for example, a State or a smaller air quality region). The Environmental Protection Agency general conformity regulations (40 CFR 93, Subpart B) contain guidance for determining if a proposed Federal action would cause emissions to be above certain levels in locations designated as nonattainment or maintenance areas. In this case, a maintenance area is a region that was previously in nonattainment, but which has been redesignated to an attainment area with a requirement to develop a maintenance plan. Since the project area is located in an unclassifiable area, Solar Millennium should be required to conduct air quality to collect data to determine the project is truly in an attainment area. The referenced areas of Pahrump and</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No.

16-23

(continued)

Yucca are insufficient to determine the air quality in Amargosa Valley.

Comment No.

16-24

Section 3.3.4 Prime and Unique Farmland has not been designated as prime farmland because no one as asked to the USDA to make the designation.

The requested ROW could be developed into productive farmland in the same manor as the land to the south and east of the project.

Comment No.

16-25

Section 3.6.5.2 Federally Threatened, Endangered, Proposed, and Candidate Wildlife Species read like a textbook for a college class in pages 3-81 through 3-86 and the finally very little information about the project area.

Just last week a tortoise burrow was photographed just north of Farm Road and east of Casada Way.



Seem like the Desert Tortoise surveys conducted within footprint of the proposed project from late March through May, 2009 missed this burrow or the tortoise moved in after the survey so that it could harvest the alfalfa from the center pivot south of Farm Road and east of Casada Way with a yellow dot in the center in Figure 3-10.

Comment No.

16-26

Section 3.7 Historic and Cultural Resources, Subsection 3.7.2 Affected Environment, page 3-99, "The cultural resource inventory for the current Project area resulted in the recordation of thirteen new prehistoric and historic sites. Of the thirteen sites, only one prehistoric site has been determined eligible for listing on the National Register of Historic Places

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
16-26  
(continued)

under criterion 'd'. This site has the potential to be adversely affected by construction of this Project. Mitigation through a formal archaeological Treatment Plan involving data recovery would need to occur prior to any proposed ground disturbance."

1. How can the general public find criterion 'd' to review?
2. Section 106 of the [National Historic Preservation Act of 1966 \(NHPA\)](#) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the [Advisory Council on Historic Preservation](#) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "[Protection of Historic Properties](#)" (36 CFR Part 800), became effective January 11, 2001,
3. Memorandum of Agreement (MOA), which outlines agreed-upon measures that the agency will take to avoid, minimize, or mitigate the adverse effects.
4. Public involvement is a key ingredient in successful Section 106 consultation, and the views of the public should be solicited and considered throughout the process. The view of the public have not been solicited before the MOA was mitigate the under criterion 'd'.
5. The MOA had not been submitted to the Nevada Historic Preservation Office as of this date.
6. The MOA should be attached to the BLM's Final Record of Decision for this Project.

Respectfully submitted,

John F. Bosta

A responses to this comment is provided on a separate page following this comment document.

4/30/2010 Comments by John F. Bosta for Draft EIS for Solar Millennium Amargosa Farm  
Road 1

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## RESPONSES TO COMMENT NO. 16-01 THROUGH 16-31

### Response to Comment No. 16-01

As of December 2009, the proposed Project was one of 31 renewable energy project that have met the required milestones to remain on BLM's fast-track list for expediting processing (BLM 2009a). These projects are advanced enough in the environmental review and permitting process that they could potentially be cleared for approval by December 2010, thus making them eligible for funding under Section 1603 of ARRA. However, the Project schedule has changed and it is no longer eligible for Section 1603 cash grants. The Project is now classified only under Section 1703. The guidelines for meeting Section 1703's requirements, including the requirement to commence construction on or before September 30, 2011 have not changed. While ARRA does provide other types of funding for eligible projects, the proposed Project seeks funding pursuant to Section 1703. The Project is eligible for funding under the DOE's Federal Loan Guarantee program.

Being a part of the fast-track environmental review and permitting process does not involve or result in less than full compliance with applicable laws, including the National Environmental Policy Act. To the contrary, the fast-track process fully complies with all applicable requirements; the difference is that more resources are devoted to that process to allow for review to be conducted and decisions to be made on a faster timeline.

### Response to Comment No. 16-02

See response to Comment No. 16-01.

### Response to Comment No. 16-03

Construction of the proposed project has not begun. Construction cannot commence until the BLM grants a right-of-way and issues a Notice to Proceed. Activities listed by the commenter are separate actions required to obtain the necessary permits and approvals from other federal, state, and local agencies.

### Response to Comment No. 16-04

See response to Comment No. 16-01.

#### Response to Comment No. 16-05

Solar Millennium right-of-way application and Plan of Development considered both a dry- and wet-cooled solar thermal power plant. As the lead federal agency, BLM analyzed both alternatives regardless of Solar Millennium's final decision to select the dry-cooled alternative.

Although the wet-cooled alternative would require much more water, it would improve performance during high ambient temperatures as compared to the dry-cooled alternative. The wet- and dry-cooled alternatives would have materially different effects for various resources. Revealing such different effects is one purpose of an alternatives analysis under NEPA, and the alternatives considered in the Final EIS effectively serve that purpose.

See also the response to Comment No. 19-03.

#### Response to Comment No. 16-06

This EIS does not tier to the Nye County Comprehensive Plan or other agencies plans. The reference to the Nye County Comprehensive Plan serves to inform the reader that other plans guide development activities in the area.

The six bullet points cited under section ES-1.4.4 is a direct quote from Title 40 CFR Section 1502.14 which list criterion for analyzing alternatives to be carried forward in an EIS. Section ES-1.4.4.1 (Alternative Sites) and ES-1.4.4.2 (Alternative Solar Technology), describes alternatives analyzed but eliminated from further analysis since they failed to meet the project purpose and need.

#### Response to Comment No. 16-07

The proposed project is located on federal lands managed by the BLM, which are subject to land management regulations set forth under the Federal Land Policy and Management Act (FLPMA). The Amargosa Valley Area Plan is a local land planning guide for development in the Amargosa Valley planning area. While the BLM considers the recommendations of the Amargosa Valley Area, the BLM must comply with its requirements under FLPMA.

#### Response to Comment No. 16-08

The proposed project is located on federal lands managed by the BLM, which are subject to land management regulations set forth under the Federal Land Policy and Management Act (FLPMA). The Amargosa Valley Area Plan is a local land planning guide for

development in the Amargosa Valley planning area. While the BLM considers the recommendations of the Amargosa Valley Area, the BLM must comply with its requirements under FLPMA.

Solar Millennium intends to upgrade an existing road off of Valley View for use as the primary access route to the project site. The road upgrade will be subject to additional permits and approvals (e.g. BLM, NDEP, and Nye County). Per the Nye County Development Agreement, prior to commencement of construction, Solar Millennium is required to prepare and submit a Master Traffic Impact Analysis for review and approval by Nye County. The Analysis shall address the impacts, if any, of the transportation of employees to and from the proposed project site. Solar Millennium shall provide the improvements required in the approved Master Traffic Impact Analysis in order to mitigate any land use impacts of the proposed Project. (See Section 6.6 of the Development Agreement in Appendix F).

#### Response to Comment No. 16-09

See response to Comment No. 16-08.

#### Response to Comment No. 16-10

See response to Comment No. 16-07.

#### Response to Comment No. 16-11

See response to Comment No. 16-08. Information about road upgrades and easements has been added to section 2.3.11 (Roads, Fencing, and Security) in the Final EIS. Agreements between Nye County and Solar Millennium regarding road upgrades is described in Section 6.6 in the Development Agreement provided in Appendix F.

#### Response to Comment No. 16-12

Flood control conveyance facilities proposed by the project will be designed to resist erosion and scour potential generated by 100-year event storm flows. Structural energy dissipating and spreading facilities will be provided at the discharge end of conveyance facilities to reduce storm flow velocities and shear stresses to non-erosive levels.

1. A conceptual level of evaluation is what is required by BLM at this stage of planning.
2. Available data relevant to flood control was obtained, reviewed and considered in the development of the Conceptual Stormwater Control Plan.

3. An adopted document containing detailed hydrologic and hydraulic design methodologies does not exist for Nye County (outside of the Pahrump Planning District). Per discussion with Nye County Department of Planning staff and the Nye County Floodplain Manager/Administrator, methodologies contained in the CCRFCD Hydrologic and Drainage Design Manual can and should be utilized to the extent where no specific Nye County criteria exists.

4. An adopted document containing detailed hydrologic and hydraulic design methodologies does not exist for Nye County (outside of the Pahrump Planning District). Per discussion with Nye County Department of Planning staff and the Nye County Floodplain Manager/Administrator, methodologies contained in the CCRFCD Hydrologic and Drainage Design Manual can and should be utilized to the extent where no specific Nye County criteria exists.

5. An adopted document containing detailed hydrologic and hydraulic design methodologies does not exist for Nye County (outside of the Pahrump Planning District). Per discussion with Nye County Department of Planning staff and the Nye County Floodplain Manager/Administrator, methodologies contained in the CCRFCD Hydrologic and Drainage Design Manual can and should be utilized to the extent where no specific Nye County criteria exists.

#### Response to Comment No. 16-13

The EIS is consistent with NEPA requirements. The EIS fully evaluates relevant data and provides a reasoned analysis of the proposed Project's potential effects on those data. The level of information and analysis reasonably represents baseline conditions in the region of influence.

#### Response to Comment No. 16-14

An adopted document containing detailed hydrologic and hydraulic design methodologies does not exist for Nye County (outside of the Pahrump Planning District). Per discussion with Nye County Department of Planning staff and the Nye County Floodplain Manager/Administrator, methodologies contained in the CCRFCD Hydrologic and Drainage Design Manual can and should be utilized to the extent where no specific Nye County criteria exists.

#### Response to Comment No. 16-15

See Response to Comment No. 16-14.

#### Response to Comment No. 16-16

Solar Millennium does not conduct NEPA site specific or cumulative impact determinations; that task falls on BLM, as the federal action agency under NEPA. As the lead federal agency, the BLM and its EIS Contractor used the best available information for analysis in this EIS. BLM specifically considered the referenced guidelines and local land use guidelines in evaluating the proposed Project's effects.

#### Response to Comment No. 16-17

An expanded discussion regarding cumulative flood impact of the other proposed solar projects north of the Solar Millennium project has been added to Section 4.17.7.4 in the Final EIS. However, it is important to note that each of the cumulative proposed projects will undergo its own review process, and will be required to comply with applicable regulatory requirements and to mitigate impacts that are identified in the review process.

#### Response to Comment No. 16-18

The Conceptual Stormwater Control Plan was developed in accordance with Nevada Drainage Law which overlaps policies of the FPP.

- a. The proposed stormwater plan will not increase flooding of surrounding properties in that it proposes the stabilized release of intercepted storm flows to historic locations in both quantity and manner.
- b. Solar Millennium has maintained discussions and presented the conceptual plan to the Nye County Floodplain Administrator. A submittal of a Technical Stormwater Control Plan will be submitted to the Nye County Planning Department for formal review and approval as the project moves forward with final design. Formal review by Nye County is not required at this level of the planning process.
- c. The subject property is not located in FEMA designated floodzone. The proposed stormwater plan will not increase flooding of surrounding properties in that it proposes the stabilized release of intercepted storm flows to historic locations in both quantity and manner.

#### Response to Comment No. 16-19

Comment noted. Until a Record of Decision is issued for the updated Las Vegas RMP/EIS, the 1998 Las Vegas RMP/EIS is the regulatory document that guides land management activities in the Southern Nevada District.

#### Response to Comment No. 16-20

This issue is outside the scope of this EIS.

#### Response to Comment No. 16-21

The Draft EIS was issued on March 19, 2010. Interagency meetings among the Proponent, BLM, and Cooperating agencies are integral in developing appropriate mitigation measures to address each agency's resource concerns (e.g. National Park Service, U.S. Fish and Wildlife, etc.). Consistent with NEPA, BLM held public scoping meetings on the proposed Project and published the DEIS on its website and a Notice of Availability for the DEIS in the Federal Register. Information about public consultation and coordination is provided in Chapter 5 in the Final EIS. The BLM welcomes comments or inquiries from the public as it completes its review of the proposed Project.

#### Response to Comment No. 16-22

Additional language has been added to the Final EIS to clarify that the MOU is for Pahrump Valley only and not for all of Nye County.

#### Response to Comment No. 16-23

As stated in the Draft EIS "For regulatory purposes, the EPA considers unclassifiable areas to be in attainment. The Project area is located in an unclassifiable area." Pg 3-2 describes the ROI for air quality. It is outside the analysis of this EIS to determine if the EPA has correctly determined the status of the project area. The term "unclassified" does not have the meaning that the air quality of the area is unknown. The request for additional data gathering and analysis should be directed to the EPA.

#### Response to Comment No. 16-24

Prime and Unique farmlands is a designation set forth by the USDA. There are no prime and unique farmlands in the area.

#### Response to Comment No. 16-25

The BLM does not require surveyors to survey only in optimal years and does not hold the project proponent accountable for the change in weather in one year versus the next. As stated in Appendix A.6 mitigation measures WL-6, surveys will be conducted for Desert Tortoise in accordance with all State and Federal regulations. In addition, as stated in Appendix A.6, biological monitors will

be on site to ensure that no tortoises are harmed during the construction process, and clearance surveys will be conducted prior to any ground disturbance by construction.

Response to Comment No. 16-26

Criterion 'd' is defined in 36 CFR Part 60.4 as a property "that ha[s] yielded or may be likely to yield, information important in prehistory or history."

Response to Comment No. 16-27

As the BLM and Nevada SHPO agree on how the adverse effects will be resolved, a memorandum of agreement has been executed with concurrence of three local Tribes. Since there are no controversial issues present in the Historic Property Treatment Plan, a copy of it and the signed MOA will be sent to the ACHP. ACHP was notified of the project and the MOA.

Response to Comment No. 16-28

A MOA has been executed with the Nevada State Historic Preservation Office addressing the treatment of the historic property that will be adversely affected.

Response to Comment No. 16-29

Chapter 5 of the Draft EIS outlined the public involvement process that was followed for NEPA, and 36 CFR Part 800 Subpart A allows the use of these procedures for sections 106 compliance. BLM received no requests by any party to participate in the development of the MOA.

Response to Comment No. 16-30

A MOA has been executed with the Nevada State Historic Preservation Office addressing the treatment of the historic property that will be adversely affected prior to the signing of the ROD.

Response to Comment No. 16-31

The MOA will be included with the BLM's Final Record of Decision for the proposed Project if it is approved.

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Mr Greg Helseth,  
Renewable Energy Project Manager,  
Bureau of Land Management,  
4701 N. Torrey Pines Dr.,  
Las Vegas, NV 89130  
702-515-5173

Dear Mr Helseth,

**Comments on Draft Environmental Impact Statement  
For Amargosa Farm Rd Solar Energy Project  
(To be built by Solar Millenium)**

As you know there are two alternative designs for the condensation of the exhaust steam from the turbines: dry and wet designs.

1. The wet design uses about 10 TIMES the water of the dry design. The wet design would use an additional 4200 acre feet a year(afy) of water, Executive Summary(ES) page 16 . Dry and wet designs would both need about 400 afy for mirror cleaning.  
(For readers unfamiliar with this project or my comments presented at public meetings. The dry design condenses steam from the turbines in tubes cooled externally by air. The wet design condenses steam in tubes cooled by cold water from a cooling tower).

Comment No.  
17-01

Now, reading the Executive Summary(ES) of the Bureau of Land Management's(BLM) Environmental Impact Statement(EIS), at ES 1.4.5, page ES-14, it states that "The BLM is awaiting public input before identifying a preferred alternative"(emphasis added).

However, it seems that proposal by Solar Millenium(SM) is for the dry cooling design. The EIS states so, first paragraph of the ES. It is also stated at ES 1.4.4.2 , "The Proponent(SM) has requested a right of way to construct and operate a dry-cooled, solar thermal parabolic trough project". This is further stated at the beginning of Chapter 2, in the introduction, and also at other places.

The dry design being Solar Millenium's proposal, I conclude that SM has recognized that the Amargosa basin is overdrawn, so far as its water supply is concerned, and has considered the problem of disposal of cooling tower effluent, see below.

A response to this comment is provided on a separate page following this comment document.

Comment No. 17-01 (continued) | But the BLM is awaiting 'public input' before identifying a preferred alternative'. Why?

Comment No. 17-02 | 2. Let me summarize the water and effluent problems of the wet design of solar plant. The EIS seems to have omitted some facts and included factual inaccuracies.

2.1 The Amargosa Valley's water reservoir is being drawn down. More water is leaving the valley than the water recharge rate.

The State of Nevada's Div. of Water Resources(NDWR) reported in 2008, (the last ground water inventory posted on [www.water.nv.gov](http://www.water.nv.gov)), that about 18,000 af were pumped. In the BLM EIS report, table 3-7, at page 3-39, it is reported that over 25,000 af of water were pumped in 2009, there being an increase of about 8000 af over 2008 for irrigation. I suppose those extra 7000 head of cattle have to be fed and watered. But, continuing, there are close to 17,000 afy leaving from the springs in the Ash Meadows Wildlife Preserve (from data provided by the manager of the Wildlife Preserve in August 2009, which I think are very carefully recorded. I note this is very close to the value measured by Walker and Eakin in their survey of water resources of the Amargosa Valley, commissioned by the USGS in 1963). That is a total of 35,000 afy leaving the valley. Or over 42,000 afy if you take the data presented in the EIS.

The water recharge rate is accepted as 24,000 afy (from the Walker and Eakin report).

**So, currently, the water reservoir in Amargosa Valley is being drawn down by about 18,000 afy, if you take the EIS data(or 11,000 afy if you take the NDWR pumping data for 2008).**

**This fact is also manifestly demonstrated by the fall in the water level in those wells monitored by the USGS(at [nevada.usgs.gov/water/](http://nevada.usgs.gov/water/)). The Amargosa observation well is dropping by 4.4 ft/yr.**

Incidentally, in the EIS, page 3-39 last paragraph, it is stated that 'groundwater withdrawal' for 1998 was 21,000 afy. The 1998 report by the NDWR, on the Amargosa ground water inventory, states that it was close to 15,000 afy. The EIS value appears to be in error. I also note that there appears to be no water pumping data between 2003 and 2009 in the EIS.

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 17-02 (continued) | These data would be understood most easily in the form of a table. Perhaps you should also note the American Borate no longer takes any significant amount of non-irrigation water, since it is out of business.
- Comment No. 17-03 | 2.2 Now, let's take a look at the wells identified as the source for 400 afy for the dry plant design. Wrt table 4-14, page 4-18 of the EIS, assuming the 'App No.' heading for column one is the well permit No. and looking at the actual field inventory reports you will find there are no meters for wells 15702, 15893, and well 43873's is broken. I assume the water usage has been estimated by the 'calibrated eyeball' looking at the area under cultivation. That being the case I don't think you can report groundwater withdrawal to 4 significant figures(1,328 afy). However, more importantly, I take these sections, 4.4 and 4.4.1 to again mean that you support the dry cooling option, since I find no discussion about providing for 4200 afy of water, except that it is assumed existing users could be persuaded to sell their current usage, ES-16.
- Comment No. 17-04 | One other comment, and this may be a bit picky, the accuracy of the results in the environmental effects tables, chapter 4, tables 4-1 to 4-13, seems to be too high. Take for example table 4-10, fugitive PM10s are given to 5 significant figures. A long time ago I learned that a calculated result is no more accurate than the least accurate piece of data that went into the calculation.
- Comment No. 17-05 | 2.3 Anyway, moving on the subject of cooling tower 'emissions'. In any process where steam is condensed with cooling tower water there will be, to a good approximation, an amount of water evaporated in the cooling tower equal to the amount of steam condensed. I assume that this plant would not convert more than 1/3 of the energy collected by the mirrors to electricity, meaning 2/3 would be rejected in the turbine exhaust and end up as cooling tower vapor. The water for this evaporation would have to come from the Amargosa underground reservoir.
- The planned plant is 464MW. Therefore about twice this or about 930 MW would have to be rejected in the cooling towers. I calculate this to be equivalent to over an acre foot of water evaporation an hour. The plant will not be running at night, so the estimate of 4200 afy may be reasonable.  
4200 afy would need to be evaporated.  
All the dissolved solids from the evaporated cooling water would be discarded to the environment. Some would leave in the 'drift' water out of

Responses to these comments are provided on a separate page following this comment document.

Comment No. 17-05 (continued) | the top of the cooling tower. Most, however, would be discharged in the cooling tower blowdown. See Chemical Engineering Tools and Information(CET&I), website [www.cheresources.com](http://www.cheresources.com). You can find data on typical operating conditions for a cooling tower there.

Comment No. 17-06 | In chapter 4 of the EIS, 'Environmental Effects', pages 4-12 and 4-13 it states that 100% of the total dissolved solids(TDS) would be PM10/PM2.5 emissions(?). Although it does mention that the blowdown would contain a maximum of 1,600 mg/L dissolved solids, there is no mention of flowrate.

We can calculate the total amount of solids which would be discarded from a wet design solar plant in a year. Looking at the Walker and Eakin report, table 9, the average TDS in Amargosa well water is about 400 ppm (ppm will be close to mg/L for dilute solutions in water).( I also note that the bicarbonate(HCO<sub>3</sub>) concentrations average over 200 ppm. This would mean the cycles of concentration have to be a lot less than the 15 assumed on page 4-12, see below.)

4200 afy would be evaporated in the cooling towers, see above. This is about 1.4 billion gallons. At 8.3lb/gal this is 12 billion lb. **At 400 ppm there will be about 2,400 tons of solids to be disposed of each year! There is no mention of this in the EIS**

What about the volume of blowdown to be disposed of? A typical value for volume is about a quarter of the cooling tower evaporation, see CET&I. If that were so, and somebody correct me if I am wrong, we would have to evaporate about a 1000 afy in evaporation ponds. If you assume about 8 feet of evaporation a year in the Amargosa area you would need at least 125 acres of evaporation ponds.

None of this seems to have been considered for a wet design.

Comment No. 17-07 | Going back to the bicarbonate levels in the well water. CET&I suggest that sodium bicarbonate levels be kept below 200ppm in cooling tower water and blowdown. If that were a requirement then all the net tower feed, not including the recirculation flow, would be blowdown, a concentration cycle of one! Oh, the 15 cycles of concentration stated on page 4-12 would result in tower water of 6000 ppm TDS!

Responses to these comments are provided on a separate page following this comment document.

## CONCLUSION

Comment No.  
17-08

I think EPG and the BLM need to drop the idea of a wet solar plant design for two reasons, summarized below and explained in more detail above:

A. The Amargosa basin is overdrawn by at least 11,000 afy. It seems that we should reduce consumption by that amount before we consider new consumption points. Particularly since we do not know who would sell 4200 afy for this project, or how much they would cost.

B. The EIS has not considered the quantity of cooling tower blowdown to be discarded from the wet design solar plant, with its associated dissolved solids. Thumbnail calculations indicate it would be large, see above.

A response to this comment is provided on a separate page following this comment document.

F. George Tucker 4/29/10  
PO Box 26,  
Amargosa Valley, NV 89020  
702-254-8466

File is: SolarplantcommentsApril2010

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## RESPONSES TO COMMENT NO. 17-01 THROUGH 17-08

### Response to Comment No. 17-01

The BLM's Preferred Alternative is the Proposed Action (dry-cooled alternative).

### Response to Comment No. 17-02

The conflicting water use estimates are derived from two different sources (USGS [Moreo et al.] and NDWR). Section 3.4.4.4 has been updated to include a more detailed description of water use in the Amargosa Desert Hydrographic Basin, including pumping inventory from 1983 through 2009.

BLM's preferred alternative is the dry-cooled alternative.

### Response to Comment No. 17-03

The BLM preferred alternative is the Proposed Action (dry-cooled alternative). Table 4-14 displays the full duty of each Project well that is associated with its respective water right. The duty amounts shown in the table are correct.

### Response to Comment No. 17-04

The most recent version of AERMOD (Version 09292) was used. AERMOD is the model preferred by U.S. EPA and NDEP for the type of site, emission source, and regional terrain features of the Amargosa Farm Road facility and the Amargosa Valley region.

Also note that in the FEIS site specific air modeling was conducted and the figures have changed.

### Response to Comment No. 17-05

Comment is unclear. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 17-06

As stated in the DEIS, the evaporation ponds for a wet-cooled design would utilize 46 acres of land. Some of the blowdown water would be used for dust suppression, and some would go into one of the two evaporation ponds.

Response to Comment No. 17-07

Cooling tower blowdown would contain a maximum of 1,600 mg/L TDS assuming 15 cycles of concentration for a wet-cooled project.

Response to Comment No. 17-08

The BLM's Preferred Alternative is the dry-cooled alternative. Regarding comment B - the amount of cooling tower blowdown to be discarded from a wet-cooled solar project is described in Section 2.4 in the FEIS.

Comment No.  
18-01

APR 30 2010

LAS VEGAS  
FIELD OFFICE  
Las Vegas, Nevada

**My comments regarding the proposed Solar Millennium Project here in Amargosa Valley, Nevada. There are basically two which I consider to be important enough to either cancel or modify the project as presented.**

**The first is the site location itself. It is right in the middle of Forty Mile Wash. This feature is clearly marked on USGS maps. It is significant enough that the Yucca Mountain Project investigated it, and considered it in their project even though they are west of the wash. The water comes from their site.**

**There was a very significant flood in 1995. I was here and I remember. Hwy. 95 was closed and traffic was routed through Amargosa Valley along Amargosa Farm Road. The NHP escorted groups of vehicles, and they went very slowly as Farm Road had water flowing across it in multiple locations. Apparently an even larger event occurred in 1969. I found a scientific account of more flooding in 1998 this by USGS online at:**

<http://pubs.usgs.gov/fs/fs-036-01/text/fs03601.htm>

**I will also enclose a copy of a report done by USGS, apparently for DOE, that concerns the 1995 event and makes mention of the 1969 event. It can be found here:**

<http://www.osti.gov/bridge/purl.cover.jsp;jsessionid=AE076C11582579B44F242221C1F0C21E?purl=/177392-AiHbsb/webviewable/>

**So it would seem there have been at least two major events in the last 41 years, and there are possibly several more that would have impacted the site in question. The notion that any of these is a "100 year event" seems rather farfetched as there have been at least two and possibly four or more in just 41 years. A true 100-year event probably has not occurred in recorded history, which is very brief here. There has been essentially nobody living here until the last 50 years. What might have transpired before then is unknown. No one knows what a 100-year event would look like, but it is coming. And the flood plain caused by Forty Mile Wash has not been studied in any detail so almost anything would be guesswork.**

Response to Comment No. 18-01

The Project site is considered suitable for development of a solar power facility due to its solar radiation potential and flat terrain, despite the challenges posed by stormwater runoff potential. Impacts to and mitigation concerning Fortymile Wash are discussed at length in Chapter 3 and 4. The flood that occurred in 1969 generated 3,330 cfs of stormwater runoff measured at the gage station just upstream of US 95. The floods that occurred in 1995 and 1998 generated 1,200 cfs and 340 cfs measured at the same gage station. The Solar Millennium project site has been designed with perimeter flood control facilities to accommodate the 100-year storm event flow determined to be approximately 9,600 cfs.

Comment No.  
18-02

**The "Conceptual Storm Water Control Plan" in the EIS is just that. It addresses the expected rainfall on the site itself. It doesn't really consider a major flood in Forty Mile Wash, and certainly not a 100-year event. It has two plans to handle the situation. The first is the "let George do it" plan. It suggests that entities unknown, most likely the proposed solar site to the north, somehow prevent the flood waters from getting to the Solar Millennium site. I seriously doubt BLM or DOE is going to build another Hoover Dam on the north side of Hwy. 95 to intercept flash flood waters.**

**The second plan is to build diversion channels around the perimeter of the site to stop any flood waters. This is "... considered necessary to protect the site from offsite storm flows." That is the only reason given. Nothing about protecting anything that might be down stream from the site. There is mention of Nevada Drainage Law, which is supposed to absolve them of any responsibility. There is also mention of returning the flow to its normal channel on the other side of the site. The problem here is that we are not talking about a river, but a flood plain. Water is not normally found there, but when it is it is the result of a flash flood and the water follows no defined path, but, rather, flows in multiple washes, and no floods will be exactly the same. If you walk along T&T Road north from Amargosa Farm Road for a couple of miles you will cross several such washes. Some are small, and a few are quite large. There is another large wash about a mile to the west, and a few to the east. Where is all this flood water to go?**

Comment No.  
18-03

**To use the Nevada Drainage Law oft quoted in the plan, the current interpretation is that a landowner is responsible for damage to down stream property if the landowner has done anything to change the natural drainage on the property.**

**Negligence has been defined by Black's Law Dictionary as "the omission to do that which a reasonable man, guided by those ordinary considerations which ordinarily regulate human affairs, would do, or the doing of something which a reasonable and prudent man would not do."**

Response to Comment No. 18-02

The Conceptual Stormwater Control Plan provides analysis for the project site as well as the entire contributing basin of the Fortymile Wash (approximately 330 square miles) impacting the project site. Perimeter flood control facilities proposed for the project have been conceptually designed to intercept, convey and discharge the computed 100-year storm event flow rate of approximately 9,600 cfs generated by the Fortymile Wash watershed. The proposed stormwater plan will not increase flooding of surrounding properties in that it proposes the stabilized release of intercepted storm flows to historic locations in both quantity and manner.

Response to Comment No. 18-03

The proposed stormwater plan will not increase flooding of surrounding properties in that it proposes the stabilized release of intercepted storm flows to historic locations in both quantity and manner.

Comment No. 18-03  
(continued)

**Placing the negligence definition into an engineering context, the reasonable and prudent man standard becomes a reasonable professional and prudent professional standard. Thus, a professional engineer who fails to act within the standard of care of his engineering profession may be held liable for negligence. The applicable standard of care is established in court by expert testimony.**

**Therefore, if they divert the flood waters coming from Forty Mile Wash, they are responsible for any resulting damage to property down stream.**

Comment No. 18-04

**They may be required to post a bond to cover restoration costs at the completion of the project. It's unlikely that the land will be restored to anything like its original condition with respect to flood waters. Is there a bond to cover flood damage, either while the site is in operation, or after it is dismantled and is not done adequately?**

Response to Comment No. 18-04

A facility closure and decommissioning plan will be developed which describes closure requirements and the anticipated bond level necessary to satisfy BLM requirements.

Comment No. 18-05

**The second comment is about moving Amargosa Farm Road. The people in Amargosa are widely scattered. There are only a few paved roads that are more than a few miles long. Mostly the roads are gravel or dirt. The only road that can be considered to be the main road in town is Amargosa Farm Road.**

Response to Comment No. 18-05

The proposed project is located on federal lands managed by the BLM, which are subject to land management regulations set forth under the Federal Land Policy and Management Act (FLPMA). The Amargosa Valley Area Plan is a local land planning guide for development in the Amargosa Valley planning area. While the BLM considers the recommendations of the Amargosa Valley area, the BLM must comply with its requirements under FLPMA.

**I was Chairman of the Planning Board when the first Master Plan was assembled in 2000, and took part in the new version that was produced in 2009. It can be seen here:**

**<http://www.avnv.net/AreaPlan/>**

**It can be seen that the area south of Amargosa Farm Road where the road is to be moved is for low density housing. The area, as proposed for this project, will now look like some sort of prison with the high chain link and barbed wire fences and security lighting and trucks driving around at night to spray the collectors. Not to mention that the only major road in town would have a detour at that point.**

Comment No.  
18-06

**I have no objection to the actual facility as planned, only to its location. Forty Mile Wash is not a buildable site, to borrow real estate parlance. There is no practical way to divert a major flood coming down the wash. I seriously doubt any insurance company would issue flood insurance for such a project without charging prohibitive premiums. Several small washes cut across my property, one of which had water flowing in it during the 1995 flood. I have no intention of building anything in those areas and intend to leave them untouched as the day may come when they are once again small rivers for a day. As an engineer I would strongly suggest a similar policy for anyone contemplating building elsewhere in Forty Mile Wash.**

**Andrew Gudas - former Chairman, Amargosa Planning Board  
P.O. Box 243  
Amargosa Valley NV 89020**

Response to Comment No. 18-06

The Conceptual Stormwater Control Plan included in this EIS was developed in accordance with Nevada Drainage Law which overlaps policies of the FPP.

The Conceptual Stormwater Plan will not increase flooding of surrounding properties because it will provide for the stabilized release of intercepted storm flows to historic locations in both quantity and manner. Solar Millennium has coordinated with, and presented the conceptual plan to, the Nye County Floodplain Administrator. A final Technical Stormwater Control Plan will be submitted to the Nye County Planning Department for formal review and approval once the Project's final design is approved. (The remaining details required for final design are engineering details not necessary for a full review of the Project's impacts under NEPA.) Formal review by Nye County is not required at this level of the planning process. The subject property is not located in FEMA designated floodzone.

DOE/NV/10874--T3

## Overview of Runoff of March 11, 1995, in Fortymile Wash and Amargosa River, Southern Nevada

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U.S. Department of the Interior U.S. Geological Survey

Yucca Mountain, approximately 120 miles northwest of Las Vegas, Nev., is being studied by the U.S. Department of Energy as a potential repository for long-term storage of the Nation's high-level nuclear waste. This site-characterization study includes elements pertaining to surface-water runoff, including the potential for flooding. The U.S. Geological Survey (USGS), in cooperation with the U.S. Department of Energy, is monitoring streamflow in southern Nevada through a network of streamflow gaging stations and miscellaneous streamflow measurements in support of the site-characterization effort.

Yucca Mountain and much of the western part of the Nevada Test Site (NTS) are part of the Amargosa River drainage. The Amargosa River is a major drainage component (over 5,000 mi<sup>2</sup>) of the unique closed-basin, hydrologic regime known as the Great Basin. Fortymile Wash and Beauty Wash (fig. 2) are the major tributaries to the upper Amargosa River, which drains through several small, populated areas downstream. This river system terminates in Death Valley, a National monument with an expanding tourist population.

The rugged and sparsely vegetated Amargosa River drainage is within the rainshadow of the Sierra Nevada. As a result of dry, semi-arid, continental climate, flow of the Amargosa River is ephemeral except in a few relatively short reaches where discharging springs maintain small, perennial base flows. Prior to Yucca Mountain site-characterization studies, few data were available on the streamflow of the Amargosa River and its major tributaries. Flow characteristics of the basin are generally poorly understood.

Near U.S. Highway 95, the Fortymile Wash channel changes from being moderately confined to several distributary channels that are poorly confined. This poorly-defined, distributary-

drainage pattern persists downstream to its confluence with the Amargosa River. Streamflow losses to infiltration and evaporation within this reach are high (Savard and Beck, 1995). The Amargosa River is likewise moderately confined upstream from the Big Dune (fig. 2). Downstream from the Big Dune, the river splits into several channels that are poorly defined through the Amargosa Valley farm area. These areally abrupt changes in flow-pattern and channel-geometry characteristics of Fortymile Wash and the Amargosa River, wherein moderately- to well-defined channels evolve downstream into poorly defined channels, cause uncertainty regarding flow continuity within and between the two drainages. Major questions throughout the Yucca Mountain site-characterization studies are whether, under the present climatic regime, Fortymile Wash is capable of flowing to the Amargosa River, and whether Amargosa River is similarly capable of flowing from its source to Death Valley.

The runoff of March 11, 1995, provided answers to these questions about flow continuity. Precipitation associated with a weather disturbance moving eastward from California caused the most extensive regional runoff in Fortymile Wash and Amargosa River (fig. 2) since February 1969. Preliminary data reported for selected USGS and NTS rain gages within the study area showed that cumulative precipitation ranged from about 2 to 6 inches during March 9-11, with the larger amounts falling at the higher-altitude sites. Eyewitness accounts of snowpack conditions on Timber Mountain and Pahute Mesa just before and after the storm indicate that, in addition to rainfall, high-altitude snowmelt probably contributed to the volume of runoff in Fortymile Wash and Beauty Wash.

The runoff of March 11 is important because it represents the first documented case during site-characterization studies in which Fortymile Wash and Amargosa River flowed

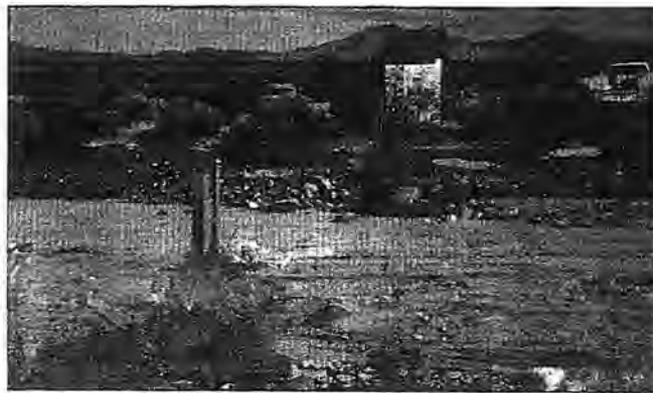
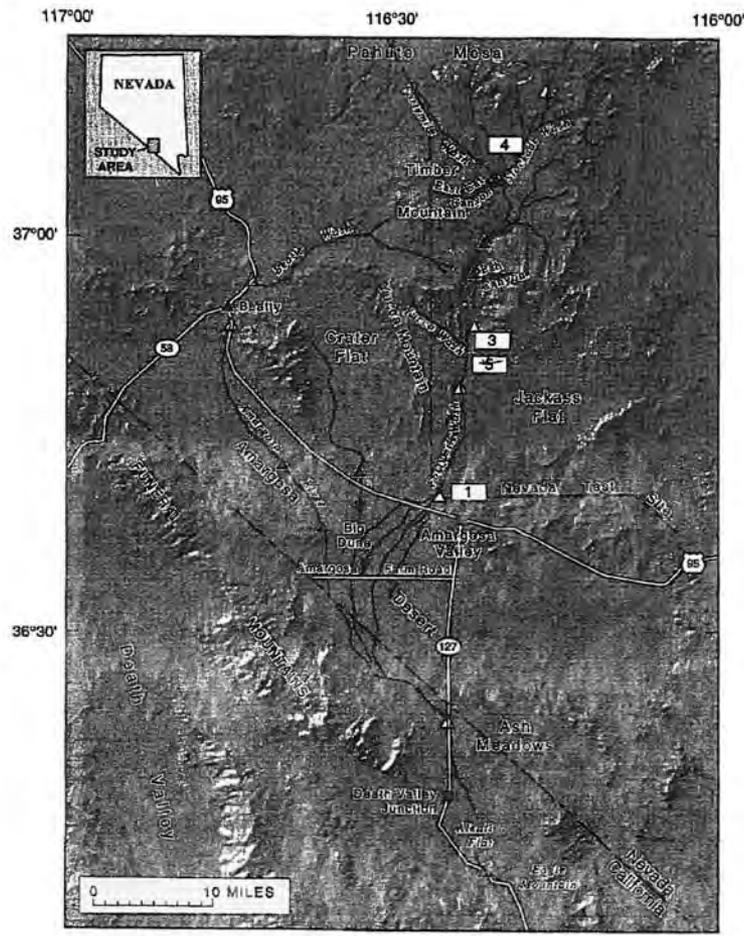


Figure 1. Evidence of debris-laden runoff of March 11, 1995, at Fortymile Wash near Amargosa Valley streamflow gaging station above U.S. Highway 95.

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MASTER



**EXPLANATION**

- △ Streamflow recording site
- △ Miscellaneous streamflow measurement site
- Stream channel with flow on MARCH 11, 1995
- 1 Approximate location of photograph—Number corresponds to

Figure 2. Geographic setting and surface flow paths during the March 11, 1995, runoff in Fortymile Wash and Amargosa River.



Figure 3. Bank erosion and sediment deposition in Fortymile Wash at Narrows as a result of runoff of March 11, 1995.

simultaneously throughout their entire Nevada reaches. These two fluvial systems were last reported to have flowed extensively within Nevada in February 1969 before site characterization started. The 1969 flood is overall the largest known in the Amargosa River system during the last 25 years. Flow in Fortymile Wash was first documented during site-characterization studies in March 1983, shortly before the initial streamflow gaging stations were installed. The Wash had flow again three times during July and August 1984 as the result of severe but localized convective storms. The extent of flows beyond the boundaries of NTS were not investigated for these early 1980's runoff.

A field reconnaissance after the storm of March 1995 indicated moderate runoff throughout Fortymile Wash (figs. 1 and 2), several of its main tributaries (East Cat Canyon Wash, Stockade Wash, Pah Canyon Wash, and Yucca Wash), and several minor tributaries that drain the eastern flank of Yucca Mountain (fig. 2). The Amargosa River also flowed, from above Beatty past the California-Nevada state line, with a large percentage of the flow contributed by Beatty Wash (fig. 2).

The duration of flow in Fortymile Wash was approximately 10 to 12 hours. U.S. Highway 95 was closed from about 8:00 a.m. to about 5:30 p.m. on March 11 because of the streamflow (Trooper William Graham, Nevada Highway Patrol, oral communication, 1995). All evidence indicated heavy debris transport. Bank erosion and sediment deposition were observed along most of Fortymile Wash (fig. 3) within the NTS with sediment deposits as thick as 5 feet in some areas. Other effects of the Fortymile Wash runoff include damage to the Stockade Wash culverts at Airport Road on Pahute Mesa (fig. 4), sediment deposition on H Road where it crosses Fortymile Wash east of Yucca Mountain (fig. 5) and on Amargosa Farm Road in Amargosa Valley. A near tragedy occurred at the H-Road crossing when an NTS worker was swept away by an initial flow surge while attempting to cross Fortymile Wash during the early morning of March 11. His account of the event described the surge as a "5- to 6-foot wall of water and clattering rocks" followed by a rapidly rising water level that moved at high velocities (Augustine Passalacqua, TRW Environmental Safety Systems, Inc., oral communication, 1995).

Amargosa River runoff duration was also approximately 10 to 12 hours. Minor bank erosion and sediment deposition were observed along the Amargosa River from Beatty to Amargosa Valley. Amargosa Farm Road acquired additional sediment deposits as a result of the Amargosa River flow.

Peak flow in Fortymile Wash was significantly attenuated when the flow split into several distributary channels near U.S. Highway 95. Peak flow was attenuated further when a part of the distributed flow was diverted to the west for about 6 miles along the north shoulder of U.S. Highway 95 before turning southward again. The Amargosa River peak flow attenuated between Beatty and Big Dune. Downstream from Big Dune, the flow turned southward and split into several shallow distributary channels through the Amargosa Valley farm area.

Peak flows for Fortymile Wash and Amargosa River were again attenuated at the confluence of the two streams near the southeast end of the Funeral Mountains. Flow within this broad, flat confluence area was slow and shallow (only inches deep) owing to the absence of well-defined channels and the low land-surface gradient. The merged flow of Fortymile Wash and Amargosa River converged into a shallowly incised, well-vegetated channel just upstream of California Highway 127 and flowed into the broad Alkali Flat near Death Valley Junction. The combined Fortymile Wash and Amargosa River runoff flowed through Alkali Flat where it combined with other runoff to the Amargosa River caused by localized precipitation near Eagle Mountain.

The information provided by the USGS surface-water monitoring program documented flow from the headwater areas of Fortymile and Beatty Washes, and the combined flow downstream past Death Valley Junction that resulted from moderate runoff. This documentation confirms that Fortymile Wash and Amargosa River have the potential, in the present climatic regime, to transport dissolved and particulate material beyond the confines of NTS and the Yucca Mountain areas during moderate and more severe streamflow.

—David A. Beck and Patrick A. Glancy

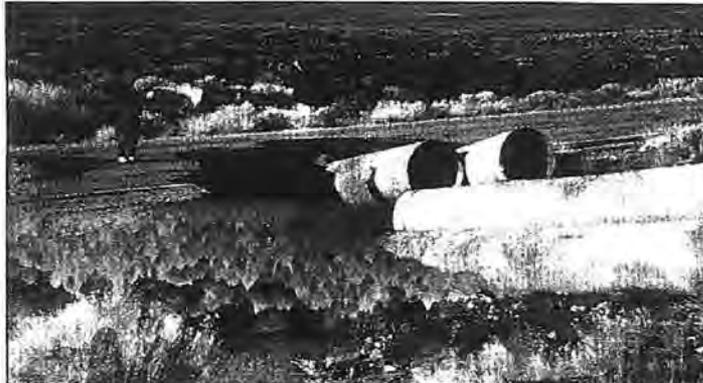


Figure 4. Culvert damage from runoff of March 11, 1995, along Stockade Wash at Airport Road, Nevada Test Site.



Figure 5. Road Crossing Fortymile Wash, Nevada Test Site. Debris from runoff of March 11, 1995, was bulldozed to both shoulders of the road. Site is where NTS worker was swept downstream.

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- Savard, C.S., and Beck, D.A., 1994, Transmission losses in Fortymile Wash near Yucca Mountain, Nevada [abs.]: Eos, American Geophysical Union Transaction, v. 75, no. 44, p. 283

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**For more information about the Yucca Mountain surface-water studies, contact:**

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## Fact Sheet 036-01

# Flooding in the Amargosa River Drainage Basin, February 23-24, 1998, Southern Nevada and Eastern California, including the Nevada Test Site

## Introduction

The Amargosa River drainage basin is about 100 miles northwest of Las Vegas, Nev., and includes part of the Nevada Test Site (NTS). During February 23-24, 1998, a regional storm produced 1.10-2.81 inches of measured precipitation, which resulted in minor flooding throughout the Amargosa River drainage basin. Streamflow from this storm was largely derived from four tributaries: Topopah, Fortymile, and Beatty Washes, which originate on NTS, and Carson Slough, which drains the Ash Meadows area downstream from NTS (Fig. 1). Streamflow from these tributaries caused the Amargosa River to flow continuously from its headwaters on Pahute Mesa to its terminus in Death Valley (Fig. 1).

U.S. Geological Survey (USGS) personnel estimated peak streamflows at more than 30 locations and compiled precipitation measurements within the Amargosa River drainage basin to characterize the February 23-24, 1998, flooding (Tables 1 and 2). The data collected are compared with similar data from the March 10-11, 1995, flooding of the Amargosa River. Cumulative streamflow volumes for the 1995 and 1998 storm runoffs cannot be compared because most of the streamflow gaging stations operated in 1995 were discontinued prior to the 1998 flood.

The USGS, in cooperation with the U.S. Department of Energy, monitors streamflow in southern Nevada and eastern California through a network of streamflow gaging stations and streamflow measurements at miscellaneous sites. Data provided by this network are being used to help with the characterization of Yucca Mountain, near NTS, as a potential repository for long-term storage of the Nation's high-level nuclear waste. Major questions arising from the Yucca Mountain site-characterization studies are whether, under the present climatic regime, Fortymile Wash is capable of flowing to the Amargosa River, and whether Amargosa River is similarly capable of flowing from its source to Death Valley.

The Amargosa River Basin includes 5,500 mi<sup>2</sup> (Grasso, 1996, table 1) of rugged arid terrain in southwestern Nevada and southeastern California (Fig. 1). Basin relief is approximately 8,000 feet, ranging from about 7,700 feet above sea level at Pahute Mesa, Nev., to about 300 feet below sea level at Badwater Basin in Death Valley, Calif. The river basin is sparsely populated and includes small rural communities, mining operations, agricultural areas, Ash Meadows National Wildlife Refuge, Death Valley National Park, and government research facilities at NTS.

The Amargosa River is atypical of most North American rivers because it seldom flows; runoff is infrequent because much of the basin receives less than 6 in/yr of precipitation (Hardman, 1965). The river is normally dry except for several short reaches that flow seasonally and are fed by springs. The major tributaries to the northern reach of the Amargosa River are Thirsty Canyon wash and Beatty Wash, which drain the northwestern part of NTS (Fig. 1). Major tributaries to the central reach of the Amargosa River are Fortymile Wash, Topopah Wash, and

Carson Slough (Fig. 1). Fortymile Wash drains the southern part of Pahute Mesa, the western part of Jackass Flats, and the eastern slopes of Yucca Mountain. Topopah Wash drains the eastern part of Jackass Flats. Carson Slough, near Death Valley Junction, is a network of shallow incised channels that drain the Ash Meadows area.

Downstream from Alkali Flat, in the southern reach, the Amargosa River channel generally is well defined from Eagle Mountain to Dumont Sand Dunes, Calif. Upstream from Dumont Sand Dunes, small thermal springs near Shoshone and Tecopa, Calif., contribute flow to the Amargosa River. Springs also add to river flow in the canyon reach between Tecopa and Dumont Sand Dunes. Downstream from Dumont Sand Dunes, the Amargosa River flows through southern Death Valley to its terminus at the Badwater Basin salt pan.

### February 1998 Storm and Streamflow

Precipitation monitoring sites operated by the National Weather Service (NWS), U.S. Fish and Wildlife Service, and National Oceanic Atmospheric Administration (NOAA) recorded 29 to 54 percent of total February precipitation from a regional storm system within 48 hours beginning the morning of February 23, 1998 (Table 1). USGS personnel at NTS reported streamflow in small washes, such as Split and Pagany (which partly drain the eastern slope of Yucca Mountain), during the morning of February 23 (Fig. 1). By mid-afternoon, Yucca, Topopah, and Fortymile Washes also were reported flowing. Fortymile Wash was flowing over roads on NTS near Yucca Mountain (Daniel Soeder, U.S. Geological Survey, written commun., 1998). Peak streamflow estimates for Fortymile and Topopah Washes (Table 2) and downstream field observations indicate those streams flowed from NTS and joined the Amargosa River. On the basis of field observations and data collected from continuous surface-water monitoring sites, streamflow durations generally ranged from 12 to 36 hours and varied according to tributary subbasin sizes. Channel erosion by streamflow was considered minimal in the large tributaries of Fortymile, Topopah, and Beatty Washes, but was more severe in some smaller tributaries such as Pagany, Yucca, Split, and Dune Washes. Roads within these small drainages were nearly impassable because of erosion.



Carson Slough, State Line Road near Death Valley Junction, California, looking north, February 25, 1998.

**Figure 1.** Geographic setting and flow paths of the Amargosa River drainage basin during the February 23-24, 1998, flood.



Click thumbnail for high-resolution (1,000 x 1,600 pixel) image.

Field observations off NTS indicated that Amargosa River flow lasted for several days near Eagle Mountain and southward near Dumont Sand Dunes (Fig. 1). Although not quantifiable because of multiple, poorly confined channels, field observations indicated that runoff from the Ash Meadows area contributed substantial streamflow (through Carson Slough) to the central reach of the Amargosa River. Prolonged runoff from Ash Meadows probably was amplified because precipitation prior to late February recharged the soil mantle.

Thereby, infiltration losses from the late-February storm were reduced. Flows over roads were observed where U.S. Highway 95 crosses Fortymile Wash, in the Amargosa Farms, State Line Road area, and at several river crossings on California State Highway 127. The combined result of widespread and prolonged storm runoff throughout the Amargosa River Basin was persistent streamflow that contributed to the formation of a small lake on the normally dry and barren Badwater Basin salt pan at the river terminus in Death Valley.

**Table 1.** Precipitation for March 1995 and February 1998 floods, Amargosa River Basin, Nevada-California

[Abbreviations and symbol: e, estimated; Nev., Nevada; NTS, Nevada Test Site; --, not available. Note: Trace amounts of precipitation and snowfall are not figured into totals.]

Site identifier (Fig. 1)	Station name	Precipitation (inches) in March 1995		Percent of total for March 10-11, 1995	Precipitation (inches) in February 1998		Percent of total for February 23-24, 1998
		March 10-11	March total		February 23-24	February total	
A	Beatty, Nev. <sup>1,4</sup>	2.36	3.50	67	1.68	4.47	38
B	Fortymile Canyon, NTS <sup>2</sup>	3.98	5.40	74	2.10	5.15	41
C	Cane Springs, NTS <sup>2</sup>	1.38	2.63	52	e2.20	e6.04	36
D	Jackass Flats, NTS <sup>2</sup>	1.79	2.48	72	e2.10	e6.26	34
E	Rock Valley, NTS <sup>2</sup>	1.53	2.61	59	2.81	5.97	47
F	Mercury, NTS <sup>2</sup>	.68	1.60	42	2.17	4.10	53
G	Desert Rock, NTS <sup>2</sup>	.81	2.39	34	2.52	4.64	54
H	Amargosa Farms, Nev. <sup>1,4</sup>	.52	.94	55	1.76	3.69	48

I	Ash Meadows, Nev. <sup>3</sup>	—	—	—	1.40	3.16	44
J	Pahrump, Nev. <sup>1</sup>	—	—	—	1.42	3.32	43
K	Shoshone, Calif. <sup>1,4</sup>	0	.45	0	1.10	3.84	29
L	Death Valley, Calif. <sup>1,4</sup>	.24	.31	.77	1.10	2.31	48

<sup>1</sup> Ernie Cobb, National Weather Service, written commun., 1998.

<sup>2</sup> Raymond D. Dennis, National Oceanic Atmospheric Administration, written commun., 1998.

<sup>3</sup> David St. George, U.S. Fish and Wildlife Service, oral commun., 1998.

<sup>4</sup> Dorothy Miller, Desert Research Institute, oral commun., 1998.

## Comparison of 1995 and 1998 Floods

The floods of March 1995 and February 1998 have similarities and differences. Similarities include larger-than-normal snowpacks during both years on Pahute Mesa and surrounding mountains (Beck and Glancy, 1995; Raymond Dennis, National Oceanic and Atmospheric Administration, oral commun., 1998). Both floods were the result of regional storms that contributed a substantial quantity of precipitation to the river basin over a relatively short time. Also, both floods may have occurred during periods of the atmospheric and oceanic phenomenon known as "El Nino" (Desert Research Institute, 1998; National Oceanic and Atmospheric Administration, 1998). During both floods, surface water from NTS flowed to the Amargosa River mainly by way of Fortymile Wash, and road overflows were observed at similar locations. Neither lower Crater Flat nor Solitario Canyon (Fig. 1) contributed streamflow to the Amargosa River during the floods of March 1995 and February 1998.

Differences between the two floods, however, also were apparent. For example, the flood of March 1995 was the result of precipitation, of relatively short duration, that occurred mainly in the higher altitudes near Yucca Mountain. Snowpack melting, which resulted from precipitation at these higher altitudes, probably contributed significantly to the peak streamflows in Beatty and Fortymile Washes and their associated tributaries (David A. Beck, U.S. Geological Survey, oral commun., 1998). In Fortymile Wash, a peak streamflow of about 3,000 ft<sup>3</sup>/s (Table 2) severely scoured and eroded the channel and caused extensive road damage on NTS and to U.S. Highway 95 (Beck and Glancy, 1995).

In contrast, the February 1998 flooding was attributed to persistent, widespread precipitation, over several days, which eventually caused streamflow in most major tributaries to Fortymile Wash and the Amargosa River. Although snowpack accumulation was observed at higher altitudes within the region during February 1998, snowpack melting was not a major factor during the 1998 flood (David A. Beck, U.S. Geological Survey, oral commun., 1998). Peak streamflows generally were lower in the northern (higher altitude) reach of the Amargosa River drainage basin, but higher in the central and southern (lower altitude) reaches of the drainage basin.

Major streamflow from NTS during the March 1995 flood was observed only in Beatty and Fortymile Washes. During the February 1998 flood, Topopah Wash also flowed off NTS (Table 2). Based on peak-flow estimates and observations of channel scour and fill, streamflows were greater in Beatty and Fortymile Washes during March 1995 than February 1998; however, streamflows were greater in several small washes including Dune, Yucca, Cane Springs, and Split (Table 2) during February 1998 than March 1995. Durations of streamflows also differed between the two floods; the February 1998 streamflows in washes on NTS lasted 12 to 36 hours, whereas the March 1995 streamflows lasted only 10 to 12 hours.

Runoff from the Ash Meadows area played an important role in sustaining streamflow in the

central and southern reaches of the Amargosa River in February 1998. Near-peak streamflow discharge was observed at Carson Slough draining into Alkali Flat approximately 24 hours after flow completely ceased in Fortymile Wash and in the Amargosa River upstream from Nevada State Highway 373 (David A. Beck, U.S. Geological Survey, oral commun., 1998). Overall, the February 1998 flood sustained streamflow over a longer duration throughout the entire Amargosa River drainage basin than did the March 1995 flood.

## Summary

The 1995 streamflow was dominated by high-magnitude runoff of relatively short duration in Beatty and Fortymile Washes, probably enhanced by localized precipitation on snowpack in the upper altitudes of NTS. In 1998, sustained regional precipitation caused lower magnitude streamflows of longer duration in Fortymile Wash, Amargosa River, and their major tributaries. In both floods, much or all of Fortymile Wash and the Amargosa River flowed simultaneously. In March 1995, water in Fortymile and Beatty Washes flowed off NTS; in February 1998, water in Topopah Wash also flowed off NTS. In 1995 and 1998, the Amargosa River flowed from its headwaters to its terminus in Death Valley. Both the 1995 and 1998 floods indicate, therefore, that the Amargosa River, with contributing streamflow from one or more among Beatty, Fortymile, and Topopah Washes, has the potential to transport dissolved and particulate material well beyond the boundary of NTS and the Yucca Mountain area during periods of moderate to severe streamflow.

**Table 2.** Peak-flow estimates for selected sites in tributaries and reaches of the Amargosa River Basin, Nevada-California

[Site number is assigned in downstream order from uppermost location. Abbreviations and symbols: Nev., Nevada; Calif., California; nd, not determined; ft<sup>3</sup>/s, cubic feet per second; mi<sup>2</sup>, square miles; <, less than]

Site no. (Fig. 1)	Gaging station		Drainage area (mi <sup>2</sup> )	Peak discharge (ft <sup>3</sup> /s)		Years of streamflow record
	Number	Name		March 1995	February 1998	
<b>Nevada Test Site</b>						
6	102512495	Pah Canyon Wash above Fortymile Wash Confluence	6.28	nd	90	1998
7	102512496	Unnamed Tributary to Fortymile Wash North of Delirium Canyon	1.14	nd	180	1998
8	102512497	Delirium Canyon Wash above Fortymile Wash Confluence	2.37	nd	120	1998
9	102512499	Unnamed Tributary to Fortymile Wash South of Delirium Canyon	.81	nd	70	1998
10	10251250	Fortymile Wash at Narrows	258	3,000	200	1983-97, 1998
11	10251252	Yucca Wash near Mouth	17	0	220	1982-95, 1998
12	102512531	Pagany Wash near the Prow	.47	60	20	1994-95, 1998
13	102512533	Pagany Wash #1 near Well UZ-4	.82	60	17	1993-95, 1998
14	102512535	Drillhole Wash above UZ-1	.68	30	< 4.0	1994-95, 1998
15	1025125356	Wren Wash at Yucca Mountain	.23	30	< 5.0	1994-95, 1998
16	102512537	Split Wash below Quac Canyon Wash	.33	11	13	1993-95, 1998
17	1025125372	Split Wash at Antier Ridge	2.35	nd	< 2.0	1993-95, 1998
18	10251254	Drillhole Wash at Mouth	16.3	< 0.1	25	1983-95, 1998

19	10251255	Fortymile Wash near Well J-13	304	3,000	200	1983-97, 1998
20	10251256	Dune Wash near Busted Butte	6.77	< 3.0	<sup>1</sup> nd	1982-95, 1998
25	10251260	Topopah Wash at Little Skull Mountain	104	< 1.5	30	1984-95, 1998
27	10251265	Cane Springs Wash near Cane Springs	8.36	< 5.0	110	1984-95, 1998
28	102512654	Cane Springs Tributary below Skull Mountain	2.29	15	< 5.0	1992-95, 1998
<b>Sites off the Nevada Test Site</b>						
1	10251215	Beatty Wash near Beatty, Nev.	94.6	900	30	1989-95, 1998
2	10251217	Amargosa River at Beatty, Nev.	458	1,000	90	1993-95, 1996-98
3	10251225	Amargosa River at Big Dune near Amargosa Valley, Nev.	842	nd	20	1998
4	10251233	Solitario Canyon at Mouth near Yucca Mountain, Nev.	4.14	0	0	1995, 1998
5	10251235	Crater Flat Wash above Highway 95 near Amargosa Valley, Nev.	157	0	0	1995, 1998
21	10251258	Fortymile Wash near Amargosa Valley, Nev.	316	<sup>2</sup> 1,200	<sup>2</sup> 340	1983-98
22	102512585	Fortymile Wash at Amargosa Farms, Nev.	325	nd	<sup>3</sup> 90	1998
23	10251259	Amargosa River at Highway 127 near Calif.-Nev. State Line	1,542	27	30	1993-95, 1998
24	102512597	Amargosa River at Death Valley Junction, Calif.	1,567	< 5.0	60	1995, 1998
26	10251261	Topopah Wash at Highway 95 near Amargosa Valley, Nev.	150	nd	20	1998
29	10251270	Amargosa River Tributary near Mercury, Nev.	110	0	25	1963-81, 1984-95, 1998
30	10251280	Amargosa River near Eagle Mountain below Death Valley Junction, Calif.	2,632	100	190	1990-95, 1998
31	10251300	Amargosa River at Tecopa, Calif.	3,090	170	250	1961-83, 1991-95, 1998
32	10251375	Amargosa River at Dumont Sand Dunes near Death Valley, Calif.	3,284	nd	200	1998

<sup>1</sup> Road repair and grading destroyed all high-water marks prior to peak-streamflow estimates, but it is believed by reconnaissance teams that runoff may have been substantial to cause such extensive road damage.

<sup>2</sup> Includes peak streamflow estimates in bypass channel of 300 ft<sup>3</sup>/s (March 1995) and 7.0 ft<sup>3</sup>/s (February 1998).

<sup>3</sup> Total of peak streamflow estimates in three principal channels.

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USGS Fact Sheet 036-01

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Carson City, Nevada

2001

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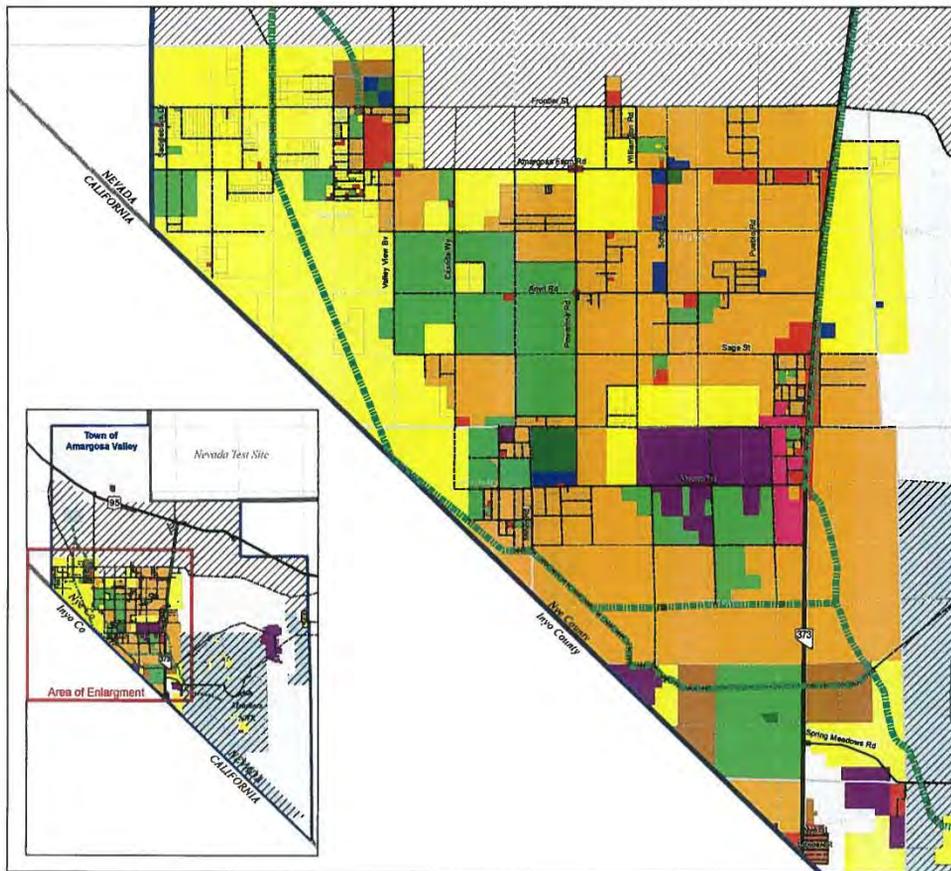
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## AMARGOSA VALLEY, NEVADA AREA PLAN

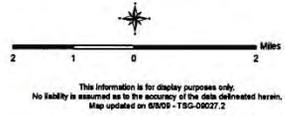
Map 4  
Future Land Use

- FUTURE LAND USE DESIGNATION**
- AGP - Agricultural Production
  - CDR - Community Development Reserve
  - CUF - Community & Utility Facilities
  - HDR - High Density Residential
  - LDR - Low Density Residential
  - OST - Open Space, Parks and Trails
  - RAC - Rural Activity Center
  - RCR - Rural Cross Roads
  - RDR - Rural Density Residential
  - RUI - Rural Industrial
  - SDA - Special Development Area (Solar, Wind, and Other)
  - SDA - Special Development Area (Federal)

- BOUNDARIES**
- Amargosa Valley Town Boundary
  - Parcels
  - Sections
  - Township, Range

- ROADS**
- Paved Hwy
  - Paved
  - Unpaved

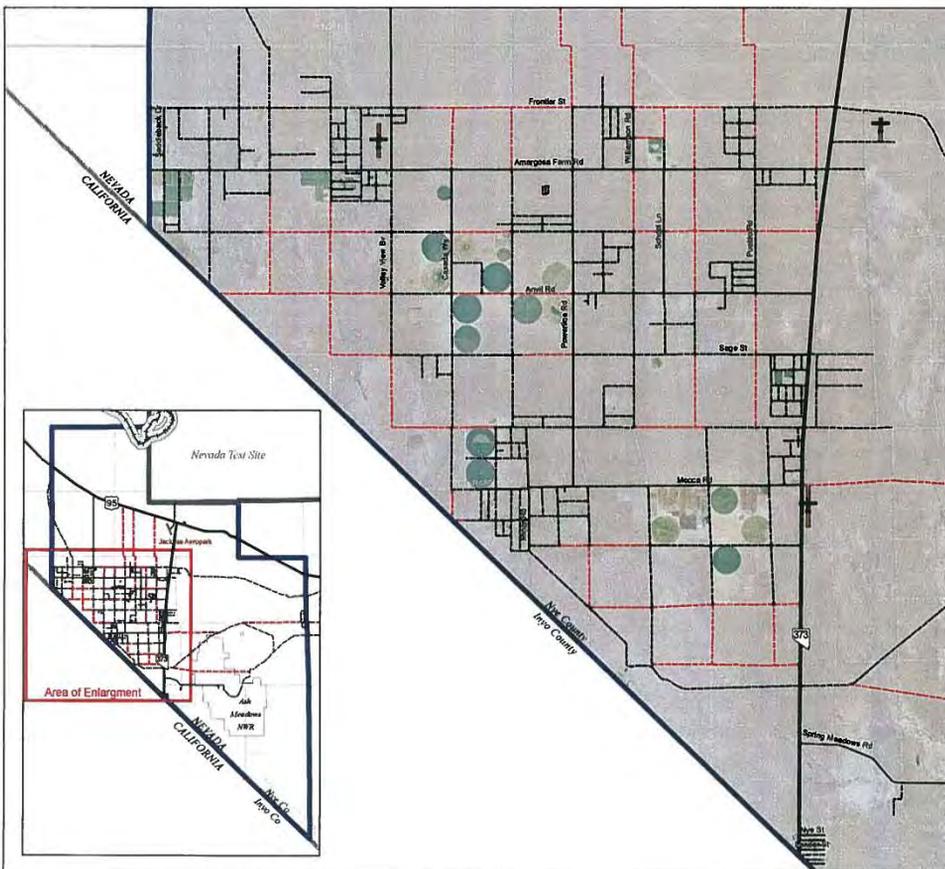
**SOURCES:**  
Future Land Use designations automated for each parcel from inputs provided by the Amargosa Valley Mapping Group. The SDA YMP Gateway Area Concept Plan (June 2007) is available from the Nye County Nuclear Waste Repository Project Office. Parcels, road centerlines, Amargosa Valley town boundary, and Township, Range, and Section boundaries from the Nye County GIS Repository (2008).



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# AMARGOSA VALLEY, NEVADA AREA PLAN

## Map 5 Transportation



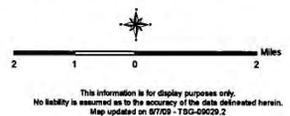
- ROADS**
- Paved Highway
  - Paved Road
  - - - Unpaved Road
  - - - 4 Wheel Drive Trails
  - - - Planned Road

- AIRSTRIPS**
- ✈ Airstrip

- RAIL**
- ✈ Proposed Yucca Mountain Caliente Rail Route

- BOUNDARIES**
- ▭ Amargosa Valley Town Boundary
  - ▭ Sections
  - ▭ Township, Range

**SOURCES:**  
 Existing road centerlines from the Nye County GIS Repository (2008). Planned roads inputs provided by the Amargosa Valley Area Plan Committee, Amargosa Valley Town and Township, Range, and Section boundaries from the Nye County GIS Repository (2008). Airstrip photo-interpreted from 2007 orthophotos. Proposed Yucca Mountain Caliente Rail Route from Supplemental DOE Transportation EIS.



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**AV residents want Farm Road maintained**

By MARK WAITE  
 PVT



**AMARGOSA VALLEY** -- A few members of the crowd didn't want Solar Millenium building a solar energy project smack dab in the middle of Amargosa Valley.

MARK WAITE / PVT  
 Sandra Fatchid, an employee of the company that prepared the Environmental Impact Statement, extends a microphone to Chris Wile, from the International Brotherhood of Electrical Workers, who spoke in support of the Solar Millenium project.

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But the sentiment among other speakers at the public hearing on the draft Environmental Impact Statement Wednesday night was the two 232-megawatt, thermal, solar power plants will be all right for their community -- as long as they don't realign Farm Road.

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"While I think most of us would like to see a solar plant in Amargosa Valley, we don't want to see it on Main Street in the middle of our town. I did quite a bit of research and did not find

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a single solar plant in the world in the middle of a town. I think there are quite a few alternatives, and I think we should be looking at alternative placement," said Pat Minshall.

While representatives of various unions -- including Plumbers and Pipefitters Local 555, Sheet Metal Workers Local 88 and the International Brotherhood of Electrical Workers Local 357 -- spoke in support of the desperately-needed construction jobs, Amargosa Valley resident Roland Rajn felt few people in the valley would get those jobs.

The EIS estimated the project will create an average of 650 full-time construction jobs over a 39-month period, with a peak of 1,300 construction workers, and once built, it will employ 180 permanent workers.

"When the construction is done, this town will not be Amargosa Valley it will be Solar Millenium," Rajn said.

But a tearful Eunice Hernandez, in an emotional moment, said the project could bring work that will help her family survive.

"The jobs it's bringing to us will be good for my dad. He hasn't worked for two years and he's supporting a family of six, and that money is money we need," Hernandez said.

Matt Lydon, with Plumbers and Pipefitters Local 555, said half the 2,600 members of his union are unemployed. John Christiansen, with the sheet metal workers, said, "These are good jobs that enhance existing careers and create careers where people can work with dignity and retire with dignity."

Bill Verbeck, Pahrump Great Basin College director, said "If this project goes forward, it is about our economy and jobs." He said the actual unemployment rate locally is more like 20 percent, rather than the 15.2 percent in local statistics.

"We're here as a college and a community to do as much as we can to get as many of our locals trained as we possibly can," Verbeck said.

Stephen Burnage, who represented Renewable Energy Transmission Company Inc., predicted he would be standing in front of a public hearing in a year with a request to build a transmission line from the Amargosa Valley solar plant to other solar facilities in El Dorado Valley near Boulder City. That project will create more jobs, he said.

But resident Genne Nelson said she was concerned about air quality from dust.

"They say that they want to control the dust because of the mirrors, but we've seen what wind can do out here. I think at the very least these nice models are as good as the information that goes into them. There should be some accountability and some air quality monitoring for particulates to ensure they are meeting the standards," Nelson said.

Greg Helseth, U.S. Bureau of Land Management renewable energy project manager, said there will be a monitor assigned to

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the project if the BLM issues a record of decision to allow the company to use right-of-way on the 4,350-acre site.

Nelson also thought the standard of 55 decibels was too high for a quiet, rural valley.

John Bosta said the town board spent three years working on an Amargosa Valley master plan, which doesn't have a provision for solar projects south of Farm Road. He said one-third of the Solar Millenium project will be south of Farm Road.

Bosta added the plans show fences and trees to buffer the wind, but he said they couldn't construct a fence high enough. The trees would use water, he said.

"The next part is the people who live on Sandy Lane. Their view of the valley looking back towards the northwest is going to be totally obliterated. The other part that hasn't been brought up -- I don't think the EIS has adequately covered the dangers of explosions and fires to the people, especially those living on Sandy Lane," Bosta said.

Amargosa Valley Town Board Chairman Jan Cameron said she was more optimistic than some people in the room about the jobs the project will bring to local residents.

But she added, "On behalf of the vast majority of the people in this valley I want to say we don't want Farm Road moved, period. Farm Road is our only east-west thoroughfare that goes from one part of the valley to the other."

Cameron pointed out a technicality. The maps were still showing the original 7,300-acre footprint of the project, which included the land on which the community center was located.

"I, too, am concerned about the Sandy Lane folks who built their homes there. I know some Sandy Lane residents are happy, some are not," Cameron said. "They're not seeing this vista, with this plant on the western side of them. There may be only six houses that are concerned about it, but they are people. We live here. I do appreciate the efforts that are being made to try to mitigate the vision of the plant itself."

Linda Bromell said, "I don't think I heard anybody has an objection to this being out here." But she joined the audience members objecting to moving Farm Road.

"This is where all our schools and everything is. This road should absolutely not be moved. BLM told me last year they were looking into getting people to release the land farther out on (Highway) 95 where most of this project is," Bromell said.

The draft EIS pointed out another company, Cogentrix, filed an application for right-of-way on 13,440 acres north of the Solar Millenium site all the way up to Highway 95. While Solar Millenium filed an overlapping or second-in-line application for that land, the EIS noted Cogentrix planned to develop a solar plant on their land in the next two to three years and it was unlikely Solar Millenium's application could be processed.

Howard Blumenfeld just had questions: How much will the project save local residents in electricity costs? Does the reference to a 30-year project life mean it's done in 30 years? Why didn't they use all the military land north of Highway 95? Who is going to audit what happens to the water? Will water be recycled?

J.W. Cunningham said he's past working age but likes the idea of job opportunities in Amargosa Valley so youths don't have to leave for Las Vegas.

"The only thing that actually concerns me is the unions. Are they going to bring in all people from out of town, or is it going to be an opportunity for people in the valley to be employed? I think solar energy is a thing that's coming. Nobody's fighting it. It's going to be here," he said.

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# Section 400

## Drainage Law

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### 401 INTRODUCTION

The materials contained in this chapter are not intended to be an exhaustive presentation of each area of law which is discussed. The purpose is to familiarize the design professional with these areas to enable them to better perform engineering duties and tasks. These materials should not be used in place of a consultation with an attorney and no liability is being assumed with respect to the use of these materials for such purpose.

An important lesson which has been learned in Southern Nevada is that water does not respect arbitrary jurisdictional boundaries. Water does not respect the various rights and liabilities of adjacent land owners as it flows through depressions, gulleys, and washes seeking ultimate terminus in Lake Mead. However, engineers are presented with the enormous task of attempting to control the drainage of water while at the same time maintaining the integrity of natural flow paths and existing legal relationships arising from land ownership. The goal of maintaining both natural flow paths and existing legal relationships is not easily achieved. However, this goal can be more easily achieved if the engineer is familiar with the basic legal framework against which legal relationships will be adjudicated.

This chapter discusses the historical evolution of water drainage law in Nevada. Unlike other states such as California and Colorado, there is not a great body of Nevada case law which discusses every identifiable issue with respect to water drainage law. There are many "gray" areas in Nevada law, but the engineer can avoid major legal obstacles by being more familiar with those cases which have been expressly decided by the Nevada Supreme Court. Relevant statutes will also be discussed.

### 402 HISTORICAL EVOLUTION OF SURFACE WATER DRAINAGE LAW

Prior to a specific discussion of Nevada law, it is important for the engineer to be aware of the development of the historical principles and theories involved in drainage law. There are three common early doctrines which were followed in the United States: The doctrines were the common enemy doctrine, civil law rule, and the rule of reasonable use. Each theory will be briefly examined prior to an in depth analysis of Nevada law.

#### 402.1 The Common Enemy Doctrine

The common enemy doctrine is a harsh rule which is still followed in some states. The common enemy doctrine has not been specifically recognized by the Nevada Supreme Court.

Stated in its extreme form, the common enemy doctrine provides that as an incident to their right to use their own property as they please, each landowner has an unqualified right, by operations on their own land, to fight off surface waters as they see fit without being required to take into account the consequences to other land owners, who have the duty and right to protect themselves as best they can. See 93 ALR 3d 1193.

Surface water was thus regarded as a common enemy which each property owner could fight off or control by any means such as retention, diversion, repulsion or altered conveyance. Thus, there was no cause of action even if some injury occurred to the adjoining parcel.

All jurisdictions originally following this harsh rule have either modified the rule or adopted the civil law rule or reasonable use Rule 5 Water and Water Rights, Sections 450.6.451.2 (RE Clark ED. 1972).

As previously mentioned, the Nevada Supreme Court has not specifically recognized or adopted this theory.

#### 402.2 Civil Law Rule

Courts later recognized the rule of water drainage law which is basically diametrically opposed to the common enemy doctrine. The civil law rule recognizes a natural servitude for natural drainage between adjoining lands, so that the lower owner must accept the surface water which naturally drains onto their land, but, on the other hand, the upper owner has no right to change the natural system of drainage to increase the burden on the lower parcel. This rule caused problems with allowing development because virtually almost any development has a tendency to increase the flow either in quantity or velocity. According to the civil law rule, if the quantity or velocity of water flow were increased, the natural flow on the downstream property would be changed and would be in violation of the civil law rule. Thus, with the evolution of drainage law the courts sought to modify the law to consider the competing interests of adjoining land owners and allocate the burden of risk attendant to development.

The civil law rule analyzes drainage problems in terms of property law concepts such as servitudes and easements. It did not consider tort law analysis of what is "reasonable".

The Nevada Supreme Court specifically recognized the civil law rule as early as 1885 in the case of Boyton v. Longlev, 19 Nev. 69, 6 Pac. 437 (1885). This case will be discussed in detail in the analysis of Nevada Drainage Law.

#### 402.3 Reasonable Use Rule

The rule of reasonable use was developed as an alternative between the civil law rule and the common enemy doctrine. The courts attempted to balance the hardships created in attempting to control surface waters and relevant factors in the relationship between the competing rights/liabilities of adjoining land owners. The rule was apparently developed to provide flexibility in avoiding harsh results which often occurred in applying both the common enemy doctrine and the civil law rule to various factual situations.

Under the reasonable use rule, a property owner can legally make reasonable use of their land, even though the flow of surface waters is altered and causes some harm to others. However, liability occurs when the property owners' harmful interference with the flow of surface water is "unreasonable". A balancing test is utilized to determine whether a landowners use of their property is unreasonable. The analysis involves three basic questions: (1) was there reasonable necessity for the property owner to alter the drainage to make use of their land? (2) was the alteration done in a reasonable manner? (3) does the utility of the actor's conduct reasonably outweigh the gravity of harm to others? See, Restatement Torts, 822-831, 833 (1939).

The Nevada Supreme Court has recognized consideration of at least five factors in determining whether a property owner's conduct was reasonable. As one can see from this analysis, it becomes very difficult to predict how a jury would rule in relationship to any particular set of facts because the standard for determination is reasonableness, and each jury will have its own standard for determining reasonable conduct.

The reasonable use rule does not utilize property law concepts of servitude and easement. It substitutes a tort analysis of "reasonable" conduct. The positive aspect of this rule is that it accommodates development and allows for alterations of surface flow if done in a responsible manner. The negative aspect of this rule is the uncertainty created by the vague standard regarding "reasonable" conduct. One engineer's "reasonable" design for handling surface waters may be perceived by a different engineer in a court of law as "unreasonable."

#### 403 NEVADA DRAINAGE LAW

The Nevada Supreme Court initially adopted the civil law rule of drainage in 1885. The civil law rule was later changed when the Nevada Supreme Court adopted the reasonable use rule for surface water drainage in 1980. However,

it is important for the engineer to be familiar with both cases in order to understand the evolution of Nevada Drainage Law and its underlying public policy considerations.

#### 403.1 Civil law Rule

In 1885 the Nevada Supreme Court was presented with a novel question. Can an upper land owner drain artificially collected waters onto their neighbor's lower parcel? This question had never been presented before because most property owners usually complained of lack of water rather than an excess of water.

In Bovton v. Longley, 19 Nev. 69, 6 Pac. 437 (1885) an upper land owner used an irrigation ditch to collect water from the Truckee River and irrigate his farm. The irrigation water naturally flowed onto an adjacent parcel. The lower land owner sued to recover damages for his land and crops allegedly caused by the waste water.

The upper land owner made several arguments as follows: irrigation was necessary to cultivate his land, the lower land owed a servitude to the upper parcel to receive water which naturally flowed on to it, he had been irrigating his land for five years, and therefore, had obtained a prescriptive easement across the lower piece of land. The lower land owner argued there was not a natural right to discharge water from artificial sources.

In ruling in favor of the lower land owner, the Nevada Supreme Court noted as follows:

"...As to the flow of water caused by the fall of rain, the melting of snow, or natural drainage of the ground, the prevailing doctrine is that when two tracts of land are adjacent and one is lower than the other, the owner of the upper tract has an easement in the lower land to the extent of the water naturally flowing from the upper land to and upon the lower tract, and that damage that may be occasioned to the lower land thereby is damnum absque iniuria (injury without damage). Water seeks its level and naturally flows from a higher to a lower plane; hence the lower surface, or inferior heritage is doomed by nature to bear a servitude to the higher surface, or superior heritage, in this: that it must receive the water that naturally falls on and flows from the level. The proprietors of the lower land cannot complain of this - this expression of the law only applies to waters which flow naturally from springs, from storms of rain or snow, or the natural moisture of

land. Wherever courts have had occasion to discuss this question they have generally declared that the servitude of the lower land cannot be augmented, or made more burdensome by the acts of industry of man."

19 Nevada at 69, 72-73.

The court observed that in order to cultivate their respective lands, both parties had to obtain irrigation water by bringing it from points remote and distant from their lands. Without the "reasonable use" of the water, the lands were comparatively worthless.

The Nevada Supreme Court held that the upper land owner, while they have the unqualified right to make reasonable use of the water for irrigation, must use, manage, and control the water as to not injure an adjacent parcel. Central to the court's holding is the concept that a land owner should not be permitted to make his land more valuable by an act which renders the land of a lower land owner less valuable. This policy consideration would later be utilized by the Nevada Supreme Court almost 95 years later when the reasonable use rule was adopted.

Thus, until the reasonable use rule was adopted in 1980, Nevada Drainage Law consisted of a property law analysis of natural easements for upper parcels to drain water over lower parcels.

#### 403.2 Reasonable Use Rule

Approximately 95 years passed in Nevada before the Nevada Supreme Court was presented with the opportunity to change drainage law in Nevada. The court adopted the reasonable use rule in 1980 when presented with a modern factual situation which opened the door for Nevada to join the majority of jurisdictions in the western states by adopting the reasonable use rule. The case in which the reasonable use rule was adopted was controversial not only when it was decided, but remains somewhat controversial for all of the questions it does not answer.

The Nevada Supreme Court changed Nevada drainage law in County of Clark v. Powers, 96 Nev. 497, 611 P.2d 1072 (1980). Land owners had filed an action against the County and various developers because their activities allegedly had altered the drainage of surface waters in their area. The plaintiffs settled with the individual developers prior to trial, and proceeded to trial against the County and the County Flood Control District under theories of inverse condemnation, nuisance, and trespass. The trial court adopted the reasonable use rule and entered an award for the plaintiffs.

The Nevada Supreme Court found that during the 1950's and early 1960's, the plaintiffs had acquired their parcels and developed them for residential use. Prior to major development in the area, the land immediately west of the two plaintiffs' parcels was sufficiently porous to absorb and dissipate most rain waters. Heavy rains, however, would collect in the low surrounding areas and would follow the natural terrain entering the plaintiffs' properties at the approximate border between the two properties. These waters would flow, if at all, at a slow velocity and would be naturally dissipated and absorbed. Flooding was rare. The "ephemeral stream" on the plaintiffs' property paralleled a wash which ran to the south of the plaintiffs' parcel.

The court found that starting in 1967 the development of the lands west of the plaintiffs' parcel resulted in the alteration, diversion, channeling and acceleration of rain, nuisance, and flood waters on to respondents' properties. The court found the County had actively participated in the development of these lands, both by its own planning, design, engineering, and construction activities and by its adoption of the similar activities of various private developers as part of the County's Master Plan for the drainage and flood control of the area.

The facts as determined at trial established various roads and intersections had been elevated, waters were collected and diverted from a grocery store site, and channeled those waters to a drainage pipe maintained by the County. Similarly, the streets, curbs, and gutters were specifically designed to divert and channel waters onto the plaintiffs' parcels which normally would have drained to the wash. The court held that the cumulative effect of the development activities was to increase and accelerate the flow of waters through the ephemeral stream between the plaintiffs' parcels, to divert waters normally draining into the wash onto the plaintiffs' properties, and to alter and divert the natural course of the ephemeral stream. The property was subjected to temporary but frequent and inevitable flooding.

The County argued that the civil law rule should be maintained. The Nevada Supreme Court felt that the question of which law to apply to surface water drainage entailed a judgment concerning the proper allocation of costs incident in the transformation of rural or semi-rural areas into urban and suburban communities. In making its judgment the court identified three central principles from prior decisions: one, the law of water rights must be flexible, taking notice of the varying needs of various localities; two, a land owner may make reasonable use of his land as long as he does not injure his neighbor; and three, a land owner should not be permitted to make his land more valuable at the expense of the estate of a lower land owner.

The court found that the civil law rule was ill suited to the complexities of urban growth and expansion, and found the reasonable use rule to be more predictable and suited to modern development. The court held that in effecting

a reasonable use of land for legitimate purpose, a land owner or user, acting in good faith, may drain surface waters and cast them on a neighbor's land if:

- a) The injurious flow of water is reasonably necessary for drainage;
- b) Reasonable care is taken to avoid unnecessary injury;
- c) The benefit to the drained land outweighs the gravity of harm inflicted upon the flooded land;
- d) The drainage is accompanied, where practicable, by the reasonable improvement and aiding of normal and natural systems of drainage in accordance with their reasonable caring capacity; and
- e) Where no natural systems of drainage are available, the drainage is accomplished by the use of a reasonable, artificial system of drainage.

The reasonable use rule was adopted by the court because it felt that the economic costs incident to the expulsion of surface waters in the transformation of rural and semi-rural areas into urban and suburban communities should not be borne solely by adjoining land owners. Rather, land owners, developers, and local officials, should take into account the costs of development of the community prior to the implementation of their plans. The court found that absent such prior planning, of reasonable use rule allows for a more equitable allocation of the incidental economic costs than did the civil law rule.

The County also argued it had statutory immunity for damages which were caused by "urbanization." The Nevada Supreme Court rejected the concept of limited sovereign immunity, and held as follows:

"we...chose to follow the view, adopted in a majority of jurisdictions, that a governmental entity's substantial involvement in the development of private lands which unreasonably injures the property of others is actionable." 96 Nev.2505.

The NRS which confer immunity from suit for discretionary acts of County employees, were not argued at the trial court level and therefore were specifically not considered on appeal. It remains an open question regarding the effect discretionary immunity might have played in this case. Similarly, the factual situation included both the acts of private developers and the County. It is therefore impossible to determine whether the court focused its decision regarding County liability on the fact that a County constructed and maintained drainage pipe was related to the plaintiffs' flood problems.

Although the Powers case changed Nevada law, it leaves many questions unanswered such as: (1) Is the governmental entity liable for mere approval of a private development; (2) What constitutes "substantial involvement" in the development of private land? (3) Is a governmental entity liable if it fails to detect design or construction deficiencies in a private design? and (4) Is a governmental entity liable for privately designed flood control improvements which are later dedicated to the entity? The Powers case is the controlling legal precedent in this State. Engineers should be aware of the balancing test set forth in the decision, as well as the underlying factual situation. The balancing test should be considered when an engineer is designing or approving alternate methods of handling water drainage. As previously mentioned, one engineer's "reasonable" drainage approach could be a juror's "unreasonable" diversion.

### 403.3 Surface Waters - Private Development

Engineers and developers working in the private sector are presented with similar liability exposure as governmental entities, but do not enjoy the same statutory protections. A brief discussion of each liability theory is important for the engineer to have a sense of the potential exposure he or she faces when proceeding with a design project.

#### 403.3.1 Negligence

Negligence has been defined by Black's Law Dictionary as "the omission to do something which a reasonable man, guided by those ordinary considerations which ordinarily regulate human affairs, would do, or the doing of something which a reasonable and prudent man would not do."

Placing the negligence definition into an engineering context, the reasonable and prudent man standard becomes a reasonable professional and prudent professional standard. Thus, a professional engineer who fails to act within the standard of care of his engineering profession may be held liable for negligence. The applicable standard of care is established in court by expert testimony.

The concept of negligence is composed of the traditional elements of duty, breach of the duty, the breach resulting in the proximate cause of damage, or injury. Prosser, Torts 143 (4th Ed. 1971). Nevada courts and courts across the nation have broadly interpreted the duty element as a duty being owed to all persons who may foreseeably be affected by the work being performed.

In order for the engineer to determine if he faces potential negligence exposure, it is helpful to analyze the project and its relation to the engineering activities which are being performed. The engineer should attempt to determine what the standard of care in his profession is in relationship to the particular engineering task being performed and then make a realistic

evaluation as to whether or not the services he has rendered would meet that standard. For example, using the Rational Method for a watershed in excess of 100 acres, rather than the HEC-1 computer model required by this MANUAL, may fall below the standard of care and could result in potential liability. The engineer should always strive to use the best information available and also strive to use methods which are state of the art and widely accepted by the engineering profession.

Complying with legally required procedures (i.e., contained in this MANUAL) have been held by the courts to be a minimum standard of care.

Unfortunately, an engineer cannot always be guaranteed that by merely following the computer models and design procedures contained in this MANUAL he will be insulated from negligence liability. It is possible that in a particular area of design the engineer's standard of care could require a higher standard of engineering activities. However, following the requirements of this MANUAL will go a long way toward establishing that an engineer has met the accepted standard of care.

#### **403.3.2 Breach of Express/Implied Warranty**

The liability theory can be based on either an implied warranty or an express warranty. Under this particular theory of liability an engineer does not face the same exposure as a developer who actually sells a finished product.

The courts have generally held that an implied warranty normally requires privity of contract between the person bringing the action and the party who allegedly breached the implied warranty. An implied warranty only goes to the product and may not be imputed to one who has provided services as opposed to the product. Thus, a private engineer who has designed plans does not face the same liability exposure as a developer who has sold a completed product.

#### **403.3.3 Fraud/Misrepresentation**

Fraud is a much less commonly-pled liability theory because it is much harder to prove. The Court requires "clear and convincing" evidence that fraudulent conduct has occurred.

Fraud in the general sense is deemed to be any conduct which is calculated to deceive another person or entity and results in damage.

The essential elements required to sustain fraud action are the representations made as a statement of fact (not genuine) which was untrue and known to be untrue by the party making it, or else recklessly made; that the statement was made with intent to deceive and for the purpose of inducing the other party to

act upon it, and the person did in fact rely on it and was induced to act to his detriment. AmJur.2d, Fraud & Deceit, Sections 2, 12.

An example of fraudulent conduct would be an engineer or developer telling a potential home purchaser that the home was not located in a floodplain when the engineer/developer knew for a fact that the statement was false. If the purchaser relies on that representation and purchases a home in the subdivision, then a potential case of fraud exists.

#### 403.3.4 Trespass

Trespass is an injury to possession. It is an intrusion which invades a person's protected interest in exclusive possession. A trespass action requires active conduct on the part of the wrongdoer. Liability can be imposed for intentional, negligent or ultrahazardous activity. The only "intent" required is that the act constituting the trespass is voluntarily done. An act may constitute a trespass despite the fact that its consequences were unintended. 75 AmJur.2d, Trespass, Section 8.

In general, one is subject to liability for trespass to real property if one intentionally enters land in the possession of another or causes a thing or force to do so. A landowner who sets in motion a force which, in the usual course of events, will damage the property of another is guilty of trespass on such property. **Burt v. Beautiful Savior Lutheran Church, 809 P.2d 1064** (Colo.App. 1990).

Nevada has defined trespass as an injury to an estate, or use thereof, by one who is a stranger to the title of the injured property. **Price v. Ward, 25 Nev.20358 Pac.849** (1899).

An example of this liability theory would be damage to real property caused by waters escaping from a drainage channel or damaging a subdivision as a result of an improperly designed drainage system. The damage occurs when the water flows on the person's property and in turn damages the real property, personal property and possessory interest of the landowner. Such damage easily occurs once water begins to flow onto a property and into the front door of someone's home. The landowner need not prove that the engineer or developer intentionally flooded the property, but merely that the act of designing and constructing the flood control improvement were done voluntarily. As previously noted, the liability for trespass can be based on negligent conduct.

Flooding of a person's property because of improper construction of highway embankments constitutes trespass. **Viestenz v. Arthur TP, 54 N.W.2d.572** (ND 1952). Where the defendant's affirmative act results in the flooding of the plaintiff's land and the destruction of crops, the defendant has constituted

trespass. Western Union Tel. Co. v. Bush, 89 S.W. 2d 723 (Ark. 1935). However, floods resulting solely from a severe storm do not constitute trespass. Hughes v. Kim's County, 714 P.2d 316, (Wash. Ap. 1986).

Pursuant to the trespass liability theory, damages generally constitute the difference in value of the land both before and after the act. Damages can also include the loss of use of the land, discomfort and annoyance to the property owner, cost of repair, and lost crops.

A warning sign for dual use facilities is shown in **Figure 401** and shall be posted not more than 200 feet on each side of the facility, upon or near the boundary. Warning signs shall be mounted on a metal fence post, and shall be painted with fluorescent orange paint. **Figure 402** depicts a warning sign for flood channels.

#### 403.3.5 Nuisance

The "nuisance" liability theory applies to that class of wrongs that is covered by the unreasonable, unwarrantable, or unlawful use by a person of his property, or from his improper, indecent or unlawful conduct, which operates as an obstruction or injury to the right of another or to the public, and producing such material annoyance, inconvenience, discomfort or hurt that the law will presume consequential damage. Bliss v. Gravson, 24 Nev.422, 56 Pac.231 (1899).

The term "nuisance" is incapable of an exact and exhaustive definition which will fit all cases because the factual situations are seldom alike. Nevertheless, "nuisance" has been defined as a distinct civil wrong, and is used to describe the wrongful invasion of a legal right or interest. "Nuisance" includes everything that endangers life, health, or obstructs the reasonable and comfortable use of property. 58 AmJur.2d, Nuisance, Section 1.

Nuisance and trespass are analogous in some respects. However, there is a distinction between them, the difference being that trespass is an invasion of the person's interest in the exclusive possession of his land (as by entry on it) while a nuisance is an interference with the use and enjoyment of the land, and doesn't require interference with the possession. The requisites that an interference be substantial and unreasonable, in order to constitute a nuisance, have been said to distinguish an action for nuisance from that of trespass. In this regard, an action for trespass can be maintained without a showing of damage because it is the unauthorized entry upon the land that creates the trespass and the presumed damage.

A claim of nuisance is more than a claim of negligence. Negligent acts do not in themselves constitute a nuisance; rather, negligence is merely one type of conduct upon which liability for nuisance may be based.

This liability theory primarily involves the annoyance and inconvenience which people experience once their property has been flooded. The flood clean-up process and associated odors, filth, and insect infestation would fall within this theory. In many ways, this theory closely tracks claims for emotional distress and can provide dramatic testimony for a jury. Even something as minor as increased flow in an irrigation ditch has been deemed a nuisance in Nevada. Thomas v. Blaisdell, 25 Nev.223, 58 Pac.903 (1899).

**403.3.6 Strict Liability**

Nevada has recognized that an end user of a "product" has established a cause of action in strict liability against a manufacturer or distributor when "his injury is caused by a defect in the product, and the user proves that such defect existed when the product left the hands of the defendant." Shoshone Coca-Cola Bottling v. Dolinski, 82 Nev. 439, 443, 420, P.2d 855, 858 (1966).

California has applied the strict liability theory to the sale of homes and defective lots. The Nevada Supreme Court noted in Ellev v. Steven, 104 Nev.Adv.Op. 62, N.2 (1988) that courts are divided about whether a home is a product under strict liability theory. In that case of Nevada Supreme Court was presented with this issue but was able to decide the case without ruling on the applicability of the strict liability theory. As the law currently stands in Nevada, the strict liability theory does not apply to homes. However, this theory could be extended to a situation where a "product" is sold by someone in the regular course of its business.

**403.3.7 Punitive Damages**

The above liability theories can support both an award of compensatory damages and punitive damages. Compensatory damages are to compensate a person for specific damages such as property repair or replacement costs. However, the private developer faces a possible award of punitive damages which can be unrelated to the actual damages suffered by the land owner.

NRS 42.010 provides as follows:

"In an action for the breach of an obligation not arising from contract, where the defendant: (1) has been guilty of oppression, fraud or malice, expressly implied; or (2) caused an injury by the operation of a motor vehicle in violation of NRS 484.379 or 484.3795 after willfully consuming or using alcohol or another substance, knowing that he would thereafter operate the motor vehicle.

The plaintiff, in addition to actual damages, may recover damages for the sake of example and by way of punishing the defendant."

The concept of punitive damages rests upon a presumed public policy to punish a wrongdoer for his act and to deter others from acting in similar fashion. The punitive damage allowance should be in an amount that will promote the public interest without financially annihilating the defendant. Nevada Cement Company v. Lemler, 89 Nev. 447, 514 P.2d 1180 (1973).

Since the purpose of punitive damages is to punish and deter culpable conduct, the award lies in the discretion of the court or jury and need not bear a fixed relationship to the compensatory damages awarded. Randano v. Turk, 86 Nev. 123, 466 P.2d 218 (1970).

The "malice" contemplated in NRS 42.010 is malice in fact and which the malice is established. Malice in fact sufficient to support an award of damages may be established by a showing that the wrongful conduct was willful, intentional and done in reckless disregard of its possible results. Nevada Credit Rating Bureau Inc. v. Williams, 88 Nev. 601, 503 P.2d 9 (1972).

In Village Development Company v. Filice, 90 Nev. 305 P.2d 83 (1974), the Nevada Supreme Court was presented with a case involving a claim for damages arising from the destruction of a home constructed in an undisclosed floodplain and the subsequent claim for punitive damages. The lot purchaser brought an action to recover damages from the developer of a lot which was situated in an undisclosed floodplain of a mountain stream. The District Court awarded compensatory and punitive damages and the developer appealed. The Nevada Supreme Court found the developer was aware that a stream which crossed the plaintiff's lot usually was quite narrow but varied radically under various storm conditions of given return frequencies. Despite knowledge of the developer's officers regarding the extent of the floodplain, the developer did not impose any building restriction other than requiring that building plans be submitted to an architectural control committee. Knowing of the flood hazard, the developer assumed the plaintiff would build on the highest possible site on the lot, but never advised the lot purchasers of its thoughts regarding a proper building site. In short, the court found that the corporation's highest management personnel failed to warn of the danger although they well knew the plaintiffs were planning to build in the floodplain. Plans were submitted to the architectural control committee and approved without warning.

The court held that there was ample evidence to support a jury instruction regarding negligence and that the resulting award under that theory was proper. After carefully reviewing the record the court found that although there was ample evidence of negligence and unconscionable irresponsibility, there was insufficient evidence to support a finding of "oppression, fraud or malice

express or implied." The court noted it had previously sustained punitive damage awards when the evidence showed the wrong was willful. Here, the evidence was insufficient to meet the requirement that more must be shown than malice in law, and that there should be substantial evidence of malice in fact.

The above case indicated how the private developer can face punitive damage exposure. Although in the case above the developer escaped punitive damage exposure, it could easily have faced punitive exposure if representations had been made to the purchaser such as the property was not located in the floodplain, or that flooding was not likely in that area. If an area is located in a floodplain that fact should be fully disclosed to the purchaser and proper engineering procedures consistent with the standard of care should be followed.

#### **403.4 Surface Waters - Governmental Entity Liability**

The liability of a governmental entity with respect to surface waters is treated differently in some respects than the liability of a private developer even though the same liability theories can be asserted. The State legislature has conferred various statutory defenses, immunities, and damage limitation in view of the burden regarding land development which has been placed upon the governmental entities. Governmental entity tort liability is controlled by Chapter 41 of the NRS which was adopted in 1965.

##### **403.4.1 Sovereign Immunity**

The principle of sovereign immunity can be traced back to ancient times in England when a person could not sue the King. This concept has carried through the common law and has appeared in statutory provisions in most states. NRS 41.031 contains a waiver of sovereign immunity which is expressly limited by several other statutes containing specific defenses. The purpose of the limited waiver of sovereign immunity is to compensate the victims of governmental negligence in circumstances like those in which victims of private negligence would be compensated. Harmaan v. City of Reno, 86 Nev. 678, 475 P.2d 94 (1970).

The legislative intent in enacting NRS 41.031 was to waive the immunity of governmental units and agencies from liability for injuries caused by their negligent conduct, thus putting them on equal footing with private persons committing torts. Jimenez v. State, 98 Nev. 204, 644 P.2d 1023 (1982).

In close cases where the issue of whether the allegations of conduct fall within the parameters of a waiver of sovereign immunity, courts must favor a waiver of immunity; only when it is concluded that a discretionary act alone is involved

will the court find immunity. Haabloom v. State Director of Motor Vehicles, 93 Nev. 599, 571 P.2d 1172 (1977).

NRS 41.031 initially provided for a special claims procedure when a person wanted to sue the State. However, the Nevada Supreme Court eliminated this requirement in 1973.

#### 403.4.2 NRS 41.032 - Discretionary Immunity

NRS 41.032 provides that no action may be brought under the limited waiver of immunity statute or against an officer or employee of the State or any of its agencies or political subdivisions which is based upon the following:

- a. An act or omission of an officer or employee, exercising due care, in the execution of a statute or regulation, whether or not such statute or regulations is valid, if the statute or regulation has not been declared invalid by a court of competent jurisdiction; or
- b. Based upon the exercise of performance or the failure to exercise or perform a discretionary function or duty on the part of the State or any of its agencies or political subdivisions or any officer or employee of any of these, whether or not the discretion involved is abused.

The discretionary immunity initially was a very strong defense for governmental agencies. However, over the years various interpretations of the statute by the Nevada Supreme Court have eroded its effectiveness.

The Nevada Supreme Court has analyzed discretionary immunity in terms of the type of functions the governmental entity is performing at the time. The governmental (discretionary) function is the initial decision to act. A discretionary function can be categorized as a decision to build a freeway, flood control channel, or parking structure. Once the discretionary decision to act has been made, then the governmental entity shifts into the operational function which usually involves construction and design. The governmental entity is obligated to use due care when acting in the operational function area.

The discretionary immunity cases can generally be divided into the following areas: road/street, police protection, and miscellaneous. One case from each area will briefly be discussed to give the engineer a sense of the analysis which is engaged in by the Supreme Court.

In the case of State v. Webster, 88 Nev. 690, 504 P.2d 1316 (1972) horses wandered onto a frontage road and then onto a newly constructed controlled access freeway near Carson City. An accident later resulted when a car struck the horses. The plaintiffs sued the State on the theory that the State was negligent for not providing a fence to keep animals off the freeway. The Nevada Supreme Court held that the governmental (discretionary) function was the decision to build a controlled access freeway, rather than continuing an old two lane highway. Once the discretionary decision regarding construction was made, the State was obligated to use due care to make the freeway meet standards of reasonable safety. The court held the State was negligent for failing to install a cattle guard.

In Parker v. Mineral County, 102 Nev.Ad.Op. 131 (1986) a person cutting firewood saw another person lying on the side of a rural road who apparently needed help. After the person on the ground has refused assistance, the firewood cutter reported the incident to a Sheriff's deputy who said they would take care of the situation. No one responded to the report and the person by the side of the road later died of exposure. The police department was sued for failure to respond to the call. The Nevada Supreme Court, in upholding a ruling in favor of Mineral County Sheriff's Department, held that personal deliberation, decision and judgment are requirement of a discretionary act. In deciding not to respond to the call the County officials exercised their personal judgment as to how their limited resources should be utilized to best promote the public good. Such a decision could not be second guessed by the court.

In Esmeralda Counts v. Grogan, 94 Nev. 923 (1978) the Nevada Supreme Court held that the decision to grant, revoke, or withhold a liquor license is a discretionary act.

403.4.3 **NRS 41.033 - Failure to Inspect**

NRS 41.033 provides that an action may not be brought against the State under the waiver of sovereign immunity or against an officer or an employee of the State based upon the following:

- a. Failure to inspect any building, structure, or vehicle, or to inspect the construction of any street, public highway or other public work to determine any hazards, deficiencies or other matters, whether or not there is a duty to inspect; and
- b. Failure to discover such hazard, deficiency or other matter, whether or not an inspection is made.

An initial reading of this statute would seem to confirm broad protection for the governmental entity. However, subsequent interpretations of this statute by the Nevada Supreme Court eroded its effectiveness.

The protection provided by this statute can only be obtained if the government entity does not have actual notice of a hazard or dangerous condition. For instance, in Crucil v. Carson City, 95 Nev. 583, 600 P.2d 216 (1979) it was held that where the City allegedly had knowledge of a downed stop sign in an intersection and failed to act reasonable after discovering it, that NRS 41.033 did not provide immunity against such suit.

The State's protection under NRS 41.033 can also be altered by contract. In 1975 the City of North Las Vegas was sued when a person was electrocuted while working on a billboard and touched a high voltage line. Approximately 20 years before the accident the City had signed a franchise agreement with Nevada Power in which the City agreed to inspect the power lines in return for a certain percentage of the gross revenues attributable to the citizens of North Las Vegas. The court held the agreement imposed a contractual duty to inspect the power lines which superseded any protection provided by NRS 41.033.

In Butler v. Boqdanovich, 101 Nev. 499 (1985) a person built a home that was inspected and approved by the County. Several years later the plaintiffs purchased the home and found approximately 25 substantial building code violations and sued the County. The Nevada Supreme Court held that if the County had knowledge of the defects, the County owed a duty to the plaintiffs to take action as a result of the discovery of the deficiencies. The court held sovereign immunity would not bar actions based upon a public entity's failure to act reasonably after learning of a hazard. This case highlights the effect of actual notice eliminating certain sovereign immunity defenses.

#### 403.4.4 Limitation of Tort Damage Awards

NRS 41.035 generally provides two important limitations on the types of damage claims which can be awarded against a governmental entity.

The first limitation on damages awards limits a person's recovery in tort against a governmental entity to a maximum of \$50,000. The stated damage limitation applies to an individual for each cause of action which may be asserted against the State, regardless of how many actions he or she may have even if more than one action arose from a single event. State v. Webster, 88 Nev. 690, 504 P.2d 1316 (1972).

The second important damage limitation prevents an award of punitive damages against the State. This is a very important distinction between governmental and private liability. A private developer may be held liable in punitive damages which can range far in excess of any compensatory

damages which are awarded to a plaintiff, while a governmental entity is protected from such damages. However, government entities can be sued in inverse condemnation while a private developer is protected from such an action.

#### 403.4.5 Inverse Condemnation - Eminent Domain

The subject of Eminent Domain is extremely complex. However, a brief overview of this area is necessary for the engineer.

Article 1, Section 8 of the Nevada State Constitution provides in pertinent part that private property shall not be taken for public use without just compensation having been first made or secured, except in cases of war, riot, fire or great public peril, in which case compensation will be made later. Private property cannot be taken for a private use and can only be taken for a public use by a specific act of the governmental entity.

Eminent domain and inverse condemnation are basically the same concept but from a different perspective. If a governmental entity needs to obtain land for the construction of a flood control project, then the land is obtained by filing an eminent domain proceeding in which the land is condemned and the land owner is paid "just compensation" for the land. If a land owner claims that the property has been taken for a public use without just compensation being first made, then an inverse condemnation action is filed by the land owner seeking compensation from the governmental entity for the land.

Chapter 37 of the NRS governs eminent domain actions. Specifically, NRS 37.010(3) and (5) provides that the right of eminent domain may be exercised for the public purpose of "draining any County" or "for draining and reclaiming lands." Thus, obtaining property for flood control purposes has been specifically recognized by State statutes. Chapter 37 contains the statutes governing the acquisition and valuation process.

Chapters 340 and 342 of the NRS also contain additional information regarding eminent domain procedures and acquisition of real property. Of particular interest is NRS 342.280 which provides that no public body shall intentionally make it necessary for an owner to institute legal proceedings to prove the fact of the taking of his real property.

The courts have generally upheld the concept that drainage improvements are public purposes. A public drainage ditch has been held to be for a public purpose under eminent domain, and therefore required compensation for private property taken or damaged in the construction thereof. Eminent domain, 26 AmJur.2d Section 44. The courts quite generally have come to consider drainage district acts with favor as being for public purpose, whether exercised for the benefit of public health or for the reclamation or utilization of lands for agricultural purposes.

The Nevada Supreme Court specifically recognized the inverse condemnation theory in County of Clark v. Powers, supra. In that case the plaintiffs' properties were repeatedly flooded as a result of development activities of upstream developers. The court found the property no longer had a practical use other than as a flood control channel. The court noted in a footnote on page 501 of the decision as follows:

"It has long been established that a taking occurs where real estate is actively invaded by superinduced additions of water...so as to effectively destroy or impair its usefulness" Pumpelly v. Green Bay Company, 80 U.S. (13 Wall.) 166, 181, (1871), and the result is no different when property is subjected to intermittent, but inevitable flooding which causes substantial injury, United States v. Cress, 243 U.S. 316, 328 (1917).

Thus, private property which is subject to intermittent but inevitable flooding can be "taken" as a result of governmental flood control projects. However, each of the cases is highly dependent upon its factual situation. Inverse condemnation liability extends to "just compensation" for the highest and best use of the property. The previously mentioned \$50,000 damage limitation applies only to tort actions and does not apply to inverse condemnation actions. Additionally, the sovereign immunity defenses such as discretionary immunity and failure to inspect immunity are not available to the governmental entity because the right to just compensation for private property taken for a public use cannot be abridged or impaired by statute. Alper v. Clark County, 93 Nev. 569, 571 P.2d 810 (1977) cert. denied, 436 U.S. 905, 98 S.Ct. 2235, 56 L.Ed. 2d 402 (1978).

**WARNING SIGN - DUAL USE FACILITY**



REFERENCE:

**FIGURE 401**

WARNING SIGN - FLOOD CHANNEL



Revision	Date

REFERENCE:

FIGURE 402

**Standard Review Form**  
**Solar Millennium Draft Environmental Impact Statement for the Amargosa Farm Road Solar Energy Project**

**Reviewer's Name:** Richard Nelson/Erika Balderson **Reviewer's Organization:** Nye County

**Reviewer's email address:** Richard@becnv.com **Reviewer's Telephone numbers:** 702-304-9830

**Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight):** Oversight

**Section or Chapter Number and Date of Reviewed Document:** April 2010

	<b>EIS Section</b>	<b>Page/Line</b>	<b>Comment/Suggested Revision</b>	<b>Action (for use by BLM)</b>
Comment No. 19-01	ES-1.4.5	ES-15/ Table ES-1-4/ line 7-11	In the No Action Alternative for Air Quality and Climate, the statement "The No Action alternative, therefore, would not contribute to the State of Nevada's established Renewable Portfolio Standard goals," should be removed as this is not directly relevant to Air Quality.	
Comment No. 19-02	Acronyms and Abbreviations	xvi	Add "Ldn - Day Night Average Noise Level" (reference line 2, page 4-25)	
Comment No. 19-03	2.2	2-2/2	The section describes only three (3) alternatives: Dry cooling, wet cooling, and no action. Hybrid cooling should have been included as a fourth alternative in order to evaluate all possible impacts.	
Comment No. 19-04	2.3.2.4	2-19/paragraph 3, line 8	The paragraph cites the use of a gas-fired heater for supplemental heat when required, but does not cite the type of gas used, nor is there any pipeline or gas storage tank indicated on site diagrams (Figures 2-1 through 2-4.	
Comment No. 19-05	2.3.3.2	2-20/paragraph 1	The paragraph cites an HTF heater to be located in the power block, but does not indicate the type of gas to be used by the heater, or the storage point for that gas.	
Comment No. 19-06	2.3.3.3	2-21, Figure 2-6	Does not show provision for a gas pipeline or storage tank.	
Comment No. 19-07	2.3.6.3	2-27/ paragraph 2,	A description of the treatment and disposal of the precipitate or wastes	

Responses to these comments are provided on a separate page following this comment document.

		line 2	produced during reverse osmosis processes should be included.	
Comment No. 19-08	2.3.7	2-29/line 13	A statement should be included to describe the content and concentrations of contaminants/precipitates contained in the Reverse Osmosis reject water being used for dust suppression.	
Comment No. 19-09	2.3.8	2-31/last paragraph of section 2.3.8/ last line	Discussion should include the maintenance and containment for each of the bioremediation facilities, during use and non-use periods.	
Comment No. 19-10	2.3.14	2-35/ paragraph 5, line 3	A description of the plan for the disposal of sediment should be included.	
Comment No. 19-11	Table 2-5	2-52/ Proposed Action Line 7	Change "... the proposed Project would generate..." to "... the proposed Project could generate..."	
Comment No. 19-12	Table 2-5	2-52/ Proposed Action Line 11	Change "... services within the ROI would total approximately..." to "...services within the ROI could total approximately..."	
Comment No. 19-13	3.4.1.3	23-28 end of paragraph	Add: "The Nye County Water District Board has been created to oversee the qualitative and quantitative status of water resources available for use within the County."	
Comment No. 19-14	3.9.2.1	3-105/last paragraph/ line 2	Change "... Nevada's population will ..." to "... Nevada's population may ..." Referenced population trends (growth) do not reflect current County or Pahrump conditions. Recent estimates have indicated the population of Nevada may actually decline due to current economic conditions.	
Comment No. 19-15	4.4.1.2	4-23/ Waste Water Management, paragraph two/ line 6	Include the potential interactions between adjacent areas such as the bioremediation field, detention basins, and/or storm drainage outfalls, when the final location for the septic leach field is determined (see site map Figure 2-1).	
Comment No. 19-16	4.4.1.2	4-23/ Waste Water Management, paragraph five	Add an additional paragraph describing the contaminant content and concentrations of the reverse osmosis waste water and blowdown, and potential soil and groundwater impacts that will be used for dust suppressant (see Section 2.3.6.3, page 2-27).	
Comment No. 19-17	4.5	4-25 line 2	After "... Ldn" ad "(day night average noise level)".	
Comment No. 19-18	4.5.1.1	4-27	Enlarge decibel legend in this Figure to improve legibility.	

Responses to these comments are provided on a separate page following this comment document.

Comment No. 19-19	4.5.1.1	4-30	Enlarge decibel legend in this Figure to improve legibility.	
Comment No. 19-20	4.5.1.1	4-31	Enlarge decibel legend in this Figure to improve legibility.	
Comment No. 19-21	4.5.1.1	4-34	Enlarge decibel legend in this Figure to improve legibility.	
Comment No. 19-22	4.5.4	4-33/last paragraph/ line 2	Potential mitigation measures (section 4.5.4) should be included as they may be needed with noise values within 0.3 dBA of the EPA upper threshold limit.	
Comment No. 19-23	4.9.1.1	4-48/ Construction paragraph 3/ line 7	Describe the cumulative impact on multiple solar energy facilities drawing on the same construction resources (staffing).	
Comment No. 19-24	4.17.4	4-107/ additional bullet	The cumulative impact on multiple solar energy facilities drawing on the current construction resources (unemployed) should be described.	
Comment No. 19-25	5.2	5-3/after paragraph 2	Add paragraph: Nye County is currently negotiating a voluntary development agreement with the project proponent to mitigate direct impacts to roads, emergency services, etc.”	
Comment No. 19-26	Appendix A.6	A-8	Add mitigation measures for wildlife where evaporative ponds are used (reference section 4.6.2.2, page 4-43). As evaporation takes place the concentration of chemicals/precipitates will increase. How will they be handled? Will precipitates be allowed to accumulate and possibly be carried to the ground water over a period of time?	
Comment No. 19-27	Appendix A.10	A-12	Add mitigation measures for wildlife where evaporative ponds are used (reference section 4.6.2.2, page 4-43). As evaporation takes place the concentration of chemicals/precipitates will increase. Identify disposition methods for the contaminants/precipitates in pond areas to avoid possible infiltration into the ground water over a period of time. Identify methods to avoid further contamination in the event of flooding in evaporative pond areas.	
Comment No. 19-28	Appendix A.10	A-12	Identify how evaporative pond and detention basin evaporates and precipitates will be disposed of during decommissioning and remediation of the project site.	
Comment No. 19-29	Appendix A.10	A-12	Add measures to monitor storm water drainage outfall areas and detention basins for potential contaminants/precipitates from the project site to ensure there is no buildup of salts, selenium, etc. Identify thresholds and mitigation measures to be taken if contamination or precipitate buildup is noted.	

Responses to these comments are provided on a separate page following this comment document.


To add additional boxes, press tab.

## RESPONSES TO COMMENT NO. 19-01 THROUGH 19-29

### Response to Comment No. 19-01

At the request of the commenter, the statement has been removed.

### Response to Comment No. 19-02

Ldn is defined in section 3.5.1 and added to the table of acronyms and abbreviations.

### Response to Comment No. 19-03

In late 2010, the first hybrid solar facility is expected to come online in Martin County, Florida. Although this new technology is promising, solar thermal parabolic trough technology using either wet- or-dry cooling has a well-proven track record for successful operation throughout the world. Hybrid cooling uses a combination of a smaller air cooled condenser coupled with a wet cooled condenser. Depending upon the respective sizes selected for the wet and dry cooled condensers, the system would offer a hybrid of the advantages of each. Specifically, the wet cooled condenser section would improve performance during high ambient temperatures and the air cooled condenser will conserve water use. The major disadvantage of the hybrid cooling system is that it increases cooling system complexity and overall system costs. Therefore, the hybrid cooling systems have not been commonly used in power plants of this size range. For this reason, hybrid cooling was not evaluated as an alternative. In addition, because the wet- and dry-cooled alternatives are so different, they provide for a robust analysis and comparison of effects, as each alternative has different advantages.

See also response to comment 16-05.

### Response to Comment No. 19-04

As stated in Section 2.3.4 (Fuel Supply and Use) - The auxiliary boiler and HTF heaters will be fueled by propane. Propane will be delivered to the plant site via truck from a local distributor and stored in 18,000-gallon aboveground tanks (one in each power block). The estimated propane usage for the auxiliary boiler per unit for normal operation is approximately 9 MMBtu/hr overnight and approximately 34 MMBtu/hr for 30 minutes during startup each morning. The estimated maximum propane usage for the HTF heater is an additional 41 MMBtu/hr per unit is for approximately 50 hours per year during the winter.

Response to Comment No. 19-05

See response to Comment No. 19-04

Response to Comment No. 19-06

See response to Comment No. 19-04. Propane will be stored in 18,000-gallon aboveground tanks (one in each power block).

Response to Comment No. 19-07

This information is provided in section 2.3.5.2 in the FEIS.

Response to Comment No. 19-08

This information is provided in section 2.3.5.2 in the FEIS.

Response to Comment No. 19-09

This information is provided in section 2.3.5.2 in the FEIS.

Response to Comment No. 19-10

Sediment control will be addressed in the site-specific Stormwater Pollution Prevention Plan to be developed prior to construction.

Response to Comment No. 19-11

Edited sentence per commenter's request.

Response to Comment No. 19-12

Edited sentence per commenter's request.

Response to Comment No. 19-13

At the request of the commenter, information has been added to the FEIS in Section 3.4.1.3.

Response to Comment No. 19-14

The paragraph in question is no longer in the FEIS.

Response to Comment No. 19-15

The precise location of the bioremediation field, detention basins and/or stormwater drainage outfalls, and septic leach field has not been finalized. The EIS considers that these project components would be constructed and operated in compliance with all federal, state, and local laws and regulations. Specific detail about the function of each of these components is provided in Chapter 2.

Response to Comment No. 19-16

This information is provided in section 2.3.5.2 in the FEIS.

Response to Comment No. 19-17

Ldn is defined in section 3.5.1 and added to the table of acronyms and abbreviations.

Response to Comment No. 19-18

The requested edits have been made in the FEIS.

Response to Comment No. 19-19

The requested edits have been made in the FEIS.

Response to Comment No. 19-20

The requested edits have been made in the FEIS.

Response to Comment No. 19-21

The requested edits have been made in the FEIS.

Response to Comment No. 19-22

The noise model calculations show that, during Project operation, the EPA threshold of 55 dBA will not be exceeded. Therefore potential noise mitigation measures will not be necessary.

Response to Comment No. 19-23

See section 4.17.5.10 for a discussion of cumulative impacts to the labor force.

Response to Comment No. 19-24

See section 4.17.5.10 for a discussion of cumulative impacts to the labor force.

Response to Comment No. 19-25

Please refer to the Development Agreement available in Appendix F.

Response to Comment No. 19-26

The BLM preferred alternative is the Proposed Action (dry-cooled alternative). See Section 1.9 regarding the addition of evaporation ponds to manage industrial wastewater flow. Mitigation measures to protect wildlife species are provided in Appendix A-6.

Response to Comment No. 19-27

See response to Comment No. 19-26.

Response to Comment No. 19-28

See response to Comment No. 19-26.

Response to Comment No. 19-29

Monitoring and compliance are requirements of the NDEP NDPEs Stormwater Discharge Permit and are expected to be integrated into the detention/retention basin designs.

April 30, 2010

To: BLM Pahrump Field Office,  
Attention: Gregory Helseth,  
4701 North Torrey Pines Drive,  
Las Vegas, NV 89130-2301  
[solar\\_millennium@blm.gov](mailto:solar_millennium@blm.gov)

**Subject:** We would like to submit these comments on the Draft Environmental Impact Statement for the Solar Millennium Amargosa Farm Road Project, Bureau of Land Management [LLNVSO3100 L5101000.ER0000 LVRWF09F8590 241A; 10-08807; MO#4500012002; TAS: 14X5017] Notice of Availability of the Draft Environmental Impact Statement for the Solar Millennium Amargosa Farm Road Solar Power Project, Nye County, NV

Basin and Range Watch is a group of volunteers who live in the deserts of Nevada and California, working to stop the destruction of our desert homeland. Industrial renewable energy companies are seeking to develop millions of acres of unspoiled habitat in our region. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems and open space.

Comment No.  
20-01

**Deadline for DEIS Comments:** Due to the outstanding unresolved issues that this project has instigated, we would like to request that the scoping deadline be extended into the end of June, 2010.

Comment No.  
20-02

**Fast Tracking Deadlines :** Although we understand that BLM is under considerable political pressure to develop renewable energy, we believe it is unwise for the BLM to be using "fast tracking" seemingly to expedite approval of this project. We feel that if there are enough outstanding unresolved issues that make approval and construction of facilities by November of 2010 under the American Recovery and Reinvestment Act a very unrealistic goal. This process has led to an unreasonably rushed schedule that has the potential to have long term impacts on natural resources and overlooks the many concerns that public and adjacent private land owners have raised. The rushed schedule has resulted in a distrust and lack of faith in the ability of our public land agencies and elected officials to actually develop renewable energy in a way that could be sustainable for the future. Furthermore, the fast tracking undermines laws established under the National Environmental Policy Act that have been enacted to insure that resources on public lands are managed soundly for future generations.

Comment No.  
20-03

**Purpose and Need:** Although it is not the job of the BLM to list private land alternatives, we do not believe that this project is the best possible management option for the public lands of the region. Many renewable project developers have failed to consider reasonable or viable alternatives that could serve as solutions that everybody could live with. In the case of this particular project, conflicts with private property owners, cultural resources, storm water drainage erosion, endangered species, biological resources, view-scapes from National Parks and wilderness areas could all be avoided with a distributed generation alternative.

Comment No.  
20-04

There exist many high-risk problems and assumptions associated with the project design, which is being supported on public land and with taxpayer subsidies. Distributed generation should be given much more full analysis, as it is a completely viable alternative. The project will need just as much dispatchable baseload behind it, and also does not have storage. But environmental costs are negligible with distributed generation, compared with the project. Distributed generation cannot be "done overnight," but neither can large transmission lines across hundreds of miles from remote

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 20-04 (continued)</p>	<p>central station plants to load centers. Most importantly, distributed generation will not reduce the natural carbon-storing ability of healthy desert ecosystems, will not disturb biological soil crusts, and will not degrade and fragment habitats of protected, sensitive, and rare species. Alternatives should be looked at that are in load centers, not closest to the project site. There is a need to consider the "macro" picture, the entire state, to look at maximum efficiency.</p>
<p>Comment No. 20-05</p>	<p>A Master comprehensive plan should exist before large expensive inefficient solar plants are sited and built out in the wildlands. This plan should carefully analyze the recreational and biodiversity resources of the public lands desert. A list of assumptions should be included detailing the plan for integrating various fuels mixes and technologies into each utility's plan, an overall state plan, and a national plan. Loads should be carefully analyzed to determine whether additional capacity is needed for peaking, intermediate, or baseload purposes. Unit size, which impacts capital and operating costs and unit capacity factors, has a direct bearing on the relative economics of one technology over another. A plan might recommend that smaller units built in cities and spaced in time offer a less risky solution than one large unit built immediately.</p> <p>Right now there is no utility plan, no state plan, and no national plan. Large-scale central station solar plants have been sited very far from load centers out in remote deserts, with the only criterion being nearness to existing transmission lines and natural gas lines. Very little thought has been given to the richness of biological resources, the cumulative impacts on visual scenery to tourists, the proximity to ratepayers, or the level of disturbance of the site.</p> <p>There will be a need to build many new efficient natural gas peaker or baseload plants to back up the renewables planned. Instead, the renewables should be distributed generation in load centers, which will provide much more efficiency, rather than inefficient remote central station plants that reduce biodiversity and require expensive transmission lines. This reduces the risk, as distributed generation is a known technology and has been proven in countries like Germany where incentive programs have been tested. Incentive programs can be designed in an intelligent manner to vastly increase distributed generation. Incentives for large remote projects like Amargosa Farm Road Project are not proven to lower risk and may actually raise debt levels with runaway costs associated with poor siting and higher-than-anticipated operating and maintenance costs.</p>
<p>Comment No. 20-06</p>	<p><b>Project Right of Way:</b> The Right of Way is close to 8,000 acres (7,800), but the project is only 4,000 acres. Are there plans to expand the project?</p>
<p>Comment No. 20-07</p>	<p><b>Land Use:</b> The project area is located mostly on public lands. Will the project site be designed to have access corridors going through it? What kind of "mitigation" would be provided to compensate for disruption of access? Has this been considered? The Bureau of Land Management's multiple use philosophy simply can not be met if so many acres are going to be sacrificed for only one use. Plans to convert so much public land use to energy use only violates BLM's multiple use philosophy.</p>
<p>Comment No. 20-08</p>	<p><b>Proposed Action and Alternatives:</b> The only alternatives listed are the Dry Cooled Alternative, the No Action Alternative and the Wet Cooled Alternative. Solar Millennium originally proposed wet cooled as their preferred alternative. In early November, 2009, long before the release of this DEIS, Solar Millennium announced that their preferred alternative would be dry cooled, mainly because the overdrawn water resources of Amargosa Valley would not feasibly allow for the use of so much water. The justification for not choosing an alternative further away from the community of Amargosa Valley is a weak. The DEIS claims that all the other BLM land is claimed by other existing solar applications. At a recent public meeting for Solar Millennium in Las Vegas in Beatty, Nevada, BLM personnel informed us that they were about to cancel applications from both Abengoa and Cogentrix. In total, it</p>

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 20-09 (continued)</p>	<p>was implied that several thousand acres could be considered as alternatives for this project, just based on applications that BLM has been planning to cancel. Given the outstanding conflicts between local people concerning their community, we feel that BLM needs to provide a viable alternative to this project besides the No Action Alternative and the improbable Wet Cooled Alternative.</p>
<p>Comment No. 20-09</p>	<p>Another alternative to consider would be one that uses a different technology such as a heating system that uses steam over hazardous materials such as Therminol.</p>
<p>Comment No. 20-10</p>	<p>The Anvil Road Alternative was eliminated as well as an alternative to only develop a single 232 megawatt plant because "a single 250 MW plant would not be as effective in meeting the project objective of supporting attainment of renewable energy mandates and objectives." This statement is very inconsistent with Solar Millennium's plan to build a 250 MW plant near Ridgecrest, California. The EIS has not justified rejecting a smaller plant alternative adequately.</p>
<p>Comment No. 20-11</p>	<p>In Section 2.3.3.3., concerning thermal energy storage, the molten salt systems are said to support "approximately 4.5 full load equivalent hours of electric energy after sundown and on cloudy days." This estimate does not factor in winter day length and temperature. A better analysis that factors in these variables will be needed to help us determine how efficient this technology would be on a year round basis.</p> <p><b>Hazardous Materials:</b> Page 4-97, 98 says detection of large leaks is being proposed by using remote pressure sensing equipment and remote operating valves. Details of the design will be developed in the design detail process. This is unacceptable, as HTF fires from leaks is one of the primary concerns of having the facility so close to town. A plan needs to be developed now for public review. There are many unanswered questions: Will each loop in the solar field be isolated by a valve to close it off in case of fire? Would manual control be better than remote because of issues of wiring failure in such a large facility? Can valves be made to close automatically with a spring control after reaching a certain temperature, as is being proposed for the Solar Millennium Ridgecrest project in California? Has the applicant made an agreement with Nye County for fire and emergency response coordination? How many million gallons of Therminol will be on site? Will a Development Impact Fee be paid to the county? Are HazMat response teams available in case of an explosion? Would the Fire Department be able to respond to two fires at two solar facilities simultaneously in the cumulative build-out scenario? A Fire Needs Assessment and Emergency Needs Assessment should be carried out and made available for public review before the final EIS.</p>
<p>Comment No. 20-12</p>	<p>An assessment of how many gallons of HTF will be allowed to spill, such as 600 gallons at a time. A Hazard Operations analysis should be undertaken. How long will it take to burn 600 gallons or 1200 gallons of HTF in a spill? Will the fire be of long duration so that it could spread? Or would the fire only burn for 15 minutes, for example, and burn out quickly?</p>
<p>Comment No. 20-13</p>	<p>Cumulative impacts should be considered very significant if even a few solar thermal projects are developed in Amargosa valley. In a recent workshop with the California Energy Commission and Bureau of Land Management with Solar Millennium Blythe and Palen projects, which share similar design features to the Amargosa project (Riverside County, California, April 24, 2020), recommendations were made that the applicant needs to enter negotiations with the county for adding capital improvements to the Fire, Emergency Response, and HazMat facilities. Specifically, the applicant would be asked to contribute towards a new fire station and two new engines to the county, and ongoing operations and maintenance fees. A sum of \$350,000 first fee and \$100,000 annual fee would be negotiated between the first solar project constructed and the county, and after</p>

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 20-13 (continued)</p>	<p>that each new solar project to come online would contribute, and a rebate given to the first project, so that every power plant contributes.</p>
<p>Comment No. 20-14</p>	<p>Solar projects will have direct significant impacts to the county ability to respond to fire and emergency, as two responders should be able to respond from different parts of the county, and these may be from a long distance away.</p>
	<p>In addition, solar power plants should have annual fire and emergency training annually with the fire department.</p> <p>Nevertheless, we still consider the location of the solar fields of the Amargosa project to be too close to residents. HTF leaks and fires, and in the worst case scenario, explosions, mean that the project should be farther away from the town of Amargosa Valley.</p>
<p>Comment No. 20-15</p>	<p>An addition safety hazard for the public is the large number of truck traffic potentially passing by the school on Amargosa Farm Road during operations, with weekly delivery of propane and other materials.</p>
<p>Comment No. 20-16</p>	<p>Security concerns need to be addressed. Will closed-circuit TV cameras be installed on the perimeter fence and powerblock? Will cyber-security be assessed for cyber-attacks, following Homeland Security guidelines?</p>
<p>Comment No. 20-17</p>	<p><b>Water Resources:</b> Even though Solar Millennium has made the commitment to go dry cooled, they are still going to need over 400 acre feet of water to maintain this facility. They are proposing to change the water use from "Agricultural" to "Industrial." Water is designated "Agricultural." Although Solar Millennium has identified an existing water right that they plan on leasing, all of this water still lies within the designated Agricultural Farm District. Changing the use to Industrial is a violation of Nevada water law.</p> <p>From Nevada State Order 1197:</p> <p><i>WHEREAS, an administrative hearing was held on September 5-6, 2007, in where evidence and testimony was received regarding the potential impacts of regional pumping on existing rights, particularly the federally reserved water right at Devils Hole? The federally reserved water right specifies a threshold water level at Devils Hole. Information provided at the hearing show the water level in Devils Hole is only 0.6 to 0.7 feet above the threshold level mandated by the U.S. District Court; 3.</i></p>
<p>Comment No. 20-18</p>	<p>The Amargosa Valley water resources are already over appropriated by approximately 17,000 acre feet. We are concerned that water conservation laws established under the State Engineer's office would be undermined in the Amargosa Farm District. This could set a precedent regarding the potential future cumulative impacts from the political demand to turn the Amargosa Valley into an experimental renewable energy industrial zone.</p>
<p>Comment No. 20-19</p>	<p>At the public meeting held in Beatty, Nevada in April, 2010, BLM personnel informed us that the State Engineer, the National Park Service, the Nevada Division of Wildlife and the US Fish and Wildlife Service have all been in private meetings developing a solution that would allow Solar Millennium to</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No. 20-19 (continued) use this water for industrial use. We were told that the conflicts of changing the use from agricultural to industrial could be worked out by either retiring another water right or "injecting" water back into the aquifer. Many water injecting projects fail, often not reaching the aquifer. We did attempt to verify this information with one of the Nevada State Engineers. The individual that we talked to in the State Engineer's office informed us that no agreements or solutions have been reached between the agencies.

Comment No. 20-20 A cumulative analysis of water withdrawal from all proposed regional energy projects should be provided in the final EIS. How would these projects impact Ash Meadows National Wildlife Refuge, the Amargosa Wild and Scenic River and Death Valley National Park? How would the cumulative water impacts effect local residents of Amargosa Valley and communities "down-stream" from the Amargosa Valley?

### Stormwater and Erosion Management

Comment No. 20-21 We suggest reconfiguring the project around Forty-mile Wash, as this wash has had very large historic flows, as recently as 1998, which could cause major damage to the solar field. A small cement-lined channel will likely not contain large flash floods. Even smaller floods could gradually scour and destroy a concrete-lined channel. Concrete channels may work to contain small washes, but not a large wash such as Forty-mile Wash, as indicated by floods damaging Highway 95.

A regional detention basin north of Highway 95 in Forty-mile Wash has been proposed, but may be years off and will need a separate environmental review. How does the applicant propose to protect the solar field and powerblock from strong floods without this? Spills of HTF could be an issue during flooding. Therefore a Stormwater Pollution Prevention Plan needs to be developed now for public review, not later.

Comment No. 20-22 **Greenhouse gases:** Plans to build a new 250 KV transmission line to Johnnie and upgrade existing transmission will add more SF6 gases to the atmosphere. The green house gas called SF6 is used primarily in electricity transmission - and is emitted in especially large amounts in construction of new lines - and is 24,000 times as potent as CO2 in it's global warming impacts. The Environmental Protection Agency has declared "that the electric power industry uses roughly 80% of all SF6 produced worldwide". Ideally, none of this gas would be emitted into the atmosphere. In reality significant leaks occur from aging equipment, and gas losses occur during equipment maintenance and servicing. With a global warming potential 23,900 times greater than CO2 and an atmospheric life of 3,200, one pound of SF6 has the same global warming impact of 11 tons of CO2. In 2002, U.S. SF6 emissions from the electric power industry were estimated to be 14.9 Tg CO2 Eq. ... <http://www.epa.gov/electricpower-sf6/basic.html>  
Please provide a detailed analysis of the amount of SF6 gases that would be released by this project.

Comment No. 20-23 **Carbon sink:** Scientific studies have revealed that desert ecosystems and minerals have the ability to store C02 gases. Have Desert Researchers Discovered a Hidden Loop in the Carbon Cycle? Richard Stone: Science 13 June 2008: Vol. 320. no. 5882, pp. 1409 - 1410 DOI: 10.1126/science.320.5882.1409.

Responses to these comments are provided on a separate page following this comment document.

Comment No. 20-23 (continued) | How much CO2 storage capability would be replaced by development? If the goal is indeed to reduce greenhouse gases, is it wise to remove this much carbon storing ecosystem? Please provide a detailed analysis on the amount of GHG that would otherwise be offset by an intact arid ecosystem.

Comment No. 20-24 | **Air Quality:** Dust issues for the community of Amargosa Valley have not been resolved. From the amount of land that will be graded, any time there are windy days, the dust will be kicked up. Dust plumes during construction could seriously compromised the air quality of the park during high wind events.

**Biological Resources:**

Comment No. 20-25 | The applicant's biological data only represents one drier than normal season for their biological surveys. The spring of 2009 was not a good representative year for surveying biological resources. The Amargosa Valley has similar rainfall totals to the West Mojave Desert. Any projects that are proposed for the West Mojave are usually required to have at least two surveys on different years to get an objective view of an area's biological diversity as some years are dry and more dormant than others. The BLM has made a great mistake by only requiring the applicant to conduct one survey. As it turns out, the project site received 3.65 inches from November, 2009 to April 2010 with most of the rain falling in January and February of 2010. That is nearly the rainfall total for an entire year. We would like to request more biological surveys. Even the best biologist will not be able to provide complete data based on one poor survey season.

Comment No. 20-26 | **Desert Tortoise:** The project occurs in desert tortoise (*Gopherus agassizii*) habitat. On three visits to the project site, we saw active tortoise burrows. Although not of great density, this sign indicates a tortoise population inhabits the site, and should be considered. Connectivity issues are also a concern, with cumulative impacts to tortoise habitat in Amargosa Valley from numerous renewable energy projects potentially affecting gene flow to the north in the tortoise populations of the Beatty and Bullfrog Hills region. Loss of food plants in the habitat are also of concern. The DEIS implies that the tortoise has been extirpated from the project area based on failure to detect tortoises on site in the spring of 2009. But one presence-absence survey cannot be used to estimate tortoise density. No protocols for the monitoring were provided. Qualifications of tortoise biologists need to be given.  
  
We would like to know why desert tortoise surveys were only conducted during the spring of 2009. As both the BLM and the applicant are aware, the spring, 2010 season was far more representative of what could be considered a good year regarding precipitation totals. We have included photos of the habitat.

Comment No. 20-27 | We are also very concerned with the claims by Tierra Biological Consulting that the area contains no annual vegetation. The dry condition of Amargosa Valley appears to be caused by the "rain shadow" effect of the Sierra Nevada as well as the Funeral Mountains, located in California, and situated due west of the project site. Rainfall and climatic data can be found in Section 1.3.2.

The Mojave Desert does not produce consistent rain and a bumper annual bloom every year. To only do one survey on a very dry year and conclude that the region has low biodiversity is misleading. A healthy desert tortoise population does not always occur in an area that has equally high plant density. This is why many animals have large home ranges. In the case of this report, only one survey was conducted on a dry year. Had the survey been conducted in 2010 by competent biologists, the conclusion on annual plant density would have been much more positive. It makes little sense to conclude low annual biodiversity in the Mojave Desert based on one dry season.

Comment No. 20-28 | The following quotes concerning desert tortoise come from the Tierra Data Biological Report, 2009 with our responses below:

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 20-28 (continued)</p>	<p><i>"A small desert tortoise population is known to exist to the North of the project site around Beatty, NV. Desert tortoise surveys conducted in 2006 (Knight and Leavitt 2006) and in 2007 (Converse Consultants 2008) for proposed mining operations, indicate population densities of 0-9.99 tortoise per square mile. It should also be noted that the lead tortoise biologist for this project was the BLM Manager for public lands surrounding Beatty, NV and has extensive knowledge of this tortoise population. This experience can confirm the low density of this Population."</i> (Tierra Data Biological Report, 2009)</p>
	<p>There are tortoise populations located from the region of Amargosa Valley to the Bullfrog Hills near Beatty, NV. It is misleading to imply that there is only one small tortoise population near Beatty, Nevada. In reality, the area supports tortoise habitat continuously, and populations are spotty, at best. Furthermore, tortoise populations can be found on south facing slopes to the community of Scotty's Junction. It is not scientific to assume that habitat quality and tortoise density are the same thing.</p>
<p>Comment No. 20-29</p>	<p><i>"To the northeast of the project site, lies the Department of Energy, Nevada Test Site. This area has been extensively surveyed for tortoise over many years (Rautenstrauch and O'Farrell, 1991). These surveys also indicate a low to very low density of tortoise."</i> (ibid.)</p>
	<p>This is also a misleading statement. Anyone can reference the biological survey reports for the Nevada Test Site and surrounding military property. The populations of tortoise vary in size and density over the larger land area comprised in the Nevada Test Site. It is a very large area. To claim that the whole site has a low to very low density is unscientific.</p>
<p>Comment No. 20-30</p>	<p><i>"In addition to these harsh environmental conditions, the project shows heavy anthropological disturbance. As was previously discussed, almost the entire project is encompassed by roads. The roads transect the site from North to South and East to West on almost all section lines. In addition, several roads cross the area at various angles. The Northeast corner of the project has a road/trail system that is used for competitive off-road racing events. This off-road racing event course has been widened over years of racing to well over 200 feet in some areas."</i> (ibid.)</p>
	<p>Another very misleading comment. We have walked the site seven times. Vehicle disturbance is limited to about 30 percent of the site. This disturbance is in the form of light tire tracks. Clearly the biologists have exaggerated the facts.</p>
<p>Comment No. 20-31</p>	<p><i>"Upon completion of over two months of desert tortoise surveys, conducted during the months of late March and all of April and May, only four Class 4 burrows were observed. These months are considered the months of highest tortoise activities. No dead or live tortoises were observed. As was previously discussed, no shells, scutes or bone segments of dead tortoise were detected in wash areas or where water ponds during high water events. Generally, if no other tortoise sign is detected during survey activities, tortoise remains can be found in washes."</i> (ibid.)</p> <p>Below is a photo of an active desert tortoise burrow that we found on the site on April 26<sup>th</sup>, 2010.</p>

Responses to these comments are provided on a separate page following this comment document.



The GPS coordinates are: NAD27, UTM zone 11, e-542777, n-4047023.

Comment No.  
20-31  
(continued)

Approximate location of tortoise burrow on Solar Millennium project site, north of Amargosa Farm Rod, near Casada Rd.

Desert tortoise populations on the edges of the range can represent “fringe populations” that can be important for maintaining species survival in the event of core population declines. Since the survey data is so incomplete, we would first like to request another field survey season for the desert tortoise. We would also like to see a Biological Assessment, a Translocation/Relocation Plan and a one to one mitigation strategy.

A response to this comment is provided on a separate page following this comment document.



Pincushion flowers (*Chaenactis* sp.) Spring, 2010



Golden evening primrose (*Camissonia brevipes*)

Comment No.  
20-32

**Other Wildlife:**

Quotes from the Tierra Data Biological Report, 2009 with our responses below:

*"Nearly 40 percent of the project site is dominated solely by creosote (Photo 3-3), and while some other shrubs such as burrobush or saltbush do occur they are very minor components. Other than shrubs, there is very little vegetation cover. What little there is consists primarily of very sparse Mediterranean grass and goldfield, confined almost exclusively under shrub canopies. In the ground space between shrubs there is little to no herbaceous growth aside from Cryptantha and spineflower (Photo 3-4), which in some areas is present in relatively high numbers (although in well-dispersed patches of perhaps 10+ plants/m<sup>2</sup>). Also notable are scattered dense patches of flat-topped buckwheat, which primarily occur in this vegetation type. Observable wildlife was also scarce in the creosote, where sightings of lizards, numerous elsewhere on the project site, were very rare."*

This seems to be a consistent problem with the biological data that has been submitted for this project. The lizard fauna we observed on the site was abundant in April, 2010. Clearly the biologists should be required to survey during a season which would provide them with more accurate numbers.

**Desert Iguana (*Dipsosaurus dorsalis*):**

Our April 2010 site visit found this species to be abundant on the site.

**Sand flow for Dune Endemics:**

Comment No.  
20-33

The project would be sited in close proximity to the Big Dune Area of Critical Environmental Concern. The project would consist of over 4,000 acres with a Right of Way of over 7,000 acres. The DEIS has no information on how such a large development project would effect the distribution of Aeolian (wind deposited) sand. Big Dune sand deposits are related to local wind patterns and the geological deposits of the Amargosa River. The DEIS fails to analyze the potential direct and cumulative effects of sand flow obstruction that may have long term impacts on endemic plants and insects. The four endemic beetles from the Big Dune Area of Critical Environmental Concern are dependent on Aeolian sand deposits.

Responses to these comments are provided on a separate page following this comment document.

<p>Comment No. 20-33 (continued)</p>	<p>The four species of endemic beetles: Giuliani's big dune scarab beetle (<i>Pseudocotalpa giulianii</i>) was proposed for listing as a threatened species under the Endangered Species Act in August 1978. In addition, the entire Big Dune Complex was proposed as critical habitat for the species. Off-road vehicle use was identified as the largest threat to the species at the time. It has also recently been proposed for listing by the Wild Earth Guardians in January of 2010.</p>
	<p>Three other rare and sensitive beetle species can also be found at Big Dune: Large Aegialian Scarab Beetle (<i>Aegialia magnifica</i>), Rulien's miloderes weevil (<i>Miloderes rulieni</i>), Big Dune aphodius scarab beetle (<i>Aphodius</i> sp.).</p>
<p>Comment No. 20-34</p>	<p>Please provide a geologic map that explains where the source(s) of sand for the Big Dune complex originate.</p>
	<p><b>Burrowing Owl: (<i>Athene cunicularia</i>)</b></p>
<p>Comment No. 20-35</p>	<p>The DEIS fails to explain what survey methodology, if any, was used to detect burrowing owls and sign. Indicate whether burrowing owl surveys were conducted using recommended protocols (Burrowing Owl Survey Protocol and Mitigation Guidelines, 1993. Prepared by the California Burrowing Owl Consortium. <a href="http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf">www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf</a>, accessed November 10, 2009). Were surveys carried out during the hours around sunrise and/or sunset, or were owls detected incidental to other survey efforts? The DEIS does not provided quantitative evidence on how densely populated with burrowing owls the project site is. The burrowing owl guidelines (ibid.:i) emphasizes "maintaining burrowing owls and their resources in place rather than minimizing impacts through displacement or owls to an alternate site."</p>
	<p>We disagree with the DEIS (page 3-97) that the project site is poor habitat for burrowing owls and not suitable for breeding in the desert areas. We have seen burrowing owls in the area during spring and summer several times within a few miles of the project area in open Mojave Desert scrub similar to the project site. During the spring of 2010 wildflowers were abundant, and insects as well as abundant kangaroo rat (<i>Dipodomys</i> spp.) burrows were seen by us on the project site. This appears to be a good food base for breeding burrowing owls.</p> <p>Passive relocation should be used before construction begins, as recommended by the guidelines.</p> <p>The CDFG burrowing owl guidelines (ibid.:10) recommends that for off-site mitigation, replacement of occupied habitat with 9.75 acres of occupied habitat per pair or single owl found, or 13 acres of contiguous habitat per pair or single bird, or 19.5 acres of unoccupied habitat per pair or single bird. The FSA/DEIS has not discussion of this or whether any future plan will undertake these recommendations. Please address this.</p>
<p>Comment No. 20-36</p>	<p><b>Bald Eagle and Golden Eagle:</b> We have observed Golden Eagle nests in the Bare Mountains. The DEIS states that there will be no impacts to golden eagles, but the project will permanently remove over 4,000 acres of foraging habitat for this species.</p>
<p>Comment No. 20-37</p>	<p><b>Bats:</b> Six species of bats occur on the site. Please explain potential impacts of collision with hot components of the power plant during dusk. Since heat would be retained for a few hours after sunset, would this effect bat species?</p>
<p>Comment No. 20-38</p>	<p><b>Rare Plants:</b> The Tierra Biological Survey Report continuously states that the year of their survey</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
20-38  
(continued)

was exceedingly dry and that survey conditions were not optimal for finding rare plants. We would like to request that at least two additional surveys be conducted concerning the botanical resources on the site. We were surprised that the BLM did not take advantage of the abundant rainfall this year and require Solar Millennium to survey for biological resources. We would like to request one additional survey for the spring season and one for the fall. Many annual plants in the Mojave Desert bloom exclusively in the fall months. You simply cannot make an accurate botanical survey without fall surveys.

The DEIS leaves out many potential rare plants that could be on the project site. Surveys should be carried out in wet years such as 2010, not during dry periods.

We did a thorough search of the Nevada Natural Heritage database and found the project has the potential to disturb the following rare plants that could occur in the Amargosa Valley:

*Arabis shockleyi* Shockley rockcress  
*Astragalus beatleyae* Beatley milkvetch  
*Astragalus funereus* black woollypod  
*Astragalus serenoii* var. *sordescens* squalid milkvetch  
*Calochortus striatus* alkali mariposa lily  
*Castilleja martinii* var. *clokeyi* Clokey paintbrush  
*Camissonia megalantha* Cane Spring suncup  
*Centaureum namophilum* spring-loving centaury  
*Cordylanthus tecopensis* Tecopa birdsbeak  
*Cryptantha tumulosa* New York Mountains *catseye*  
*Cymopterus ripleyi* var. *ripleyi* Ripley biscuitroot  
*Cymopterus ripleyi* var. *saniculooides* sanicle biscuitroot  
*Entosthodon planoconvexus* planoconvex entosthodon  
*Eriogonum concinnum* Darin buckwheat  
*Eriogonum contiguum* Amargosa buckwheat  
*Gilia nyensis* Nye gilia  
*Gilia ripleyi* Ripley gilia  
*Hulsea vestita* ssp. *inyoensis* Inyo hulsea  
*Ivesia arizonica* var. *saxosa* rock purpusia  
*Lathyrus hitchcockianus* Bullfrog Hills sweetpea  
*Penstemon albomarginatus* white-margined beardtongue  
*Penstemon arenarius* Nevada dune beardtongue  
*Penstemon fruticiformis* ssp. *amargosae* Death Valley beardtongue  
*Penstemon pahutensis* Pahute Mesa beardtongue  
*Pentyle intricata* delicate rockdaisy  
*Phacelia beatleyae* Beatley scorpion plant  
*Phacelia mustelina* weasel phacelia  
*Sclerocactus polyancistrus* hermit cactus

Most of these plants are either recognized as rare by the state of Nevada, or Species of Special Concern by the U.S. Fish and Wildlife service and the Bureau of Land Management. Please include this information in the final EIS.

Comment No.  
20-39

**Weed Removal and Control:** What herbicides would be used to remove vegetation from the solar project? How will these toxins be prevented from getting into the ground and ground water? What effects, short term and long term would the use of these chemicals have on public health? Will local land owners be at risk? How will these herbicides effect sensitive wildlife and plants? Hundreds of

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<p>Comment No. 20-39 (continued)</p>	<p>miles of small roads will be constructed. That has the potential to create a serious weed problem in the area.</p>
<p>Comment No. 20-40</p>	<p><b>Vegetation Removal:</b> How will vegetation be removed? Will it be bladed by large scrapers? How will vegetation be kept off of the site?</p>
<p>Comment No. 20-41</p>	<p><b>Visual Resources:</b> The DEIS has not provided enough details on the visual impacts that this project would cause.</p> <p>Contrast level should be evaluated based on seasonal sun angle. There needs to be an additional analysis relating to the four seasons of sun angles.</p>
<p>Comment No. 20-42</p>	<p>There are no night lighting KOP's. Night-time glare and lighting is an issue that has been raised by local residents and the National Park Service. Solar Millennium did provide some night time KOP's to the California Energy Commission concerning their proposal for a similar facility near Ridgecrest, California. We are disappointed that the BLM did not take the time to think about this. We would like to request night-time KOP's representing residential areas, views for roads and views from Death Valley National Park. There should be at least 5 night lighting KOP's ranging from above views to ground level. There is also very little description of the night lighting visual impacts to the area. How much security lighting will be needed? How will that impact private residents? How will that impact neighboring Death Valley National Park? Will light be shielded? Will there be OSHA requirements for non-shielded lighting.</p>
<p>Comment No. 20-43</p>	<p>There are no KOP's simulating glare. Depending on time of day and time of year, "flash-glare" can occur from a parabolic trough design solar plant. Flash glare can be very dramatic depending on the contrast lighting behind it. An evaluation of property values, traffic safety, air travel safety and recreational values should be evaluated based on the hazards of the real potential of flash glare. The below photo shows a flash glare event from the Nevada Solar One facility south of Boulder City, Nevada along Highway 93. The photo was taken in January when the background contrast is low.</p>
	
<p>Comment No. 20-44</p>	<p>In the "Distance Zones" section, the EIS states: "The low profile of the project resembles the natural horizon line" and "The power blocks would be visible in this distance zone if unobstructed viewing conditions exist and the viewer is superior enough to see over the solar collecting arrays and the thirty foot wide fence". This is a misleading statement which ignores the potential location that the viewer is looking from. This statement also downplays the complexity of seasonal sun angle and seasonal contrast lighting. This statement should be removed from the EIS.</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No. 20-45	You are also suggesting that the small residential properties would somehow "deflect" the visual impacts from the viewer. This is another ridiculous statement as a 4,000 acre facility would dwarf any residential property or single cell phone tower in the view. Please remove this statement from the EIS.
Comment No. 20-46	Poor quality of KOP photos: The KOP simulations undermine the visual impacts because they are poor quality photos and the simulations from rest areas have been taken from too wide an angle. The time of day of the photo bleaches out the contrast and only represents one of the many perspectives from this photo. These simulations should be done over and better photography should be used.
Comment No. 20-47	The wind fence photos are only taken from the ground perspective. More KOP's should be designed to create a more accurate account of the visual impacts that this 4,000 acre project would create.
Comment No. 20-48	We would like to request that the applicant be required to provide a whole new set of Key Observation Points employing better photography and a more honest perspective of the visibility.
Comment No. 20-49	We would also like to request a full analysis of how the cumulative impacts of so many proposed solar facilities would impact quality of life, property values, and wilderness values of the Amargosa Valley.
	<p>We would specifically like to request:</p> <ol style="list-style-type: none"> <li>1. Five night lighting Key Observation Points (KOP's) from different elevations in the region.</li> <li>2. More KOP's from private residents with an evaluation of property value impacts.</li> <li>3. At least three KOP's from Death Valley National Park, 4 mile away.</li> <li>4. More KOP's from Big Dune, specifically at higher elevations.</li> </ol>
Comment No. 20-50	<p><b>People:</b> We are quite surprised that the BLM would even consider approving this Right of Way in a region that lies so close to local residents. Many of the residents of Amargosa Valley are retired and are not seeking the jobs that Solar Millennium is promising. Furthermore, Solar Millennium has made no concrete promises to hire local people. Amargosa Valley does have a small population and the close proximity to a National Park give it an opportunity to maintain a tourism/retirement community economy. The plans to develop this power plant and potentially 30 others are experimental at the very best. In the worst case scenario, there will be several developments that would compromise the scenic character of the area. The lack of water and the experimental nature of large scale renewable development could endanger the stability of a small community.</p>
	<p>Building this facility would require the construction of new roads, new transmission lines, increase in security, new medical facilities, and a much larger fire department. In the event of a Therminol fire, would there be enough water and personnel to contain the fire? Who will pay for all of the new infrastructure? Will local people be taxed for the expense of all of these new services? Will power rates rise to pay for transmission upgrades?</p>
	<p>As you know, the project will lie in close proximity to private properties with homes on them. We would like to request a full analysis on how the construction of this project will affect local property values.</p>
Comment No. 20-51	<p><b>Realignment of Amargosa Farm Road:</b> The realignment of this road would cause great inconvenience to local people and has not been worked out with the county. Solar Millennium should not be allowed to realign the Amargosa Farm Road.</p>

**Plant Decommissioning:**

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
20-52

The applicant needs to develop a decommissioning plan now and post bonds to make sure funds are available in 30 years in case restoration of the desert is the option taken. The area is healthy habitat now, and there should be a plan for restoring washes and revegetating the site.

A response to this comment is provided on a separate page following this comment document.

Thank you,

Sincerely,

Kevin Emmerich

Laura Cunningham

Basin and Range Watch

P.O. Box 70

Beatty, NV 89003

## RESPONSES TO COMMENT NO. 20-01 THROUGH 20-52

### Response to Comment No. 20-01

See Chapter 5 (Consultation and Coordination) in the FEIS. The 45-day comment period is consistent with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act regarding the review of draft environmental impact statements. Significant effort was made to advise people of the schedule and duration for the review well in advance. The BLM announced dates and locations of public meetings on their website, and media releases including newspaper advertisement and postal mailers.

### Response to Comment No. 20-02

As of December 2009, the proposed Project was one of 31 renewable energy project that have met the required milestones to remain on BLM's fast-track list for expediting processing (BLM 2009a). These projects are advanced enough in the environmental review and permitting process that they could potentially be cleared for approval by December 2010, thus making them eligible for funding under Section 1603 of ARRA. However, the Project schedule has changed and it is no longer eligible for Section 1603 cash grants. The Project is now classified only under Section 1703. The guidelines for meeting Section 1703's requirements, including the requirement to commence construction on or before September 30, 2011 have not changed. While ARRA does provide other types of funding for eligible projects, the proposed Project seeks funding pursuant to Section 1703. The Project is eligible for funding under the DOE's Federal Loan Guarantee program.

Being a part of the fast-track environmental review and permitting process does not involve or result in less than full compliance with applicable laws, including the National Environmental Policy Act. To the contrary, the fast-track process fully complies with all applicable requirements; the difference is that more resources are devoted to that process to allow for review to be conducted and decisions to be made on a faster timeline.

### Response to Comment No. 20-03

It is beyond the scope of this EIS to evaluate the environmental or economic benefits of distributed electrical generation in the southwestern United States. Rather, this EIS evaluates the potential environmental effects associated with Solar Millennium's application for a right-of-way to construct, operate and decommission a solar thermal general facility on federal lands. BLM's decision based on this EIS will be whether to grant, deny, or grant with modifications that application.

It is worth noting that the proposed Project is consistent with BLM's multiple-use mandate under FLPMA, and with the 1998 Las Vegas RMP/Final EIS.

In addition, the Project is consistent with renewable energy goals and mandates. To the extent the commenter would prefer a policy that would favor or allow only distributed generation that preference is best expressed to Congress and the State of Nevada.

#### Response to Comment No. 20-04

It is beyond the scope of this EIS to evaluate the environmental or economic benefits of distributed electrical generation in the southwestern United States. Rather, this EIS evaluates the potential environmental effects associated with Solar Millennium's application for a right-of-way to construct, operate and decommission a dry-cooled solar thermal general facility on federal lands. BLM's decision based on this EIS will be whether to grant, deny, or grant with modifications that application.

#### Response to Comment No. 20-05

It is beyond the scope of this EIS to develop a list of assumptions that includes detailed plans for integrating various fuels mixes and technologies into each utility's plan, or an overall state plan, or a national plan. This EIS evaluates the potential environmental effects associated with Solar Millennium's application for a right-of-way to construct, operate and decommission a solar thermal general facility on federal lands. BLM's decision based on this EIS will be whether to grant, deny, or grant with modifications that application.

The commenter's view expresses a policy preference best directed to Congress and the State of Nevada.

As for evaluating the proposed Project's impacts on biological, visual, and other resources, the FEIS and supporting documents effectively serve that requirement under NEPA.

#### Response to Comment No. 20-06

No. Project facilities would be located on approximately 4,350 acres. Should a right-of-way grant be issued, the grant will be issued for the actual amount of lands to be used for the project.

#### Response to Comment No. 20-07

The proposed project will not have public access roads within the interior of the project site. Access to the project site will be via Valley View Blvd. Prior to commencement of construction, the Proponent must submit a Master Traffic Impact Analysis for review and approval by Nye County. The Analysis shall address the impacts, if any, of the transportation of employees to and from the

Project site. The Developer will provide the improvements required in the approved Master Traffic Impact Analysis in order to mitigate the land use impacts of the proposed Project.

The proposed project is an allowable use of the lands requested under Solar Millennium's right-of-way application. It complies with BLM's multiple-use mandate under the Federal Land Policy Management Act (FLPMA). Although that statute requires that BLM generally provide for multiple uses of the land it administers, it does not require that multiple uses be allowed on every acre of such land. BLM's governing resource management plan for the Project area makes this clear, as do court decisions regarding the discretion BLM exercises in implementing its multiple-use mandate.

#### Response to Comment No. 20-08

This EIS evaluates the potential environmental effects associated with Solar Millennium's request for a right-of-way to construct, operate and decommission a solar thermal general facility on federal lands they identified in their right-of-way application (Case No. NVN-084359). BLM's decision based on this EIS will be whether to grant, deny, or grant with modifications that application. If other right-of-way applications are cancelled, Solar Millennium or other applicants can file a right-of-way request for those lands. The BLM would be required to conduct a separate NEPA analysis for any such request.

See responses to comments 16-05 and 19-03 for more on why the FEIS examined wet-cooling as an alternative.

The three alternatives studied, plus the many that were dismissed from further analysis because they did not meet the purpose and need for the Proposed Action, provide a reasonable range of alternatives under NEPA. Those alternatives provide meaningfully different choices, in that they are meaningfully different in design, advantages, disadvantages, and effects. An EIS must provide options and must evaluate alternatives that adequately reveal differences in potential impacts between those options. The FEIS effectively meets these requirements.

#### Response to Comment No. 20-09

It is unclear the exact technology the commenter is referring to, however, as stated in the executive summary in the DEIS and FEIS "The proposed Project would utilize parabolic trough solar thermal technology to produce electrical power using steam turbine generators fed by solar steam generators." Therminol is a heat transfer fluid that is used to produce the steam, by means of a heat exchanger, needed for the steam turbine to function and create electricity.

#### Response to Comment No. 20-10

The site conditions and proposed technology at the Ridgecrest location are different than the proposed Amargosa site. The proposed Ridgecrest solar facility uses different solar technology (does not include thermal storage which increases efficiencies).

Reasons why a smaller footprint would not be feasible are described in Sections ES-1.4.4.1 and 2.2.1.1.

See also the response to comment 25-03.

#### Response to Comment No. 20-11

The proposed solar project is required under various laws and regulations to be constructed and operated in a manner that complies with all federal, state, and local laws governing public and worker health and safety, protection of the environment, and terms and conditions of permits and approvals.

#### Response to Comment No. 20-12

There is no expected release of heat transfer fluid; any spills will be reported immediately to the correct governing agency. Should a fire occur the duration would involve many variables such as the amount of HTF involved, response time from safety personnel, cause, etc. Because of factors that are impossible to predict at this time it is not possible to give an accurate number on how long a fire would take to burn. See also Section 2.3.8 (Fire Protection).

#### Response to Comment No. 20-13

A Development Agreement has been made and entered into by and between Nye County and Solar Millennium to ensure the land use impacts on public services in connection with the proposed Project are mitigated. The goal of the Development Agreement is to "promote the health, safety, and general welfare of the County and its inhabitants, to minimize uncertainty in planning for and securing orderly development of the Property and surrounding areas, to insure attainment of the maximum efficient utilization of resources within the County in a way that provides the highest economic benefit and least fiscal cost to its citizens, and to otherwise achieve the goals and purposes for which the laws governing development agreements were enacted." A copy of the approved Development Agreement between Nye County and Solar Millennium is provided in Appendix F.

Response to Comment No. 20-14

Per the Development Agreement between Nye County and Solar Millennium, "Prior to accepting hazardous materials within the boundaries of the Proposed Development, Developer shall provide the County a facility emergency plan which contains:

- 1) a description of the training, equipment, facilities and procedures that will be used to respond to emergencies occurring within the boundaries of the Proposed Development;
- 2) certification that such equipment, facilities and procedures have been approved by all applicable state and federal authorities; and
- 3) (a) a description of the emergency response protocols and the respective responsibilities of Developer and County.  
  
(b) Sheriff. Within 60 days of obtaining financing for construction of the ASPP, and annually thereafter for the term of the Agreement, Developer agrees to pay County \$20,000 for County's use in providing police services. County agrees to use such funds solely for the purpose of providing police services in the Town of Amargosa.  
  
(c) Fire Protection Training. Developer shall annually, for as long as the ASPP is operating, provide emergency and fire protection training for up to four (4) individuals identified by County. County shall give priority to individuals who serve in the Amargosa Volunteer Fire Department. Such training shall be the equivalent of training provided to Developer's on-site personnel

Within 60 days of obtaining financing for the construction, and annually thereafter for the term of the Agreement, Developer agrees to pay County \$20,000 for County's use in providing staff and equipment for County's medical clinic in the Town of Amargosa. County agrees to use such funds solely for such purpose.

No residential, commercial, industrial, or institutional uses are located within the Project area. Concentrated population areas near the Project site include an area east of Sandy Lane, approximately 0.25 mile east of the Project area; and an area west of Valley View Boulevard along Amargosa Farm Road.

Response to Comment No. 20-15

All transported materials will be contained and handled in a manner compliant with the Department of Transportation's Federal Motor Carrier Safety Administration's rules and regulations.

#### Response to Comment No. 20-16

Security for the facility will maintain compliance with all applicable federal, state, and local laws and regulations.

#### Response to Comment No. 20-17

All water may be appropriated for beneficial use as provided in Chapters 533 and 534 of the Nevada Revised Statutes. Irrigation, mining, recreation, commercial/industrial and municipal uses are examples of beneficial uses, among others. It is allowable under Nevada state law to buy or sell water rights and change the water's point of diversion, manner of use and place of use by filing the appropriate application with the State Engineer.

#### Response to Comment No. 20-18

As part of the water appropriation permit application review and authorization, the Nevada State Engineer has the authority to approve and control the amount of groundwater pumped from basins in Nevada. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin.

#### Response to Comment No. 20-19

Water will not be injected into the aquifer. To address uncertainties associated with groundwater use for project construction and operation, Solar Millennium has agreed to acquire and forego the use of no less than 236 afy of existing water rights within the Amargosa Desert Hydrographic Basin (No. 230). Details regarding specific mitigation measures are provided in Appendix A in the FEIS.

#### Response to Comment No. 20-20

As stated in section 4.17.7.4, in consideration of Nevada State Engineer Order 1197, water needs for any type of project requiring a constant supply of water, and without the benefit of actually owning the water, would need to either lease or purchase the water from an existing water rights holder. Since realistically, the water user can only pump up to the authorized duty of the water right, theoretically there would be no net increase in groundwater pumping within the basin. However, without knowing the average annual pumping amounts for the well to be used, or knowing how the water was used or recharged, it is impossible to determine the impact of groundwater pumping associated with future projects. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin.

#### Response to Comment No. 20-21

The flood that occurred in 1969 generated 3,330 cfs of stormwater runoff measured at the gage station just upstream of US 95. The floods that occurred in 1995 and 1998 generated 1,200 cfs and 340 cfs measured at the same gage station. The Solar Millennium project site has been designed with perimeter flood control facilities to accommodate the 100-year storm event flow determined to be approximately 9,600 cfs.

Drainage from all onsite areas will be routed to detention/retention basins prior to discharging offsite. Any HTF spills that could not be immediately isolated and contained during a storm event would be secondly captured by the basins. Stormwater Pollution Prevention Plans is a requirement of the NDEP NDPEs Stormwater Discharge Permit and will be prepared as part of that permit application.

#### Response to Comment No. 20-22

SF6 is not being utilized in any part or process of the proposed Project, therefore, there is no potential for the proposed Project to emit SF6.

#### Response to Comment No. 20-23

It is outside the scope of this EIS to analyze carbon sink potential of the project site.

#### Response to Comment No. 20-24

The proposed Project would comply with Federal and State air quality standards. Particulate emissions during construction would be temporary and mitigated through adherence to the recommended mitigation measures. Operation of the proposed Project would not result in increases of Potential for Significant Deterioration emission levels in the regional area. Five years of meteorological data was utilized for the air modeling process, and wind was included into the air models.

#### Response to Comment No. 20-25

The BLM does not require surveyors to survey only in wetter than average years and does not hold the project proponent accountable for the change in weather in one year versus the next. Surveys were conducted by qualified biologists following established protocols and guidelines.

Response to Comment No. 20-26

See response to comment 20-25.

As stated in Appendix A.6 mitigation measure WL-6, clearance surveys will be conducted for Desert Tortoise in accordance with all State and Federal regulations. In addition, as stated in Appendix A.6, biological monitors will be on site to ensure that no tortoises, if found on site, are harmed during the construction process.

Response to Comment No. 20-27

See response to comment 20-25.

Response to Comment No. 20-28

Comment noted. The Tierra Data report was only one resource used in the development of the FEIS. Other sources cited throughout the FEIS include Nevada Natural Heritage and various reports developed by agencies and private companies.

Response to Comment No. 20-29

See response to comment 20-28.

Response to Comment No. 20-30

See response to comment 20-28.

Response to Comment No. 20-31

A Biological Assessment has been submitted to the USFWS. Mitigation will be determined in Section 7 consultation between BLM and USFWS. Translocation/relocation methods, if required, will be determined as a part of that mitigation.

Response to Comment No. 20-32

See response to comment 20-25.

#### Response to Comment No. 20-33

As stated in the DEIS "The dune is composed of Quaternary eolian dune sand derived from Precambrian source rocks, likely the Funeral Mountains southwest of the dune field (Castor et al. 2006; Slate et al. 1999)." Also in section 4.2.1.2 it's stated "As the Big Dune ACEC is approximately 4 miles from the Project area, and as there is no evidence of the Big Dune moving out of the ACEC, it is unlikely that the proposed Project will have any impacts to the Big Dune ACEC."

#### Response to Comment No. 20-34

As stated in the DEIS "The dune is composed of Quaternary eolian dune sand derived from Precambrian source rocks, likely the Funeral Mountains southwest of the dune field (Castor et al. 2006; Slate et al. 1999)." Also, Section 4.2.1.2 states: "As the Big Dune ACEC is approximately 4 miles from the Project area, and as there is no evidence of the Big Dune moving out of the ACEC, it is unlikely that the proposed Project will have any impacts to the Big Dune ACEC."

Determining the source(s) of sand for the Big Dune Complex is outside the scope for this EIS as the Project is not expected to have any effect on that ACEC.

#### Response to Comment No. 20-35

Surveys were conducted following USFWS-established protocols. Within the project right-of-way, no owls were observed and only one burrow complex was detected. This burrow complex showed no signs of recent use. Wildlife Mitigation #3 addresses burrowing owls. As this project occurs in Nevada, CDFG mitigation guidelines are not applicable.

#### Response to Comment No. 20-36

The Bare Mountains are located approximately 15 miles north-northeast of the Project area. According to Johnsgard (Johnsgard, P.A. 1990. Hawks, eagles, & falcons of North America. Smithsonian Institution Press, Washington, D.C. Page 263), Golden Eagle nesting territories range between 42 and 52 square kilometers. This translates to a maximum radius of 1.4 miles. Birds nesting 15 miles away are highly unlikely to utilize the Project area for foraging. The USFWS guidelines for consideration of Bald and Golden Eagles recommends analysis of habitat up to 10 miles surrounding a project site. Assessment of the area surrounding the Project area has been added to Sections 3.6.5.3 and 4.6.2.1. As a good faith effort, the Proponent has committed to develop a site-specific Avian Protection Plan.

Response to Comment No. 20-37

As components of this project do not move with any great speed, collisions with bats are not anticipated.

Response to Comment No. 20-38

See response to comment 20-25.

Rare plant surveys were conducted by BLM-approved botanists using established protocols. These botanists found no indications that any of the rare species listed in the comment were present or were likely to occur within the Project area.

Response to Comment No. 20-39

A comprehensive weed management plan will be developed under the guidance of the BLM and will comply with existing rules and regulations to ensure public health and safety.

Response to Comment No. 20-40

As described in Chapter 2, the site will be cleared and grubbed using heavy duty earth moving equipment. A weed management plan will be developed under the guidance of the BLM.

Response to Comment No. 20-41

Visual impacts are an important consideration for this FEIS. Visual impacts associated with the construction and operation of the proposed Project were addressed in Section 4.12 of the FEIS. KOP selection was developed through review of public scoping meeting summaries and consultation with BLM Visual Resource Management (VRM) staff. Although specific sun angles based on seasonality were not addressed, the position of the solar array in relation to the viewer was described in Section 4.12.1. In this regard, high impact to sensitive viewers was identified when the angle of the parabolic mirrors could result in substantial glint and glare (contrast) to viewers with unobstructed views of the Project.

The angle of the sun will not have a substantial effect to impacts, because the design and location of the parabolic mirrors maximizes the collection of light throughout the year.

#### Response to Comment No. 20-42

The selection of KOPs was based on the results of the project public scoping meetings and consultation with BLM VRM Resource staff. Effects and mitigation associated with “night sky” within Death Valley National Park have been appropriately addressed in the FEIS, based on the level of detail of the preliminary engineering and design plans associated with the project. Currently, the lighting plan and associated mitigation measures are addressed in Section 4.12.6. Following final engineering design the Proponent will be required to submit a Lighting Plan incorporating mitigation measures that the BLM will revise and approve. However, the FEIS discloses the Project's visual effects based on the Project's near-final design specifications.

#### Response to Comment No. 20-43

Based on the level of a detailed design, a Glint and Glare study has not been conducted for the purposes of the FEIS. However, the summary of viewer impacts in Section 4.12.1 of the FEIS states that glint and glare could occur based on site specific circumstances. As the Project's final engineering details are developed, the Project's glint and glare will be evaluated and mitigated to the extent feasible. However, the FEIS discloses the Project's glint and glare effects based on the Project's near-final design specifications.

#### Response to Comment No. 20-44

Comment needs to take into account the context of the paragraph. “The low profile of the Project resembles the natural horizon line the farther the viewer is located from the Project site.”

Also in Section 4.12.1 - Distance Zones “In addition to distance, and in the context of solar projects, viewing position or elevation of the viewer as compared to the elevation of the project, influences the perception of Project contrast because viewers at higher elevations tend to see larger portions of the Project within the context of the existing setting.”

Potential locations of viewers are considered in 4.12.2.

The effects of impacts based on sun angle were indirectly addressed in Section 4.12.1 (Distance Zones) based on the position of the viewer in relation to the solar array. In this regard, high impacts to sensitive viewers were identified when the angle of the mirrors could result in contrast to viewers with unobstructed views of the Project.

In addition, the design of the project maximizes the reflection of the light to the array tubes throughout the year, thus seasonal changes to impacts would be negligible.

#### Response to Comment No. 20-45

Comment noted. Intent is not that contrast, or the level of perceived change, is deflected from the Project, but seen in context of existing structures (with similar visual elements [i.e., form, line, color, and texture] as compared to the Project) within the town of Amargosa Valley. The FEIS language has been updated to include ‘structures associated with the Town of Amargosa Valley.’

#### Response to Comment No. 20-46

KOP locations and associated photographs were selected by BLM visual resource staff to represent typical conditions and impacts in Amargosa Valley within the timeframe associated with the FEIS. Simulation photographs were shot using a 50-mm lens and generally a 45 degree field of vision closely resembling the perspective that the human eye sees (excluding peripheral vision).

#### Response to Comment No. 20-47

KOPs represent typical views within the visual study area and were photographed at approximately 6 feet above ground. The KOP photographs (including simulation photographs) represent what one sees within the foreground/middleground (0-3-5 miles) and background (5+ miles). All KOPs had predominantly level or neutral views of the project area, although some were inferior and one was superior (KOP 15 - Funeral Mountain Wilderness).

#### Response to Comment No. 20-48

KOP locations were based on public scoping meetings and consultation with the BLM resource staff, and represent a fair and reasonable range of observation points. KOPs represent the range of typical viewing conditions and potential impacts associated with the Project.

#### Response to Comment No. 20-49

Any proposed action on BLM lands will go through its own NEPA process, it is outside of the scope of this EIS to provide the commenter's requested level of detail for future projects. In addition, there is not enough information available at the time of this FEIS to complete an accurate study of this nature.

In regards to the visual analysis that was completed for the Amargosa Farm Road Solar Power Project, impacts to night sky conditions were not assessed due to the preliminary design plans not containing a lighting plan; however, the FEIS acknowledges the Project's

potential effects to dark skies. In this regard, the applicant has committed to specific lighting mitigation measures per Section 4.12.3.1. Following the final design of the lighting plan, the Applicant will submit a lighting plan in which the BLM will revise and approve.

The selection of KOPs was based on the results of the project public scoping meetings and consultation with BLM VRM Resource staff. The KOPs represent typical viewers, typical viewing distance zones, and typical viewing elevations for sensitive viewers.

Response to Comment No. 20-50

As per the Development Agreement between Nye County and Solar Millennium, the Developer (Solar Millennium) will provide assistance for fire, police, and medical services. Details can be found in Appendix F.

Response to Comment No. 20-51

See response to Comment 16-08

Also, as per the Development Agreement between Nye County and Solar Millennium, the Developer (Solar Millennium) will provide assistance for fire, police, and medical services. Details can be found in the developer agreement in Appendix F.

Response to Comment No. 20-52

A facility closure and decommissioning plan will be developed which describes closure requirements and the anticipated bond level necessary to satisfy BLM requirements.

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## Nevada State Clearinghouse

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**From:** Skip Canfield  
**Sent:** Wednesday, April 14, 2010 10:27 AM  
**To:** Nevada State Clearinghouse  
**Subject:** RE: E2010-164 Amargosa Farm Road solar energy project, Nye County - Bureau of Land Management  
**Attachments:** Signed Dark Sky letter.pdf

The Nevada Division of State Lands and the State Land Use Planning Agency offer the following comments regarding the proposed solar facility at Amargosa Farm road:

- Comment No. 21-01 | Multiple use activities on Nevada's public lands are supported, however, there is a concern about the cumulative visual impacts to public lands users' experiences from these activities (temporary and permanent). Major intrusions include proliferation of new roads, poorly-sited and designed structures, lack of co-location of infrastructure and improper lighting, to name a few.
- However, solar facilities are a different type of new application with impacts that extend much broader than a typical "multiple use" application, because a solar application on significant acreage is not a multiple use, it is a single use that will permanently remove these lands from the multiple use concept of public lands. Once the land is bladed, treated and developed for this use, it will not be able to be rehabilitated. In fact, BLM most likely will allow the solar developer to take ownership of this land. What is the potential and type of future uses on this site, their compatibility with adjacent public lands and private holdings, and their long-term effects?
- Comment No. 21-02 | ➤ Therefore, the DEIS should explicitly state how this permanent removal of substantial public acreage **is a benefit to the general public and the multiple use concept of BLM public lands.**
- Comment No. 21-03 | ➤ Also, the DEIS should explain how all of the ancillary off-site impacts (roads, power lines, etc) that only serve this one permanent special interest **is a benefit to the general public and the multiple use concept of BLM public lands.**
- Comment No. 21-04 | ➤ The DEIS should detail and explain how the BLM is planning **cumulatively** for all solar projects and their impacts to public lands. A "solar master plan" should be developed and approved by the public similar to, but more detailed than, the programmatic wind EIS that was developed recently. The solar master plan should identify specific development zones and also clearly delineate other areas that should not be developed. The public deserves a plan that gives a comfort level that not all lands will be haphazardly sacrificed permanently for one special interest.
- Comment No. 21-05 | ➤ The DEIS should go into great detail about the off-site effects to wildlife, vegetation and the ecosystem as this site is bladed and leveled. It should be demonstrated how down slope conditions will not be impacted as the solar field is developed and the natural drainage is interrupted.
- Comment No. 21-06 | ➤ The DEIS should explain how these large-scale permanent developments affect existing species mitigation plans (e.g. Multiple species habitat conservation plans). If MSHCP's and other adopted policies identify these sites as a component of the species' viability for example, then, if these sites are permanently eliminated, how does the proposal affect the integrity of the existing adopted plans and policies?
- Comment No. 21-07 | ➤ The DEIS should explain how monetary assurances can be enforced so that the site can be rehabilitated if the applicant cannot complete the project but has already removed the native vegetation. The DEIS should specify that all projects include a condition of approval that mandates up-front performance bonds that would pay for site reclamation if the proponent defaults on the project after the site is denuded. Specific mitigation measures should be employed including things such as scarification and reseeding of the site.

Responses to these comments are provided on a separate page following this comment document.

The following general comments are provided:

Comment No.  
21-08

- **Solar facilities should have shields placed on all lights. This should be an enforced condition of approval of all projects.**

Dark sky attributes are a finite resource and subject to increasing deterioration as inappropriately-lighted development covers the landscape. This is even more evident in remote stretches of Nevada where dark skies prevail yet are seriously impacted by even one new lighting source. There is a concern about the cumulative visual impacts to public lands users' experiences.

Comment No.  
21-09

- **A comprehensive look at visual impacts should be considered when the BLM reviews any development plans on public lands in Nevada, and nationally.**

The Nevada Division of State Lands encourages federal agencies to develop a consistent policy and "condition of approval" that can be required of applicants and included in NEPA decisions. It is hoped that all Federal agencies would include dark sky lighting and other visual resource protection and mitigation as a condition of approval for permanent and temporary applications. **The BLM should consider the Mojave Southern Great Basin RAC's policy statement on dark sky lighting (attached).**

Comment No.  
21-10

The following language is suggested that should be provided up front to applicants who propose development on public lands that includes lighting:

**Utilize appropriate lighting:**

- Utilize consistent lighting mitigation measures that follow "Dark Sky" lighting practices.
- Effective lighting should have screens that do not allow the bulb to shine up or out. All proposed lighting shall be located to avoid light pollution onto any adjacent lands as viewed from a distance. All lighting fixtures shall be hooded and shielded, face downward, located within soffits and directed on to the pertinent site only, and away from adjacent parcels or areas.
- A lighting plan shall be submitted with the site plan review and/or architectural or engineering drawings indicating the types of lighting and fixtures, the locations of fixtures, lumens of lighting, and the areas illuminated by the lighting plan.
- Any required FAA lighting is exempt from this condition.

In addition, the following mitigation measures should be employed.

**Utilize building materials, colors and site placement that are compatible with the natural environment:**

Comment No.  
21-11

- Utilize consistent mitigation measures that address logical placement of improvements and use of appropriate screening and structure colors. Existing utility corridors, roads and areas of disturbed land should be utilized wherever possible. Proliferation of new roads should be avoided.
- For example, the use of compatible paint colors such as "sudan brown" for water tanks and other vertical structures reduces the visual impacts of the built environment. Using screening, careful site placement, and cognitive use of earth-tone colors/materials that match the environment improve the user experience for others who might have different values than what is fostered by built environment activities.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
21-11  
(continued)

- Federal agencies should require these mitigation measures as conditions of approval for all permanent and temporary applications.

A response to this comment is provided on a separate page following this comment document.

Skip Canfield  
State Land Use Planning Agency  
775-684-2723  
[www.lands.nv.gov](http://www.lands.nv.gov)

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**From:** Nevada State Clearinghouse  
**Sent:** Thursday, March 25, 2010 8:59 AM  
**To:** Skip Canfield  
**Subject:** E2010-164 Amargosa Farm Road solar energy project, Nye County - Bureau of Land Management



**NEVADA STATE CLEARINGHOUSE**  
Department of Administration, Budget and Planning Division  
209 East Musser Street, Room 200, Carson City, Nevada 89701-4298  
(775) 684-0213 Fax (775) 684-0260

TRANSMISSION DATE: 3/25/2010

Division of State Lands

**Nevada SAI # E2010-164**

**Project: Amargosa Farm Road solar energy project, Nye County**

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

[E2010-164](#)

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than **Wednesday, April 28, 2010**.

EIS also available [here](#).

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

[Clearinghouse project archive](#)

Questions? Reese Tietje, (775) 684-0213 or [clearinghouse@state.nv.us](mailto:clearinghouse@state.nv.us)

No comment on this project  Proposal supported as written

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## RESPONSES TO COMMENT NO. 21-01 THROUGH 21-11

### Response to Comment No. 21-01

See response to comment 20-07. The lifespan of the proposed Project is expected to span at least 30 years. At the end of the Project's useful lifespan, the facilities will either be repowered or decommissioned. When the facility is no longer viable, a facility closure and decommissioning plan will be developed which describes closure requirements and the anticipated bond level necessary to satisfy BLM requirements in 43 CFR Parts 2800 and 2900. The required "Performance and Reclamation" bond will ensure compliance with the terms and conditions of the right-of-way authorization, consistent with the requirements of 43 CFR 2805.12(g). The "Performance and Reclamation" bond will consist of three components. The first component will be hazardous materials, the second component will be the decommissioning and removal of improvements and facilities, and the third component will address reclamation, revegetation, restoration and soil stabilization.

### Response to Comment No. 21-02

See response to comments 20-07 and 21-01.

### Response to Comment No. 21-03

BLM's multiple-use mandate under the Federal Land Policy Management Act (FLPMA) requires that BLM provide for multiple use and sustained yield of the land it administers. Before and since FLPMA was enacted, that mandate has recognized uses as diverse as recreation, mineral extraction, conservation, grazing, and energy development, among others.

The proposed Project is an allowable use under BLM's governing resource management plan, and would comply with BLM's multiple-use mandate under FLPMA if approved. Although FLPMA requires that BLM generally provide for multiple uses of the land it administers, it does not require that every use be allowed on every acre of such land. The governing resource management plan for the Project area makes this clear, as do court decisions regarding the significant discretion BLM exercises in implementing its multiple-use mandate.

#### Response to Comment No. 21-04

Planning cumulatively for all potential solar development in the southwestern United States is precisely the task being undertaken as part of the Solar Programmatic EIS.

See responses to comments 05-05 and 13-02.

#### Response to Comment No. 21-05

As stated in Section 2.3.13 and Appendix E, stormwater runoff will be intercepted, conveyed through flood channels, and then released in its historic location within Fortymile Wash in accordance with Nevada Drainage Law.

#### Response to Comment No. 21-06

A detailed biological survey was conducted for the project area using established protocols. There are no MSHCP that apply to this area. The Proponent will be required to pay a desert tortoise remuneration fee as required by interagency agreements among the BLM, USFWS, and other agencies. At present, the remuneration fee is \$774/acre.

#### Response to Comment No. 21-07

All activities on BLM managed lands that disturb the surface of the land are subject to surface management regulations (43 CFR 3809). The Proponent is responsible for future reclamation of any BLM managed land that is disturbed. The Proponent, prior to the issuance of a right-of-way, must submit a cost estimate and a financial guarantee or Performance Bond to the BLM. The required "Performance and Reclamation" bond will ensure compliance with the terms and conditions of the right-of-way authorization, consistent with the requirements of 43 CFR 2805.12(g). The "Performance and Reclamation" bond will consist of three components. The first component will be hazardous materials, the second component will be the decommissioning and removal of improvements and facilities, and the third component will address reclamation, revegetation, restoration and soil stabilization.

#### Response to Comment No. 21-08

Comment noted. Dark sky fixtures are recommended in the mitigation measures of the FEIS and will be incorporated into the lighting plan.

#### Response to Comment No. 21-09

The BLM did consider the Mojave Southern Great Basin RAC's policy statement on dark sky lighting. This information has been provided to the Proponent to implement in its project design and lighting plans. Following final engineering design, the Proponent will be required to submit a Lighting Plan that BLM will revise and approve.

#### Response to Comment No. 21-10

Dark sky fixtures are recommended in the mitigation measures of the FEIS and are recommended to be incorporated into the lighting plan, as appropriate. The Proponent has committed to specific mitigation measures as defined in Section 4.12.3.1 that will mitigate impacts to night sky to the extent feasible. The lighting mitigation plan will be submitted to the BLM and to the appropriate local authority for review.

#### Response to Comment No. 21-11

Mitigation measures (Section 4.12.6) recommend color mitigation to blend applicable facilities with the surroundings. Specific site elements such as building locations and access roads have not been designed at the time of this EIS and specific mitigation measures such as placement of improvements cannot be addressed as such.

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Bureau of Land Management – Southern Nevada District  
Attn: Mr. Greg Helseth, Renewable Energy Project Manager  
4701 North Torrey Pines Dr.  
Las Vegas, NV 89130-2301

May 3, 2010

Sent via e-mail: [solar\\_millennium@blm.gov](mailto:solar_millennium@blm.gov)

RE: Amargosa Farm Road Solar Energy Project DEIS

Dear Mr. Helseth:

On behalf of the Center for Biological Diversity, please accept these comments on the Draft Environmental Impact Statement (DEIS) for the Amargosa Farm Road Solar Energy Project proposed by Solar Millennium, LLC.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 255,000 members and on-line activists throughout Nevada and the United States.

We submit these comments on behalf of our members, activists, staff, and members of the general public who are interested in protecting native species and their habitats, quiet recreation activities, and wilderness experiences on Bureau of Land Management (BLM) lands in Nevada and particularly those lands that would be impacted by the proposed action.

The Center has previously submitted scoping comments for this project and incorporate them by reference.<sup>1</sup>

Comment No.  
22-01

The development of renewable energy is a critical component of efforts to reduce carbon pollution and climate-warming gases, avoid the worst consequences of global warming, and to assist in meeting needed emission reductions. The Center strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitat, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

Having reviewed the Plan of Development (POD) and DEIS for this project, and having visited the site personally, we know that it has areas devoid of human disturbance and as such the projects may have major impacts to biological resources in this area. We present the following comments for your consideration.

A response to this comment is provided on a separate page following this comment document.

<sup>1</sup> Center for Biological Diversity, letter to BLM dated October 12, 2009.

Comment No.  
22-02

1. Impacts on desert tortoise. The desert tortoise is protected as Threatened under the Endangered Species Act. The desert tortoise is continuing to decline throughout its range despite being under federal and state Endangered Species Acts protection as threatened.<sup>2</sup> The project area lies in the Eastern Mojave Recovery Unit for the desert tortoise, and within potential occupied habitat.<sup>3</sup> The DEIS discloses that as part of the preparation of the site for solar energy development, mass grading and leveling would be required, which would destroy around 4350 acres of tortoise habitat and render it unsuitable for the foreseeable future.

Under the National Environmental Policy Act ("NEPA"), the DEIS must address the impacts of this project and other linked projects to the survival and recovery of desert tortoise in this recovery unit and take seriously the development of meaningful alternatives to this project that will avoid impacts to the species and its habitat. As the BLM is aware, it is increasingly difficult to find intact, high quality desert tortoise habitat in private ownership that could be purchased and conserved to provide some mitigation for the loss of other occupied desert tortoise habitat in the Eastern Mojave Recovery Unit such as the lands proposed for this solar plant. Therefore, avoiding impacts to this essential habitat and maintaining the largest possible areas of intact, high quality habitat is absolutely critical for recovery of the species. It is interesting to note that in the section of the DEIS on threats to the desert tortoise, no mention is made of mass grading for commercial facilities such as this proposal.<sup>4</sup>

While the project area is admittedly of lower quality than many areas identified as critical habitat, it is none-the-less fully functional habitat for tortoises. The DEIS seems to imply that the tortoise has been extirpated from the project area based on failure to detect tortoises on site in the spring of 2009 and the presence of tortoises elsewhere.<sup>5</sup> Given the secretive nature of desert tortoises and their behavior of spending much of their life in below ground burrows, their absence cannot be assumed from a single season of monitoring. Also, no protocols for the monitoring were provided nor the qualifications of those doing the surveys.

The DEIS fails to clearly address actions for avoiding, minimizing and mitigating impacts to the desert tortoise and its habitat. Appendix A of the DEIS does not address avoidance and minimization, despite its title. The BLM must first look to ways to avoid impacts to desert tortoise, for example, by identifying and analyzing alternative sites outside of tortoise occupied habitat, areas that have already been severely disturbed by prior land use, or by employing the alternative solar energy strategy of distributed power. The BLM must also look at ways to minimize any impacts that it finds to be unavoidable, for example by requiring designs that minimize ground disturbances, limiting access roads, and provide for functional tortoise access across the site. The standard mitigation measures found in Appendix A are a start, but others might include the acquisition of lands (or possibly acquisition of water rights to protect surface vegetation in desert tortoise habitat) that would be perpetually managed for conservation, or the funding of specific conservation measures on federal lands to benefit tortoise conservation such

Comment No.  
22-03

<sup>2</sup> U.S. Fish & Wildlife Service. 2008. Draft range-wide monitoring of the Mojave population of the desert tortoise: 2007 annual report. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada. Pgs. 50. Available at:

[http://www.fws.gov/Nevada/desert\\_tortoise/documents/reports/2007\\_Rangewide\\_Desert\\_Tortoise\\_Population\\_Monitoring\\_DRAFT.pdf](http://www.fws.gov/Nevada/desert_tortoise/documents/reports/2007_Rangewide_Desert_Tortoise_Population_Monitoring_DRAFT.pdf)

<sup>3</sup> U.S. Fish and Wildlife Service. 1994. Recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*) at 21. U.S. Fish and Wildlife Service. <http://www.fws.gov/endangered/recovery/index.html#plans>.

<sup>4</sup> DEIS, pages 3-84 - 3-86.

<sup>5</sup> DEIS, page 3-86.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
22-03  
(continued)

as fencing of key roads to protect tortoises or permanently retiring grazing allotments in desert tortoise habitat.

Comment No.  
22-04

2. Climate change and landscape linkages. In light of unprecedented climate change, animal and plant species will attempt to adapt by expanding their ranges north and upslope to cooler conditions mimicking their current habitats, and abandoning their present no longer hospitable ranges. At a 2008 Desert Manager Group symposium entitled, "Climate and Deserts Workshop", Wayne Spencer of the Conservation Biology Institute gave a compelling lecture on this likely scenario in which he called for the maintenance of broad ecological connectivity and the minimization of movement barriers to conserve species and ecological processes in the face of climate change.<sup>6</sup> Such connectivity is not only important for the physical movement of species but perhaps more so for the conservation of genetic diversity and the prevention of genetic bottlenecks.

At the same workshop, Kirsten Ironside presented on predicting climate change impacts. She presented historic data and modeling that suggests that species found abundantly in California and southern Nevada, such as Joshua tree, will be rare or eliminated from their current ranges and given the means will be extending northward into Nevada and Utah.<sup>7</sup>

The project site unfortunately could impose a significant barrier to future movement and gene flow between populations within the Eastern Mojave Recovery Area, as well as with populations in the Northeastern Mojave Recovery Area. The DEIS fails to analyze and disclose the projects' impacts to movement corridors and habitat connectivity taking into account the heightened importance of such corridors in light of climate change.

Comment No.  
22-05

3. Cumulative and connected actions  
NEPA's implementing regulations state that agencies should consider similar, reasonably foreseeable actions together in the same environmental review document when the actions "have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography," and the "best way to assess adequately [their] combined impacts [...] or reasonable alternatives" is to consider them together. 40 C.F.R. 1508.25(a)(C). It is important for federal agencies to consider connected actions together in a single NEPA process as opposed to segmenting review. *Daly v. Volpe*, 514 F.2d 1106, 1110 (9th Cir. 1975) (where actions are interconnected in terms of fulfilling a joint purpose it may be necessary to conduct a single NEPA review). Here, the BLM should coordinate this NEPA process with the approval process for all of the connected actions including the transmission lines and substations that are proposed to serve this site. This would allow all of the projects' significant impacts to be fully considered together.

Comment No.  
22-06

In particular, the BLM must consider together the additive impacts to biological resources, including the desert tortoise and its habitat, from the proposed solar project and from the other proposed projects in the area to ensure that the true extent of impacts are fully disclosed and analyzed. BLM should not treat this critical analysis as a cumulative impacts question alone. Because the currently proposed projects are linked and interdependent they should be evaluated together under NEPA. Most importantly, this project will have direct impacts on desert tortoise

Responses to these comments are provided on a separate page following this comment document.

<sup>6</sup> Managing Landscape Linkages to Conserve Desert Wildlife During Climate Change, by Wayne Spencer at: <http://www.dmg.gov/climate/agenda.html> .

<sup>7</sup> Modeling Approaches for Predicting Climate Change Impacts on Natural Systems; From Inputs to Algorithms to Outputs and What They Can Tell Us, by Kirsten E. Ironside at: <http://www.dmg.gov/climate/agenda.html> .

Comment No.  
22-06  
(continued)

populations in the Eastern Mojave Recovery Unit; up to 4350 acres of tortoise habitat will be taken if it is approved and permitted for development. BLM must look at those impacts in a comprehensive way that would allow it to formulate meaningful alternatives that could avoid many of the impacts of these linked projects and where impacts remain that cannot be avoided through alternatives, provide for comprehensive minimization and mitigation measures that will ensure that impacts to this recovery unit are appropriately mitigated. Ultimately, BLM must ensure that the approval of these linked projects does not impair the recovery of the desert tortoise populations in the Eastern Mojave Recovery Unit.

While an attempt was made in the DEIS to fulfill this mandate, the cumulative effects analysis falls short, particularly with respects to water, vegetation and wildlife.

Comment No.  
22-07

With regards to water, both hydrologic surface function and groundwater are of concern. A recently released research report on desert ephemeral and intermittent streams, offered the following.

“Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”<sup>8</sup>

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
22-08

The proposed project will significantly impact and disrupt the hydrology of the Fortymile Wash, as will other projects that have been applied for in the drainage. Given the above stated ecological and hydrological importance of these dry washes, the BLM should have

<sup>8</sup> Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

Comment No.  
22-08  
(continued)

conducted a watershed-based assessment to determine the ecological and hydrologic impacts from the proposed solar facilities in the Fortymile Wash, disclose the findings in the EIS, along with appropriate avoidance, minimization and mitigation measures.

Comment No.  
22-09

With respect to groundwater resources, the BLM does list all known potential uses of groundwater, including the construction and operation of ten renewable energy projects, but it fails to estimate the total water needs of those proposed projects and cumulative impacts of all of the existing and proposed groundwater needs and uses. While precise plans are not yet known, the BLM can and should have developed a "best estimate" or "worst case scenario" upon which to conduct the required cumulative impacts analysis.

Comment No.  
22-10

Another flaw in the DEIS is a reliance on the Nevada State Engineer's Order 1197 to support their contention that there would be no net increase in groundwater pumping in the basin. The cumulative impacts analysis area is loosely defined in the DEIS as the area between Beatty and Highway 160.<sup>9</sup> The ground water flow system in this part of Western Nevada is dominated by interbasin flows with several relatively shallow and local flow systems that are superimposed on deeper intermediate and regional flow systems. Regional ground water flow generally follows the regional topographic gradient as water moves toward the low point in the system at Death Valley.<sup>10</sup> The Nevada State Engineer determined in 2008 that the regional pumping of ground water was causing declining water levels in Devil's Hole at the detriment to federal reserved water rights to protect the Devil's Hole pupfish, and ordered that, "any applications to appropriate additional underground water and any application to change the point of diversion of an existing ground-water right to a point of diversion closer to Devil's Hole, described as being within a 25 mile radius from Devil's Hole within the Amargosa Desert Hydrographic Basin, will be denied."<sup>11</sup>

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
22-11

In the 1998 Ruling 4669, the State Engineer found, in response to a water right application in Oasis Valley, that, "It is generally accepted that the groundwater and surface water resources of this area are closely related; therefore, any adverse effects caused by additional pumpage of underground water would ultimately effect the areas spring flows. The State Engineer concludes that the additional pumpage represented by Application 63482, if approved, would create an adverse affect on the underground and surface water rights of the groundwater basin. The State Engineer concludes that to grant a permit under Application 63482 in a groundwater basin where the quantity of water under existing appropriations exceeds the perennial yield would conflict with existing rights and be detrimental to the public interest."<sup>12</sup>

This Ruling is pertinent to the proponent's project because the Oasis Valley is also part of the Death Valley Regional Ground Water Flow System and is likewise in the Central

<sup>9</sup> DEIS, page 4-105.

<sup>10</sup> See Faunt et al.

<sup>11</sup> Office of the State Engineer, Order 1197. Available at: [http://water.nv.gov/Orders&Rulings/Orders/Order\\_list.cfm](http://water.nv.gov/Orders&Rulings/Orders/Order_list.cfm).

<sup>12</sup> Office of the State Engineer Order 4669. Available at: [http://water.nv.gov/Orders&Rulings/Rulings/rulings\\_query.cfm](http://water.nv.gov/Orders&Rulings/Rulings/rulings_query.cfm)

Comment No. 22-11 (continued) Death Valley Subregion.<sup>13</sup> As indicated in the State Engineer's statement quoted above, as well as in the findings of Faunt et al., the surface and ground water resources of the Amargosa Desert are closely tied and there is much inter basin flow and connectivity. However, the Order BLM relies on only covers a portion of the groundwater flow system of concern and, therefore, pumping in other areas that can lead to a net increase of groundwater losses and associated cumulative impacts are a real possibility and are not covered in the cumulative impacts analysis.

Comment No. 22-12 Concerns over the adequateness of the indirect and cumulative impacts analysis for vegetation and wildlife are inextricably linked through ecological function. The loss of over 106,000 acres of desert vegetation and thereby desert habitat is stated in the DEIS, but no discussion of indirect impacts to the remaining habitat is provided and no meaningful cumulative impact analysis is provided. While generalized impacts are mentioned in section 4.17.7.7 of the DEIS, no tie is made to impacts of this magnitude of loss in terms of habitat fragmentation and other impacts to the viability or recovery of the desert tortoise or other rare desert wildlife such as the Amargosa toad, LeConte's and Bendire's thrashers, Brewer's sparrow or burrowing owl.

These weaknesses and omissions must be addressed in a the supplemental DEIS.

Comment No. 22-13 4. Mitigation for loss of habitat.  
Considering the loss of 4350 acres of desert habitat, loss of ecological function, particularly of desert washes, the need for groundwater for operations and maintenance in an over-allocated basin, and the contribution to future cumulative impacts, this project should provide additional mitigation to address the long term needs of common and rare plant and wildlife species. The Center suggests that as part of the mitigation for this project the proponent be required to purchase and permanently retire existing ground and/or surface water rights for conservation, perhaps by deeding them to the Fish and Wildlife Service.

Comment No. 22-14 5. The DEIS failed to address sulfur hexafluoride (SF6) and measures to manage and control impacts to global climate from it.  
SF6 is a synthetic gas used as an insulating medium in the electric power industry as an insulator and/or arc quenching medium.<sup>14</sup> SF6 is the most potent known greenhouse gas with a global warming potential that is 23,900 times greater than that of carbon dioxide. It is also very persistent in the atmosphere, with an estimated lifetime of 3,200 years. The common sources of SF6 pollution in the high voltage electric industry come from poor gas handling procedures during equipment installation, maintenance and decommissioning and leakage from circuit breakers and other SF6 containing equipment.<sup>15</sup>

Responses to these comments are provided on a separate page following this comment document.

<sup>13</sup> See Faunt et al.  
<sup>14</sup> EPA. 2002. SF6 Emissions reduction partnership for electric power systems: an opportunity for industry. Office of Air and Radiation. EPA430-F-000-19.  
<sup>15</sup> Blackman, J., M. Averyt, and Z. Taylor. SF6 leak rates from high voltage circuit breakers - U.S. EPA investigates potential greenhouse gas emissions source. Available at: [http://www.epa.gov/electricpower-sf6/documents/leakrates\\_circuitbreakers.pdf](http://www.epa.gov/electricpower-sf6/documents/leakrates_circuitbreakers.pdf).

Comment No.  
22-14  
(continued)

In the U.S. the two industries with the highest purchases of SF6 are the original equipment manufacturer for electric power systems (59% of total sales) and electric utilities (22%).<sup>16</sup> An EPA draft report from 2000 found U.S. domestic emissions of SF6 to be 1,074 metric tons in 1998 and estimated that by 2010 they would reach 1,381 metric tons.<sup>17</sup>

To combat SF6 emissions, the EPA established a voluntary public-private partnership with electric utilities that wish to take a proactive stance on climate change by slowing the growth of greenhouse gas emissions. The SF6 Emission Reduction Partnership for Electrical Power Systems ("partnership") is one of these groups. This partnership began in 1999 and according to information on the EPA website, now number over 80 electric utilities.<sup>18</sup>

Through this voluntary program, partner members have been able to achieve a 53% reduction in absolute emissions from the 1999 baseline. In 2006-07 partners reduced emissions by 50,496 pounds of SF6, and cumulatively since 1999 reductions total 1,554,278 pounds of SF6, or 16.85 million metric tons of carbon dioxide equivalent.<sup>19</sup>

These reductions have been accomplished voluntarily through improved operation practices, equipment leak detection and repair, equipment updates and establishment of best management practices and employee training.<sup>20</sup>

A supplemental DEIS should include a discussion and disclosure of the likely SF6 emissions from the proposed project and its associated transmission lines, and discuss how such emissions will be avoided, managed or mitigated. The positive example from the partnership serves to show that the proponent can and should be able to take affirmative steps to reduce the emission of this potent greenhouse gas.

Comment No.  
22-15

6. Restoration and Decommissioning.

The DEIS failed to address the long term fate of the lands included in this right-of-way application. The NEPA analysis should analyze and document the likely scenario(s) that would occur should the facility be permitted and then later decommissioned. Desert lands are notoriously hard to revegetate or rehabilitate<sup>21</sup> and revegetation never supports the same diversity that originally occurred in the plant community prior to

<sup>16</sup> Knopman, Debra and Katie Smythe. 2007. 2004-2006 SF6 Data. PM-2327-NEMA. Prepared by the RAND Corporation for the National Electrical Manufacturers Association.

<sup>17</sup> EPA. 2000. Estimates of U.S. emissions of high-global warming potential gases and the costs of reductions. Draft Report. Office of Air and Radiation.

<sup>18</sup> See: <http://www.epa.gov/highgwp/electricpower-sf6/index.html>

<sup>19</sup> EPA. 2008. 2007 Annual report - SF6 Electric Reduction Partnership for Electric Power Systems. See: <http://www.epa.gov/highgwp/electricpower-sf6/resources/index.html>

<sup>20</sup> Ibid.

<sup>21</sup> Lovich and Bainbridge 1999

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
22-15  
(continued)

disturbance<sup>22</sup>. The task of revegetating a site this large will require significant financial resources. In order to assure that the ambitious goals of the revegetation effort is met post project closure, it will be necessary to bond the project, so that all revegetation obligations will met and assured. The bond needs to be structured so that it is tied to meeting the specific revegetation criteria. The BLM should include a requirement for bonding or guaranteed financial assurance from the proponent to cover decommissioning the facility and restoration of the site, as well as a discussion of the likely end land use.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
22-16

If privatization of this site is a reasonably foreseeable option or alternative, the BLM should have analyzed and disclosed the impacts as part of this NEPA analysis and should correct this omission in a supplemental DEIS.

Thank you for this opportunity to comments and we look forward to other opportunities to provide review and input including review of a supplemental DEIS that should be prepared to address many of the omissions in the DEIS discussed in these comments.

Sincerely yours in conservation,



Rob Mrowka  
Nevada Conservation Advocate

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<sup>22</sup> Longcore 1997

## RESPONSES TO COMMENT NO. 22-01 THROUGH 22-16

### Response to Comment No. 22-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 22-02

USFWS protocols were followed when conducting surveys in 2009.

See response to comment 20-25.

USFWS monitoring protocols will be followed during construction monitoring. These protocols state that monitoring will be conducted by a USFWS-authorized biologist. Detailed monitoring and mitigation requirements will be developed as part of the Section 7 Endangered Species Act consultation process between BLM and USFWS. A Biological Assessment has been submitted and will be made publicly available with a Biological Opinion when this inter-agency consultation is complete.

### Response to Comment No. 22-03

As addressed in Section 2.2.1.1, alternative sites were assessed and eliminated as viable alternatives. The BLM is currently in Section 7 consultation with the USFWS. Final mitigation will be determined as a part of this process.

### Response to Comment No. 22-04

A study involving the movement of species due to climate change is outside the scope of this EIS. There is not enough information available at this time to allow for a reasonable assessment of what impact the project may or may not have on future movement corridors for protected species, based on climate change trends. Further information about impacts to protected species, including mitigation measures to avoid and/or minimize those impacts, will be developed during the Section 7 consultation process.

### Response to Comment No. 22-05

The Final EIS contains substantive improvements in the cumulative analysis, and the reader is referred to Section 4-17 of the Final EIS. VEA is currently performing system impact studies based on interconnection requests to determine the type and scale of upgrades

required to accommodate future load growth within their service territory. VEA will file a right-of-way application or update to accommodate these upgrades, and the BLM will prepare a separate NEPA review of VEA's proposed action.

#### Response to Comment No. 22-06

Although many solar projects have been proposed for the Amargosa Valley, it is highly unlikely that all or even most of those projects will be developed. It is speculative to make assumptions regarding impacts of all projects with applications submitted to BLM. As stated in 4.17.4, the likelihood of implementation of these cumulative projects is unknown. Each project will be required to comply with NEPA which will include a cumulative effects analysis.

#### Response to Comment No. 22-07

Comment noted. The USACE has indicated that it would likely assert jurisdiction on certain drainages that traverse the project site. A complete assessment of the potential effects to jurisdictional waters from project construction and operation cannot be completed until a Jurisdictional Determination is issued by the USACE. That document will identify all jurisdictional waters, including ephemeral waters; describe the Project's impacts on those waters; and prescribe appropriate mitigation measures.

The consultation process between BLM and the UUSFWS under Section 7 of the Endangered Species Act will identify impacts and require mitigation measures for all federally protected plant and animal species and habitat functions, including those associated with ephemeral streams.

#### Response to Comment No. 22-08

See response to comment 22-07.

#### Response to Comment No. 22-09

The DEIS followed Council on Environmental Quality guidelines in developing the cumulative analysis. In addition, the final EIS contains substantive improvements in the cumulative analysis, and the reader is referred to Section 4.17 of the FEIS for further information on cumulative analysis.

#### Response to Comment No. 22-10

The Nevada State Engineer's Order 1197 greatly influences water development in the Amargosa Desert Hydrographic Basin. The BLM acknowledges that the groundwater flow system in western Nevada is dominated by various flow systems. However, there is a

level of uncertainty regarding groundwater flow and availability within a given region. Environmental resource data were collected and analyzed to the level of detail necessary to understand potential impacts and to distinguish project effects (both beneficial and adverse) among the Proposed Action and alternatives. The data analyzed in this EIS are the best available representation of current and predicted conditions.

#### Response to Comment No. 22-11

See response to comment 22-10.

#### Response to Comment No. 22-12

It is speculative to make assumptions of impacts of all projects with applications submitted to BLM. As stated in 4.17.4, the likelihood of implementation of these cumulative projects is unknown. Each project will be required to comply with NEPA which will include a cumulative effects analysis. Should the agencies determine that impacts are becoming too great for the area or sensitive species, projects may not be permitted or allowed to proceed. Any single project or group of projects will be identified as such, and BLM, in consultation with its coordinating agencies, will determine whether to approve those projects.

#### Response to Comment No. 22-13

To address the NPS, USFWS, and BLM concerns that the proposed groundwater withdrawals associated with the proposed Project—in combination with existing withdrawals in the vicinity of Devils Hole and the Ash Meadows NWR — may pose a risk of adversely affecting federal rights and resources, the Proponent has agreed to acquire an additional 236 afy of existing water rights within the Amargosa Desert Hydrographic Basin. The 236 afy consists of 204 afy identified as “Minimization Water Rights” (see Appendix A), and an additional 32 afy to offset the potential reduction in groundwater return flow as a result of changing the manner of use from agricultural to industrial. The acquisition of the additional 236 afy of existing groundwater in the basin will most likely be obtained from existing water rights permitted for agricultural use. At this time, it is unknown where the additional water rights will be obtained.

To comply with its obligations under Section 7 of the Endangered Species Act, BLM is consulting with the U.S. Fish & Wildlife Service regarding the potential impacts of the proposed Project and alternatives on protected species. Mitigation measures to avoid and/or minimize any adverse effects have been developed as a part of that process. Such measures include compensatory mitigation for Desert Tortoise and groundwater studies, conservation of groundwater through the purchase of additional water rights, and surveys and monitoring for Desert Tortoise.

Response to Comment No. 22-14

SF6 is not being utilized in any part or process of the proposed Project, therefore there is no potential for the proposed Project emit SF6.

Response to Comment No. 22-15

As stated in Section 2.3.16, a decommissioning plan including appropriate mitigation will be developed.

Response to Comment No. 22-16

Privatization of this site is not a reasonably foreseeable option or alternative.

Attn: Greg Helseth  
Michele Bilodeau

BLM Las Vegas Field Office  
Attn: Greg Helseth  
Renewable Energy Project Manager  
4701 N. Torrey Pines Drive  
Las Vegas, NV 90130

May 3, 2010

[solar\\_millennium@blm.gov](mailto:solar_millennium@blm.gov)

RE: Solar Millennium LLC, Amargosa Farm Road Concentrating Solar Energy Project  
Comments on behalf of the Amargosa Conservancy

Dear. Mr. Helseth:

The Amargosa Conservancy is a local, bi-state conservation organization, devoted to preserving the lands, waters and beauty of the Amargosa region. We appreciate the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the two Solar Millennium concentrating solar generation facilities (plants) proposed to be located on public lands adjacent to Amargosa Farm Road in Nye County, Nevada.

Comment No.  
23-01

The Amargosa Conservancy supports a major increase in the use of solar and other renewable energy generation technologies to replace fossil fuels. We believe that unless greenhouse gases are significantly reduced, our southwest deserts may experience an even more arid climate and a less hospitable environment for all life that is dependent on scarce water supplies, including its small human communities.

Comment No.  
23-02

Our principal concern with this and the many other solar generating facilities proposed for the Amargosa region is their use of groundwater. We applaud Solar Millennium for now proposing to use dry cooling, and believe that this option should remain BLM's agency-preferred alternative. However, the two plants still propose to use large quantities of pumped groundwater—400 acre-feet per year. According to the Nevada state engineer, the Amargosa Valley hydrographic basin from which the water would be pumped is overallocated, and current pumping greatly exceeds replenishment in the aquifer.

Current groundwater pumping largely supports agricultural uses, which are significantly different than proposed industrial uses. Transferring water rights from agricultural uses, which are variable, to renewable energy uses, which are steady, should at very least require mitigation in the form of retirement of existing rights in some multiple of the proposed industrial uses. Mitigation for groundwater use should be mandated even though existing water rights may give current pumpers legal authority to mine the aquifer.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
23-03

Our concern for future water withdrawals is heightened by the absence of any comprehensive cumulative impacts analysis in the DEIS. As noted, there are many applications for rights of way for renewable facilities on public lands in the Amargosa basin. Absent a programmatic impacts analysis of the specific effects on regional groundwater supplies of the universe of plants which may be built, which has not been completed, the burden falls on this, the first, DEIS to present a comprehensive analysis of the cumulative effects of all of the proposed facilities in the region. The existing DEIS fails to do this, asserting that plans of development for future facilities are required to be filed before their effects can be considered in a cumulative impacts analysis.

We believe that this is incorrect, contrary to good sense and clearly circumventing the requirements of the CEQ's guidance on when and how cumulative effects need to be considered. Moreover, the need for speedy action does not excuse compliance with these requirements. CEQ guidance requires that the effects of all reasonably foreseeable future actions that might affect the resource in question be considered.

Comment No.  
23-04

In our view, the triggering event for inclusion of the effects of other plants is the BLM's acceptance of applications for solar plants on public lands in the vicinity, which has committed public resources to particular purposes. The location and total number of committed acres is known, and reasonable estimates of groundwater use can be inferred from the size and nature of the filings. Locations and ranges of water use can then be estimated. Reasonable forecasting is required by NEPA and it is the responsibility of federal agencies to predict the environmental effects of proposed actions before they are fully known. See *Scientists' Institute for public Information, Inc. v Atomic Energy Commission* 481 F2d. 1079 (DC Cir.) and *Considering Cumulative Effects under the National Environmental Policy Act*, CEQ, 1997, at 19. .

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
23-05

Even if the agency believes some renewable plants may not be built, the effects on groundwater of those plants cannot be excluded (until the land is released) and the agency has the duty to evaluate the unknown effects based upon theoretical approaches or research methods generally accepted in the scientific community. (40 CFR Section 1502.22). This was not done.

Comment No.  
23-06

This analytic failure is compounded by the absence of recommendations for a strong monitoring and mitigation program (such as a trigger set-up, in which a certain level of aquifer response triggers mitigation activity such as reduction in pumping and additional investigation and monitoring. As written, the DEIS would result in an environmentally risky project where long-term impacts may be caused due to relatively short-term operations. Further evaluation of the numerical groundwater flow which forms the basis for the decision-making aspects for the project is essential. The analysis as presented is clearly insufficient to approve the project. We recommend that the DEIS be re-scoped to include a more thorough cumulative effects of renewable energy in the Amargosa Valley and the surrounding area, especially their effects on groundwater development and use.



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## RESPONSES TO COMMENT NO. 23-01 THROUGH 23-06

### Response to Comment No. 23-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 23-02

See response to Comment No. 20-18.

### Response to Comment No. 23-03

As part of the water appropriation permit application review and authorization, the Nevada State Engineer has the authority to approve and control the amount of groundwater pumped from basins in Nevada. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin.

### Response to Comment No. 23-04

The DEIS followed Council on Environmental Quality guidelines in developing the cumulative analysis. In addition, the final EIS contains substantive improvements in the cumulative analysis, and the reader is referred to Section 4.17 of the FEIS for further information on cumulative analysis.

### Response to Comment No. 23-05

See response to Comment No. 23-04.

### Response to Comment No. 23-06

The DEIS followed Council on Environmental Quality guidelines in developing the cumulative analysis. In addition, the final EIS contains substantive improvements in the cumulative analysis, and the reader is referred to Section 4.17 of the FEIS for further information on cumulative analysis.

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**Comments on Draft EIS for Amargosa Farm Road Solar Energy Project  
Solar Millennium**

I have reviewed the comments in the Draft EIS that relate to the issues I raised in my original comments submitted on the proposed Solar Facility our my town. I have the following concerns in the DEIS as presented for public review.

**Water**

Comment No.  
24-01

The DEIS as written considers both Wet- and Dry-cooled solar technology. I understand that all alternatives must be considered in the EIS process, including no action. Solar Millennium has announced its intention of using dry-cooling technology. In section ES-1.4.5 it states: ***The BLM is awaiting public input before identifying a preferred alternative.*** I reiterate that it is prudent for the BLM to insure dry-cooling technology will be used by the proponent to protect water resources in the basin as part of any responsible management of desert land.

Comment No.  
24-02

It was requested that the planned point of water diversion be located and the existing usage be quantified for evaluating the effect of the project water usage on the resource (Table 1-7). This was accomplished with the model. However, I believe the conclusion that there would be a small shift in the quantity of water recharge by changing from irrigation to commercial use is not substantiated. First, the model was run for 400 AFA ground-water withdrawal rate when this document has not tied them to that level of use. Second, they note that they don't have an estimate of recharge that could be introduced by mirror washing. The Stonestrom, et. al. 2003 paper notes that percolation from precipitation on the open desert is negligible. High temperature and low humidity throughout most of the year restrict all but the heaviest rainfall to the vadose zone where either evaporation or plant uptake captures the water. Only in active stream channels did rainfall percolate down far enough to escape the vadose zone and recharge ground water. If the applicant applies water to the surface of the project area to control dust (discussed elsewhere) and successfully creates a protective crust that resists wind erosion, the percolation from mirror washing will have about the same chance of recharge percolation as the open desert. According to the Stonestrom, et. al. report, the percolation recharge found in their study is a function of large quantities of water spread on the desert, in this case for the purpose of growing crops. That is not the purpose of mirror washing, and no quantification water usage is provided for this activity. There is also no quantification of water usage for dust control. These are two critical pieces of information that should be brought forward during the EIS process in order to support the proponents stated need for water. We would hate for the project to go forward and begin construction only to find they actually need more water, which is a critical local resource.

Comment No.  
24-03

Comment No.  
24-04

My understanding of the EIS process is for the government to involve the public in the process of permitting use of public land. This ground-water model shows subsurface-water levels will decline with continued use of 1328 AFA from the proposed point of diversion (App B, Fig 5). Some undefined recharge will be lost with the transfer of irrigation water to commercial use. Nowhere in this document is there any discussion of mitigation of this impact to local water supplies. Certainly the ground-water model report was aimed at the Devils Hole pupfish, but water supplies in the residential and

Responses to these comments are provided on a separate page following this comment document.

Comment No. 24-04 | agricultural areas are of greater importance to Amargosa residents. Our water supply deserves to be protected as much as the endangered fish. Why was this mitigation not included in Appendix A.4? If this information is not provided until the final EIS, where is the public involvement in this important aspect of the project?

Comment No. 24-05 | **Flooding**  
Although limited in detail, the proposal to route Fortymile flow around the project and reintroduce it to its natural drainage, including dissipation of energy and return to sheet flow, is as natural a solution as we could ask for. However, I have some concern about the cheaper alternative of building a detention basin north of highway 95 on land which may not be controlled by the BLM, since DOE and DOD lands are located in close proximity to the highway. Besides this area possibly being under multiple governing agencies, the proponent notes the possible benefit of such a basin to all downstream land use. They state that they will continue to pursue the possibility of this alternative with the BLM and Nye County. Despite the possible benefit to other residents, I don't think this is a financial burden our county could or should bear. I think the proponent should be confined to the property that they have currently requested for development. After all, they chose to place this project in the middle of our town and in a flood plain.  
Since details of the actual onsite flood-control plan are not included, when will the actual Story Water Drainage Plan be created? Will public involvement be included in this process?

Comment No. 24-06 | **Dust**  
In section 4.1.1.1 the proponent states: **Construction-related emissions...may cause some unavoidable, localized short-term impacts.** In the face of 30 operational years, construction may seem short term to the proponent, but for local residents who have to live with it day after day, more than three years of continuous construction activity is not short term. The proponent has created a model to try to forecast contaminant impacts. A model is only as good as the data put into it. Having been through Desert Center I would guess that it is similar to the desert environment in Amargosa. But the biggest factor in dust contamination is not the desert, but the wind. How similar are the wind patterns in Desert Center to those in Amargosa? For example, do they have a Big Dune? The very presence of a dune field indicated wind erosion is prevalent even in a natural, undisturbed environment. The predominant direction of wind in Amargosa is south to north, and northwest to southeast. Since the construction site is located west and north of the residential and community center area, this means fugitive dust will blow toward homes, school and other community activities at least part of the year. How is that impact going to be effectively mitigated?

Comment No. 24-07 | I spoke with Lisa Christianson (BLM) after the public hearing portion of the meeting in Amargosa. I mentioned that I understood that there are surfactants used in industry that create a binding effect of surface materials to minimize wind erosion, but am concerned that walking on that surface (much less driving) will break that crust and open up the opportunity for windblown dust. She told me that at this point, the proponent would not be allowed to use conventional surfactants because there is no study that shows that they won't endanger the desert tortoise. Only water is approved

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
24-07  
(continued)

for dust control at the present time. If studies are conducted to prove surfactants safe for the tortoise environment, they may be permitted in the future. This creates concern for me since water resources are important in our community (as stated earlier) and I wonder if the proponent considered this when they calculated their projected water usage. As stated before, we don't want a project approved that will come back later for more water. The EIS process should consider all possibilities for a project this size. So the final EIS should define water usage for dust control separate from other water uses, and what impact would water-only dust suppression have on fugitive dust emissions. What kind of dust suppression was used in the models that produced the figures given for fugitive dust?

Comment No.  
24-08

I also have a problem with the math in their emissions model. Again, since three years is a long time to live with construction, I looked at Table 4-1 and 4-2. I am only focusing on dust here because I know what the wind is like, and believe it will blow away (effectively diluting) gas emissions before they could reach hazardous levels. They provide a table with daily maximum totals of PM<sub>10</sub> and PM<sub>2.5</sub> values. If you total all three categories of PM<sub>10</sub> emissions you come up with 466.7 lb/day and 132.6 lb/day of PM<sub>2.5</sub> emissions. If you multiply those values times 365 days and divide them by 2000 lbs/ton, you get 85.2 tons/yr PM<sub>10</sub> emissions and 24.2 tons/yr PM<sub>2.5</sub>. However, according to Table 4-1 the total maximum annual emissions are 54.5 tons/yr for PM<sub>10</sub> and 15.4 tons/yr for PM<sub>2.5</sub>. That equates to only about 64% of the amount calculated using the maximum daily totals. I would like to know why there is a discrepancy.

Comment No.  
24-09

Finding an unexplained discrepancy in the construction numbers, I attempted to evaluate the operating dust emissions as well. This is a little more complex as numbers are given in more detail by emission source and found in Tables 4-3 through 4-9. I deliberately evaluated motor vehicle emissions separately. If you multiply the PM<sub>10</sub> and PM<sub>2.5</sub> maximum daily emissions values (given in lb/day) by 365 days and sum the values for all sources listed you get 2,259.4 lb/yr of PM<sub>10</sub> and 2,188.5 lb/yr of PM<sub>2.5</sub>. If you compare these with the annual averages emissions given in the same tables, you are given totals of 865.7 lb/yr of PM<sub>10</sub> and 856.1 lb/yr of PM<sub>2.5</sub>, around 38% of the calculated values. Now in these tables they use Average Annual values instead of Average Maximum values, so that may be the difference in this case, but I would still like an explanation of their results in the final EIS.

The one that has the greatest impact on operational emissions is motor vehicle activity. This includes motor emissions and fugitive dust from driving on unpaved roads. Now I'm not clear on why these figures are given as Maximum Daily Uncontrolled Emissions divided by Maximum Daily Controlled Emissions. It would be nice if sufficient explanation was given in the text to explain these units, especially since the model used to produce these estimates is not included in the Appendices. But taking the values at face value and totaling both emission sources from Table 4-10, I get daily emissions at 87.29 lb/day of PM<sub>10</sub> and 18.63 lb/day of PM<sub>2.5</sub>. When we multiply these by 365 days we get 31,859.4 lb/yr of PM<sub>10</sub> and 6,801.4 lb/yr of PM<sub>2.5</sub>. Comparing these numbers with the Average Annual values in Table 4-10 we find they report 13,014.6 lb/yr of PM<sub>10</sub> and 6801.41 lb/day of PM<sub>2.5</sub>, a reduction to around 41% of the directly calculated value. Again, clarification on this matter would be appreciated.

Comment No.  
24-10

Now it is true that the dust production during operations will be less than dust production during construction, but I believe this has the potential to be a very onerous

Responses to these comments are provided on a separate page following this comment document.

Comment No. 24-10 (continued) irritant to neighbors considering wind storms like I have seen in this valley. Therefore, I don't believe mitigation measures are adequate to reduce the impacts to a tolerable level, especially since we do not know all the assumptions used in the predictive model. It is not explained when the Air Quality Construction Mitigation Plan (AQ-1) will be prepared. Will public involvement be a part of that process? It also does not say when an operational dust control plan will be provided (AQ-4). Will public involvement be a part of that process? Will these plans be released prior to the BLM granting approval of a right-of-way for this project? Without any details at this time on how the proponent will effectively mitigate dust erosion, I would respectfully suggest that all routinely-traveled areas within the plant site and solar fields be paved with compacted gravel road base, including parking areas, and that all vehicular travel be confined to these areas except in event of an emergency. The abundance of fine-grained materials (fine sand, silt, clay and very fine-grained chemical precipitates) in the valley alluvium makes it an unsatisfactory road material that easily produces wind-blown contaminants. By placing gravel over the desert base and compacting it in place, the fine-grained contaminants are effectively covered and less available to wind erosion.

Comment No. 24-11 Whether it be required by the BLM as mitigation measures or be required as part of a state Air Quality permit, installation of air quality monitoring equipment is absolutely necessary to insure compliance with regulatory standards and to insure that modeling predictions were not understated. This includes immediate installation of equipment upon receipt of an approved right-of-way from the BLM to begin collection of baseline pre-development conditions. It is also necessary that monitoring costs be provided by the proponent as a condition of approving the right-of-way. Furthermore, punitive measures should be included in the permit if the proponent fails to achieve accepted air quality standards.

**Community Impacts:  
Noise**

Comment No. 24-12 Next to dust, the greatest probably impact of this project on neighbors is noise. We have pretty quiet nights out here. It's one of the pleasures of the desert. So any analysis of noise impacts must consider the change in noise level from current ambient levels to the new levels that will be introduced. To take the EPA standards and say that they are OK does not consider the setting of this industrial site next to residents in a quiet rural community. Most folks in the valley don't have air conditioning since the extreme dryness provides good evaporative cooling which is more cost effective. But evaporative cooling is a positive pressure system which requires open windows (or doors) to work. So acoustical models must take into account that external noise will be audible indoors with little attenuation.

Comment No. 24-13 I'm not an acoustical engineer but I was involved with a mining project located in close proximity to residential areas. The situation is a little different in that no public lands were involved in the mining, but an EIS was prepared and the governing agency, in this case the county, imposed special noise limitations to protect the quality of life of neighboring residents. Noise limits were scaled based on time of day, reduced for evening, nighttime and weekends and were monitored 24-hours a day to insure compliance. So to refresh my memory on the subject I looked up some definitions. A decibel is a logarithmic unit of measure to express the magnitude of a physical quantity,

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 24-13 (continued) in this case acoustical energy, relative to a specified reference level (Wikipedia). That reference level is usually taken to be the threshold of perception of sound to the average human. Being a logarithmic scale means every tenth decibel is a tenfold increase of acoustical energy. So the measurement of sound at 50 dB is ten times as much as 40 dB, and 60 dB is one hundred times louder than 40 dB. Furthermore, every three decibels represents a doubling of acoustical energy.
- Comment No. 24-14 Construction noise levels will be short-term according to the proponent, but more than three years is not a short time to residents. Fortunately, most of the residents live on the east side of one planned power block so only the duration of construction of that site will significantly impact residents. They state that construction will be limited to the hours of 7:00 am to 7:00 pm (section 4.5.1.1). That would be fine if people don't mind noise with their dinner. I would suggest that it would be more appropriate to limit hours from 7:00 am to 6:00 pm at the latest during construction of the east power block so residents can eat dinner in the relative peace and quiet they are accustomed to. After a day at work who wants to come home to more noise?
- Comment No. 24-15 Operational noise is more of a problem because it will go on 24-hours a day, 7 days a week (section 4.5.1.2). They have forecast operating noise levels at 54.7 dB at the eastern boundary closest to residents (Table 4-23). It is very important to define ambient noise levels as they exist now during day, night and weekends. If the desert nights currently average 40 dB of acoustical energy from existing sources, then a 55 dB limit represents 32 times more noise than residents currently experience (remember  $3 \text{ dB} = 2x \text{ energy}$ ). Another misrepresentation of noise is that 60 dB is equivalent to normal conversation. Actually, 60 dB is equivalent to conversation in a room full of conversing people. You have to stand close and focus to have a conversation with another person above the general noise level. 55dB is more representative of casual conversation with a small group ([www.quiet.org](http://www.quiet.org)). The problem with the EPA standard is that it is convenient to create a simple quantified standard but people are not simple and quantifiable. How many people want the sound level of two or three people talking outside their bedroom window?
- Comment No. 24-16 Noise is not just a function of the amount of acoustical energy, but includes human perception and the type of noise ([www.quiet.org](http://www.quiet.org)). Industrial noise is not like howling coyotes or screech owls, either in type or duration. The type of industrial noise will intrude on neighbors simply because it hasn't been there before. You may think they will get use to it, and some may. But some may not. Sleep disruption is a serious detriment to overall health and well-being, and it is not fair to the local residents to ignore the human element in developing standards for this project. Most noise disturbs residents during the evenings and weekends. With continuous operations, this project never gives the residents a break. Therefore it is important to include more restrictive noise limits during these times in the interest of fairness to all parties involved. The proponent selected this site without involving the local residents in their plans, so they should bear any additional costs to make their operation liveable.
- Comment No. 24-17 One issue that came up during planning for the mining project where I worked was backup alarms. These are required by OSHA/MSHA for protection of personnel. However, these devices fall into the more disruptive types of noise for local residents. The initial solution was to aim the backup alarm downward as much as possible to reduce the distance of sound travel to the immediate area which is where the hazard is

Responses to these comments are provided on a separate page following this comment document.

Comment No. 24-17 (continued) located anyway. A new technology was later introduced that included a motion sensor on the device that only activated the alarm if a moving obstacle was identified. I don't know the current status of the industry as I have been out of mining for many years, but it is worth investigating since backup alarms are a nuisance noise.

### Visual Impacts

Comment No. 24-18 Scenic impacts to the community as a whole and the residential neighbors in particular are still a concern. I take exception to the statement in Table ES-1-4 under land use that ***No residential...land uses would be directly impacted by construction or operation of the proposed project*** (Section 3.11 and 4.11) when private property abuts the project on two sides. Their definition of impact and mine are not the same. Besides the aforementioned noise and dust impacts from both construction and operations, the mountain views will be replaced by industrial landscapes for local residents. Had the proponent selected a site at some distance from the center of town and local residents, everyone could have had the relatively unobtrusive view seen from Lathrop Wells (Fig. 4-6A) where only the dry-cooling units stand as out of place. Instead current residents on Sandy Lane and vicinity and potential residents along Valley View have their mountain views almost totally obscured by the proposed facility (Fig 4-8A and 4-9A). Personal so-called ornamental vegetation (we folks out here know it is primarily for wind breaks and associated shade) will help to shield the view for some, but the sheer size of the project area will cause it to dominate the view shed in the 0-3 mile foreground zone. I also disagree that existing impacts (the current town and residential structures) will lessen the impact of the proposed project. The combined land area of all the existing structures (which are not densely developed) is 0.5 square miles. This project covers 6.8 square miles—hardly a reasonable comparison. A more realistic perspective is that the existing structures will not significantly impact the view of the proposed facility. And I would like to see a similar

Comment No. 24-19 photo simulation from one of the residences on Anvil Road east of Powerline Road. I'm not convinced that the impacts will, in fact, be moderate to low (see Residences south of Amargosa Farm Road, p. 4-76). Also, these photo simulations don't represent how significant early morning / late afternoon reflection of sunlight might be on the nearest neighbors. That would be nice to know before the project is permitted.

Comment No. 24-20 They are right it predicting that distance from the facility will reduce its visual impact from other vantage points. The presence of a wind fence does seem to help blur the industrial angles of the solar array, but it is still an artificial disruption to the landscape. The proponent has noted the benefit of existing ornamental screening. I think it would be helpful for them to investigate the cost and water consumption of planting trees of reasonable size along the portion of the fence directly adjacent to residents. If planted at the outset of fence installation (which is needed for security reasons) and with three years of construction lag-time, trees could be well on their way to providing a more natural screen for industrial activities that would also be consistent with other developed sites around the valley. Note that although Tamarisk (Athels) is a common windbreak tree in the valley because of rapid growth, it is a non-native invasive that aggressively seeks out water and damages structures. It would not be a good choice for this application.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
24-21

### Dark Sky

My last comment touches on visibility of the night sky. I had never seen the milky way before I moved west, and it is awesome. Despite the ominous glow of Las Vegas that silhouettes Mount Charleston at night, we have superb night visibility in our valley. I'm glad that the proponent plans to minimize light pollution in an effort to protect this resource. Specifics, however, were lacking and general words like "consider" and "practicable" (Appendix A-9 VIS-4) were not very reassuring. They state that their nighttime lighting **will be slightly brighter than the nearby developed gravel operations, which are the brightest point-source of nighttime lighting in the project area** (Section 4.12.2.1). It is unclear to me what quarry they are referring to since the local quarry doesn't have nighttime operations. If they are referring to the Cind-R-Lite facility north of Highway 95, it may be the only comparison, but it isn't a very good one. They have nighttime lighting at the plant site but the footprint of their project is about 420 acres, about a tenth the size of the proposed solar facility. Just as visual impacts are reduced by distance, the Cind-R-Lite facility is over 7 miles from local residents. I don't have to remind you how close the proponent's project is to residents, and their nighttime activities which are necessary to their operation (mirror washing) will impact the local view of the night sky. So a little more detail is necessary to evaluate how significant those impacts will be.

### General Discussion

Comment No.  
24-22

It was noted in the initial scoping sessions that this project did not have to be in the middle of our town (Table 1-7 Lands and Realty) and could have been sited farther from existing land uses. The proponent chose to put this project in close proximity to residents and the center of community services in our town which most residents in the valley use to some degree or another, be it the library, community functions at the community center or park, the medical clinic or the school. In section 1.4.3 the proponent described their objectives, which included:

- **Minimize** environmental impacts, infrastructure needs, and **costs** by locating the plant **near existing infrastructure**, such as a transmission line, a substation, an adequate water supply, and highways/access roads, and by using designated corridors to the maximum extent possible
- Develop a solar thermal energy facility that will qualify for, and benefit from, the **ARRA Grant Program**

Now I understand a business trying to minimize costs. And I can understand trying to capitalize on a government handout like the ARRA Grant Program. But in their greed to get as close to a transmission line as possible, and as close to available water rights as possible, they completely ignored their impacts to the local community. They felt that the promise of jobs and tax revenues would make everyone welcome their project with open arms. They were surprised that the community came out in force at the scoping meeting against this project once we saw the details of how the center of our community would be changed, and how our neighbors that lived adjacent to the site would be treated. The proponent has no idea how important quality of life is to our community. There are many places we could live that provide higher wages and more support facilities from a larger tax base, but we choose to live here.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
24-23

Now I'm sorry if they think that the conditions we want placed on this project to protect our quality of life are economically burdensome. But they chose this site we didn't. The homes on Sandy Lane and their neighbors didn't suddenly appear after Solar Millennium announced their intentions. We didn't throw up a school, library, medical clinic, cemetery, park and community center to stand in the way of progress. This project is applying for use of public land for something Washington, D.C. has decided is a priority. The project proponent is pushing hard to get this project started so they can cash in on the ARRA carrot. But the public land belongs to everyone, and their plans should not create undo hardship on surrounding stakeholders. As the lead agency in reviewing this proposal, the residents of Amargosa are looking to you, the BLM, to protect our community with solid mitigation requirements to minimize all the impacts to our environment. We don't need hollow platitudes that look pretty on paper but do nothing to provide accountability and consequences for failure to achieve accepted standards of compliance. If this right-of-way permit is to be granted, please include reasonable mitigation requirements to protect the residents of Amargosa Valley.

Sincerely,

Genne M Nelson  
P. O. Box 258  
Amargosa Valley, NV 89020  
775-372-1552

A response to this comment is provided on a separate page following this comment document.

## RESPONSES TO COMMENT NO. 24-01 THROUGH 24-23

### Response to Comment No. 24-01

The BLM's preferred alternative is the Proposed Action (dry-cooled alternative).

### Response to Comment No. 24-02

Solar Millennium has filed an application with the Nevada State Engineers Office to change the place and manner of use of an existing certificated water right near the Project site. The water right has an annual duty of 603 afy which has been pumped approximately 413.88 afy on average over the last 25 years. Solar Millennium's water requirements during operation is 400 afy. To allow for redundancy should one of the wells fail, Solar Millennium intends to drill a new well and move the point of diversion to a location just west of the current well. Meters will be placed on both wells to ensure there is no exceedance of the permissible annual duty.

The change in manner of use of the existing water right from irrigation and agriculture to industrial may result in a loss of groundwater recharge to the basin. The best available literature indicates that recharge due to agricultural practices in Amargosa Valley ranges between 9 and 22% (Stonestrom et al. 2007). The primary water uses during operations would be for washing solar mirrors, ancillary equipment heat rejection, and the power cycle. It is unknown what amount of infiltration occurs as a result of washing solar mirrors, and the other uses will not have any infiltration associated with them.

### Response to Comment No. 24-03

As cited in Table 2-4, the amount of water required for dust control is anticipated to be 45 afy. This quantity of water, which include RO discharge water, has been accounted for in the estimated operational water requirement of 400 afy

### Response to Comment No. 24-04

Solar Millennium has filed an application with the Nevada State Engineers Office to change the place and manner of use of an existing certificated water right near the Project site. The water right has an annual duty of 603 afy which has been pumped approximately 413.88 afy on average over the last 25 years. Project water needs during construction will be about 600 afy; during operations it will be 400 afy. Water would be sourced from the one well. Potential effects to local water users has been added to Section 4.4.2.1

#### Response to Comment No. 24-05

A coordinated regional flood plain approach for the area was pursued jointly with BLM, Nye County and adjacent solar company right-of-way applicants. All parties agreed to the positive pursuit of the approach, however coordinated funding, schedule variations and design responsibility for such a facility was determined to be an overwhelming challenge at this point in time. Therefore the alternative of providing a regional detention basin north of US 95 is an unlikely venture and the Project is proposing independent flood protection.

A Conceptual Stormwater Control Plan was prepared for the project site and submitted to BLM as part of the Plan of Development. The plan included conceptual evaluation of on-site flood control.

#### Response to Comment No. 24-06

The most recent version of AERMOD (Version 09292) was used. AERMOD is the model preferred by U.S. EPA and NDEP for the types of site, emission source, and regional terrain features of the Amargosa Farm Road facility and the Amargosa Valley region.

Before the DEIS was issued there was no site specific air modeling for this Project, therefore, air quality data from a similar project in a similar location was utilized (Palen Solar Project). After the DEIS was issued site specific modeling was completed and has been included into the FEIS. The air quality data in the FEIS includes more relevant data based on site specific conditions and expected impacts from construction and operation of the proposed Project. Because the site specific modeling has been completed there is no reason to further research the similarities of wind patterns in Amargosa Valley to those in Desert Center in this EIS.

Dust monitoring stipulations will be determined by the Nevada Department of Environmental Protection - Bureau of Air Pollution Control (NDEP-BAPC). Before construction can commence on the project site a Surface Area Disturbance Permit must be obtained, and within it a Dust Control Plan must be developed that includes best practical methods of fugitive dust control to be used by the permittee to control fugitive dust in detail. NDEP-BAPC has complete regulatory authority over projects in this location considered to be minor sources with regard to air emission control and monitoring.

#### Response to Comment No. 24-07

The water requirements for both the dry- and wet-cooled alternatives are cited in Table 2-4. The BLM acknowledges that at present, conventional surfactants are not allowed to be used in desert tortoise habitat. There are ongoing studies analyzing effects of various surfactants on desert tortoise and their habitat. The BLM will work with the Proponent to achieve a workable solution to this issue. Under any such solution, no surfactants will be used that would result in adverse impacts to desert tortoise.

Response to Comment No. 24-08

The most recent version of AERMOD (Version 09292) was used. AERMOD is the model preferred by U.S. EPA and NDEP for the types of site, emission source, and regional terrain features of the Amargosa Farm Road facility and the Amargosa Valley region.

Response to Comment No. 24-09

See response to Comment No. 24-08.

Response to Comment No. 24-10

See response to Comment No. 24-06.

Response to Comment No. 24-11

See response to Comment No. 24-06.

Response to Comment No. 24-12

In the absence of Nye County and Nevada State noise code regulations, the EPA 55 dBA noise code threshold was adopted and applied to the project. The study is to determine appropriate noise levels at project property lines. Regulations at a property line account for proper noise reduction to residential structures.

Response to Comment No. 24-13

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 24-14

The requested change is subject to review and acceptance by the Developer, Solar Millennium, as NEPA is a purely procedural status and cannot require substantive outcomes. Evaluation of construction schedule at the eastern power block must be reviewed to determine if a 1-hour reduction will unreasonably affect construction schedule.

#### Response to Comment No. 24-15

Please refer to Comment No. 02-10-03. Acoustic energy as perceived by a human is referenced as a 10 dB difference - which is perceived as a doubling of the energy. Therefore a 15 dB difference is perceived as a little more than doubling of the energy. 60 dB is defined as normal human speech at 3 feet.

#### Response to Comment No. 24-16

This comment alludes to the discussion regarding acceptable property line ambient noise level conditions. In the absence of Nye County and Nevada State noise code regulations, the EPA 55 dBA noise code threshold was adopted and applied to the project. Our analysis is conditioned that most of the operational noise will occur during the day time hours. A defined property line noise regulation will assist in the reduction of interior residential noise.

#### Response to Comment No. 24-17

Safety protocol and noise regulations will be complied with at all times during construction and operation of the facility. 20 CFR 1926 requires backup alarms on certain types of vehicles - the noise associated with the alarms helps ensure safety for workers, and for people located within the vicinity.

#### Response to Comment No. 24-18

The FEIS states that when the project would be seen in the context of the existing structures that are similar in form, line, color and texture the impacts would be reduced. The EIS states that the impacts are high for sensitive viewers in the foreground with level, unobstructed views. The impacts further address the scale and dominance of the project to viewers in the foreground (Section 4.12.3.1 Project Contrast).

#### Response to Comment No. 24-19

The KOPs in the FEIS represent typical viewers and viewing distance zones. The KOP locations were selected by the BLM visual resources staff to represent typical conditions and impacts in Amargosa Valley.

Time-of-Day impacts are addressed in Section 4.12.3.1, in regards to the relationship of the sensitive viewers from the solar array. In this regard, high impacts to sensitive viewers with unobstructed views of the Project are disclosed.

#### Response to Comment No. 24-20

Although the wind fence is an introduced element to the landscape, it is considered a mitigation measure in part as it was proposed to decrease the visibility of the solar arrays in addition to mitigate wind effects to the solar arrays.

Comment noted regarding planting trees.

#### Response to Comment No. 24-21

Comment noted. The FEIS has been updated as appropriate to correctly identify the gravel facility mentioned in the DEIS to the Cind-R-Lite plant. Facilities operational hours are 6am-3pm, but plant operates 30+ lights (mixture of security, sign lighting, and pole lighting) from sundown to sunrise (per phone conversation with Cind-R-Lite facilities manager). Additionally, the FEIS has been updated to provide more detail in the efforts to minimize light pollution.

Powerblocks are the only facility to light up at night. The current design has each powerblock site at approximately 2,500 ft x 490 ft = 1,225,000 square feet (28.12 acres; total of 56.24 acres).

#### Response to Comment No. 24-22

Comments noted. The BLM appreciates the commenter's participation in the EIS process.

#### Response to Comment No. 24-23

In addition to BLM required mitigation measures, a Development Agreement has been made and entered into by and between Nye County and Solar Millennium to ensure the land use impacts on public services in connection with the proposed Project are mitigated. The goal of the Development Agreement is to "promote the health, safety, and general welfare of the County and its inhabitants, to minimize uncertainty in planning for and securing orderly development of the Property and surrounding areas, to insure attainment of the maximum efficient utilization of resources within the County in a way that provides the highest economic benefit and least fiscal cost to its citizens, and to otherwise achieve the goals and purposes for which the laws governing development agreements were enacted." A copy of the approved Development Agreement between Nye County and Solar Millennium is provided in Appendix F.

The FEIS contains a full environmental review of the proposed Project's likely impacts and identifies measures to avoid and mitigate those impacts where possible. Similar avoidance and mitigation will take part as a result of the Section 7 consultation process between BLM and the U.S. Fish & Wildlife Service under the federal Endangered Species Act. Plans with additional measures, such as lighting and stormwater control plans, will help serve the same function.

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May 3, 2010

## FAX

TO: BLM, Greg Helseth 702-515-5023  
PAGES: 6  
SUBJECT: Comments, Draft EIS, Solar Millenium, LLC Project  
FROM: Ryan Corrigan FAX 775-828-1533

See attached 5 pages

**Alternatives**

Comment No.  
25-01

The EIS describes a new concept/configuration for the Project described as the Dry Cooled Alternative. This alternative substantially alters the design, visual effect and noise level of the Project. This new proposal has never been included as an alternative in the scoping process, as required by BLM regulations. This alternative must be withdrawn from consideration until interested parties have the opportunity to provide comments, and those comments are incorporated in a draft EIS. As it now stands, the draft EIS was prepared without knowledge of any such comments. Just as the public has the obligation to adhere to the administrative process, so to should the BLM be bound by their own regulations. (ES-1.4.1 page ES-8)

**Area of the Project**

Comment No.  
25-02

The Alternative described at ES-1.4.1 states that 6320 acres have been applied for, of which 4350 acres would include actual use (solar fields, power blocks, office, maintenance, parking, lay down, stormwater detention basin and switchyard). Table ES-1-2 describes only 4087.11 acres for the above purposes, which apparently includes the entire project. There is no justification presented for releasing an additional 2000 acres, which includes land across the street from residents and the Senior Center, and land surrounding the town park. (Figure ES-2) Release of this additional land without public input or knowledge of its proposed use violates the BLM tenet of "Best Use". The application for this excess land should be denied.

**Size and Shape (ES-1.4.4)**

Comment No.  
25-03

Although scoping comments urged consideration of an alternative footprint to provide an increased buffer between the Project and Sandy Lane residents, this alternative was totally disregarded with no explanation or justification.

Project explanations that a reduction in area would not be economically feasible are not valid. The selection of the dry cooled alternative would result in an overall annual reduction in output of 5% (page ES-10)

I am again proposing an alternative that would increase the buffer between the Project and Sandy Lane by selecting the wet cooled alternative and by reducing the mirror field in the south east corner (East edge from Farm Road to Frontier Road) by a size that would result in a reduction of no more than 5% of output. This alternative would provide a positive step in mitigating the recognized negative impacts on the residents on Sandy Lane.

Responses to these comments are provided on a separate page following this comment document.

**Fire Protection**

Comment No.  
25-04

Fire protection measures are discussed at 2.3.9, page 2-31. A glaring omission from the procedures relating to fire protection is the very real possibility of a catastrophic fire. Extensive evidence of the possibility of such an occurrence was provided during the scoping process, including photos of the catastrophic fire at Daggett, CA. Yet, there was absolutely no mention of this event, or the possibility that the Project could have such an experience. Any EIS related to this project has an obligation to address this most urgent public concern, and to describe the potential dangers to adjacent residents. These should include at least the potential spread of the fire, heat and smoke damage, harmful toxic fumes, and evacuation procedures. This is the first solar power plant using fluids heated by mirrors that is located within yards of residents.

**Planned Land Use 3.11.4**

Comment No.  
25-05

This section describes the Amargosa Valley Area Plan, including the specification of a .25 mile Open Space Parks and Trails land use designation between residential areas and the area where the project is located. (page 3-127) No justification is provided in the EIS for disregarding this provision, a provision approved by a majority of the residents of Amargosa Valley. I am not surprised greedy Nye County politicians would ignore the ROI, but I would expect more integrity from a federal agency charged with fairly administering land disposition, and expect BLM to stand by their stated objective of considering affected residents.

**Visual**

Comment No.  
25-06

KOP / Simulation 1 – View facing West from Sandy Lane residence accurately describes the overall impact to be High/moderate. The view described includes a semi-transparent wind fence, the first row of solar collectors and potentially the tops of the power block. This detail fails to describe the enormity of the view, both the height, 30 plus feet, and the length, almost as far as the eye can see in each direction. The sheer size of the project was not adequately considered. The wind fence itself, is a visual impairment. The existing trees on residential property will not adequately obscure this visual impairment.

Because BLM has designated the setting as VRM Class IV, there are only minimal requirements for mitigation. The designation of VRM Class IV was a subjective classification performed by a person, or persons, obviously influenced by personal prejudices against a desert setting. Those of us who are native to the desert have an entirely different point of view. While the BLM in this instance saw only monotonous plants, someone who appreciates the desert sees a living, tranquil landscape teeming with desert wildlife. We chose to live here because of the beauty of the desert, not in spite of it. The VRM rating of Class IV is arbitrary and capricious. At a minimum, BLM has an obligation to consider location alternatives to lessen the visual impairments.

Responses to these comments are provided on a separate page following this comment document.

**Noise**

Comment No.  
25-07

After wading through all the technical jargon relating to the measurement of the noise levels, it appears the analysis of the data collected is seriously flawed. My discussion is limited to the Eastern property line (Sandy Lane). The level of dBA, Ldn from operations at the Eastern property line is projected to be 54.7. (Table 4-23, page 4-33) The existing 24 hour average of dBA, Ldn is 39.7. (Table 3-11, page 3-49).

The study neglects to consider the cumulative effect of adding newly created operational dBA's to the existing ambient noise level. The result, if combined, would total 94.4 dBA, Ldn, a level resulting in hearing loss per Table 3-8, page 3-46. This noise level would also exceed the EPA standard of 55 dBA (page 4-29) This level also exceeds the noise exposure limit of 90 dBA as described by OSHA. (page 4-35).

The noise study is further flawed by computing the 24 hour average of combined noise levels for existing noise. (Table 3-11, page 3-49) An average of noise levels is not an accurate measure of the impact of sounds heard by residents. First, it does not filter out pleasant sounds, (breeze through the trees, birds chirping, crickets at night). Secondly, noise levels in this rural setting are intermittent, not constant. Sound occurs in spikes of increased decibels and audible sound, generally lasting only seconds, followed by valleys of relative quiet, often for extended time periods. It is much easier to tolerate brief increases in sound level (aircraft overhead, vehicles passing by on the gravel road, large trucks on Farm Road, etc) if followed by extensive periods of relative quiet.

The 24 hour ambient noise level is not comparable to the continuous noise level that will be generated by the Project. There will be no more periods of relative quiet, a factor having a direct bearing on the socioeconomic impact on residents.

In Section 4.5.4, page 4-36, the draft EIS concludes no mitigation for noise will be required. This conclusion is erroneous, based on the unreliable analysis of data as related above. At a minimum, a hearing conservation plan is required for both workers and residents.

**Snakes**

Comment No.  
25-08

Scoping comments included fears by adjacent residents that disturbing such a huge area of desert would cause a migration of venomous snakes to their residences. There is no mention of this issue in the draft EIS. This issue was discussed with the biologist that performed surveys for the Project. Based on local observations, 5 to 10 sidewinders per acre is a realistic estimate. Disturbing over 4000 acres could result in potentially 20,000 to 40,000 sidewinders looking for a home. The solution for this issue is a silt fence that prevents such a migration, and is required in California for similar projects. I urge BLM to investigate this danger and to consider appropriate mitigation.

Responses to these comments are provided on a separate page following this comment document.

**Toxic Fumes from Heating Fluid**

Comment No.  
25-09

Scoping comments also described concerns for health effects from heating fluid leaks and spills, Research at other solar trough plants identified the issue of adverse respiratory effects on workers dealing with "oil" leaks and spills. The draft EIS fails to even mention this issue. Adjacent residents are concerned as to the volatility of such fumes, and the effect on nearby homes , pets, and livestock by airborne fumes. A study of this potential hazard must be included in the EIS.

**Socioeconomic**

Comment No.  
25-10

The draft EIS analysis of this issue consists primarily of a recitation of demographic statistics. This approach is outdated. Current literature defines this discipline in a much broader context, including the evaluation and measurement of the social impact some sort of economic change has on the way people behave, how they choose to spend their time, and the overall quality of life. Intangible factors such as personal dignity, personal safety, fear from physical harm, and additional similar factors are studied and rated.

I urge the BLM to employ a competent subcontractor in this highly specialized field, such as a PhD from Nevada university environmental studies departments, to design and conduct a proper study . The current description of socioeconomic issues in the draft EIS is woefully inadequate.

**Summary**

Comment No.  
25-11

The overall impression of the draft EIS is that it is a rush job prematurely issued. It contains a number of "we're going to's". The following are a few examples:

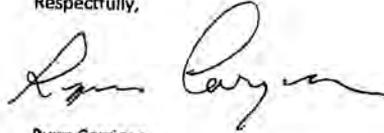
- A.1, AQ-1: "Project...will develop an Air Quality Mitigation Plan..
- A.2 , GEO-1 ....will provide guidance for mitigation of geological hazards...
- A.4, WTR-1 ...Project will develop ...approved construction phase SWPPP
- A.6, VEG-5 ...Noxious weed plan will be developed...
- A.9, VIS-2 Vague as to landscape mitigation. 30' evergreen trees?
- A.9, VIS-4 Lighting . Vague as to requirements, no specific standards or plans, no time constraints, no description of height, no limits on lumens.
- HAZ-3 Need to publish list of EPA contacts so residents can also monitor compliance
- Haz-6 Project will develop spill response procedures (no mention of fumes.)

How can the EIS be fully evaluated when so many issues are incomplete.

Responses to these comments are provided on a separate page following this comment document.

Lack of adequate consideration of the issues raised in these comments will most certainly provide a basis for appeal.

Respectfully,

A handwritten signature in black ink, appearing to read "Ryan Corrigan". The signature is fluid and cursive, with the first name "Ryan" and last name "Corrigan" clearly distinguishable.

Ryan Corrigan  
HCR 69, Box 426D  
Amargosa Valley, NV 89020

## RESPONSES TO COMMENT NO. 25-01 THROUGH 25-11

### Response to Comment No. 25-01

Solar Millennium's Plan of Development identified both a dry- and wet-cooled alternative. The selection of the appropriate technology would be based on additional studies and public and agency consultation. This information was provided to the public during Scoping.

### Response to Comment No. 25-02

The Proponent's decision to release a portion of the lands from further consideration was based upon refinement of the Project layout following surveys conducted in the spring of 2009. The lands released from further consideration are shown on Figure ES-2 and Figure 1-2.

### Response to Comment No. 25-03

Reasons why a smaller footprint would not be feasible are described in sections ES-1.4.4.1 and 2.2.1.1

See also response to comment 20-10.

### Response to Comment No. 25-04

See Section 2.3.8 (Fire Protection). Fire Safety Compliance Certification must be obtained from Nye County. Fire protection training will be given to on-site personnel and at least four (4) individuals identified by the county annually per the Development Agreement. A Construction Fire Protection and Prevention Plan will be developed and followed throughout all phases of construction. The permanent facility fire protection system will be put into use during construction as soon as is practicable. Prior to the availability of this system, fire extinguishers and other portable fire-fighting equipment will be available on site. All equipment will be Occupational Safety and Health Administration (OSHA) compliant. Locations of portable firefighting equipment may include portable office spaces, welding areas, flammable chemical areas, and vehicles and other mobile equipment.

#### Response to Comment No. 25-05

Local land use plans do not apply to federal lands, including the lands on which the proposed Project would be located. Rather, BLM must comply with the requirements set forth in the Federal Land Policy Management Act (FLPMA). Nevertheless, BLM has coordinated with Nye County in an effort to ensure synchronicity between the Project and local land use planning.

In addition, a Development Agreement has been reached and entered into by and between Nye County and Solar Millennium to ensure the land use impacts on public services in connection with the proposed Project are mitigated. The goal of the Development Agreement is to "promote the health, safety, and general welfare of the County and its inhabitants, to minimize uncertainty in planning for and securing orderly development of the Property and surrounding areas, to insure attainment of the maximum efficient utilization of resources within the County in a way that provides the highest economic benefit and least fiscal cost to its citizens, and to otherwise achieve the goals and purposes for which the laws governing development agreements were enacted." A copy of the approved Development Agreement between Nye County and Solar Millennium is provided in Appendix F.

#### Response to Comment No. 25-06

The simulation as presented in the FEIS depicts what the human eye would see. The photograph was taken using a 50-mm lens and a 45 degree viewing angle, which is an approximation of what the human eye sees (excluding peripheral vision). The impacts are based on the full scale of the Project and include all of the Project elements in the assessment. Although the wind fence is considered a partial mitigation measure, its effects to impacts were considered as well.

The BLM uses a team approach, which draws from various resource specialists (i.e., geologist, biologist, etc.) trained in VRM so that the determination is based on group consensus, not individual opinion. In this regard, one discipline does not have a majority voice in the decision. The Class IV designation came from this group consensus.

#### Response to Comment No. 25-07

This comment is not mathematically valid. The cumulative effect is derived by adding the values on a logarithmic scale, not a simple additive linear scale. Ambient noise conditions are typically measured over a 24-hour period using the CNEL, LEQ, or LDN metric. Currently, the applied EPA guidelines only allow for the 24-hour average noise levels for land use compatibility at project property lines. Ambient conditions are collected to capture and define all community and surrounding activities to include roadway, aircraft, and mechanical noise, also wildlife. These are defined as typical noise levels impacting the residential community. The facility's operation at night will be very limited, meaning that noise levels will approximate nighttime ambient noise conditions. If revised noise regulations were enacted, then the Developer would be required to evaluate nighttime equipment operations for potentially

necessary or desirable changes. Based on the EPA and OSHA requirements at time of study, it was concluded that no mitigation is required.

Response to Comment No. 25-08

The BLM is unsure how the estimate of 5 to 10 sidewinders per acre was derived. Studies show that sidewinder densities are typically no more than 1 individual per hectare (R.S. Reiserer. 2001. Evolution of life histories in rattlesnakes.). Surveys of the entire site found 5 sidewinders and no other venomous snakes. As such, impacts from movement of venomous snakes are not anticipated. Requirements for projects in California are not applicable in Nevada.

Response to Comment No. 25-09

All workers will be required to wear the appropriate forms of personal protection equipment at all times. Volatile organic compounds (VOC's) will be regulated and limits will be enforced by NDEP-BAPC.

Response to Comment No. 25-10

The University of Nevada at Reno was retained to validate and update information included in the Socioeconomic section of the FEIS.

Response to Comment No. 25-11

In order to obtain various agency approvals and permits, Solar Millennium is required to prepare site-specific plans with its right-of-way application. For example, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared prior to obtaining a Stormwater Discharge Permit. These plans must be developed based on final engineering design.

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COMMENT FORM

Amargosa Farm Road Solar Energy Project
Draft Environmental Impact Statement

Name: ED BOSS
Organization:
Address: PO Box 13, Amargosa Valley, NV, 89020
Add to Mailing List: YES [X] NO [ ]
Withhold personal information: YES [X] NO [ ]

Comment No. 26-01

COMMENT:
THE PLAN TO PUT SOLAR MILLENNIUM ON ANY PROJECT IN THE 40 MILE WASH DRAINAGE AREA IS IRRESPONSIBLE. THIS PROJECT SHOULD BE RELOCATED TO THE NORTWEST WHICH WOULD PUT IT NORTH OF THE BOUNDARY CANYON FAULT TO PROTECT THE UNDERGROUND AQUIFER IN CASE OF A PROBLEM. THE WATER IS ABOUT 50' DEEPER BUT IN THE SAME SOIL STRUCTURE AS THE PRESENT LOCATION. THE SURFACE FLASH FLOOD POTENTIAL IN THE NEW LOCATION IS NEGLIGIBLE - IN 40 MILE WASH IT IS MAJOR. IN THE EARLY 1990s A FLASH FLOOD SEVERELY DAMAGED VALLEY VIEW AND AMARGOSA FARM ROADS AS WELL AS SOME STRUCTURES - THIS WAS A FLOW FROM THE WEST CHANNEL. THE PLANNED RETENTION & RUNOFF/DRAINAGE AREAS ARE INADEQUATE FOR SUCH A FLOOD. NOW THERE ARE NEW SUBDIVISIONS THAT THE FLOOD WATERS WILL IMPACT. WITH THE WATERS BEING DIVERTED IT WILL BE POSSIBLE TO HAVE A DISASTEROUS EVENT AT THE ELEMENTARY SCHOOL NEXT FLOOD. MOVE THE PROJECT SITE - THEY CAN STILL ACCESS EXISTING ELECTRIC TRANSMISSION LINES FROM THE NEW SITE, WITHOUT ALL OF THE FLOOD DANGER.

Response to Comment No. 26-01
The Project site is considered suitable for development of a solar power facility due to its solar radiation potential and flat terrain, despite the challenges posed by stormwater runoff potential. Impacts to and mitigation concerning Forty mile Wash are discussed at length in Chapter 3 and 4.
The flood that occurred in 1969 generated 3,330 cfs of stormwater runoff measured at the gage station just upstream of US 95. The floods that occurred in 1995 and 1998 generated 1,200 cfs and 340 cfs measured at the same gage station. The Solar Millennium project site has been designed with perimeter flood control facilities to accommodate the 100-year storm event flow determined to be approximately 9,600 cfs. The proposed stormwater plan will not increase flooding of surrounding properties in that it proposes the stabilized release of intercepted storm flows to historic locations in both quantity and manner.

Public comments must be postmarked by May 3, 2010

SEND COMMENTS TO:
Gregory Helseth, Las Vegas Field Office, 4701 N. Torrey Pines Drive, Las Vegas, NV 89130

\*Copies of comments will be available for public review at the local BLM office during regular business hours. Individuals requesting their personal information be withheld from public review or from disclosure under the Freedom of Information Act must check "Yes" in the appropriate box. Such requests will be honored to the extent allowed by law.

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**California Office**

1395 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.433.5900 | fax 916.433.6871  
[www.defenders.org](http://www.defenders.org)

May 3, 2010

Gregory Helseth  
Pahrump Field Office  
Bureau of Land Management  
4701 North Torrey Pines Drive  
Las Vegas, NV 89130-2301  
*Via email to: [solar\\_millennium@blm.gov](mailto:solar_millennium@blm.gov)*

**Re: Comments on the Draft Environmental Impact Statement for the Solar Millennium  
Amargosa Farm Road Solar Power Project, Nye County, NV, 75 Fed. Reg. 13301 (Mar. 19,  
2010)**

Dear Mr. Helseth:

Thank you for the opportunity to submit comments on the Draft Environmental Impact Statement (DEIS) for the proposed Amargosa Farm Road Solar Energy Project. These comments are submitted on behalf of Defenders of Wildlife ("Defenders"), a non-profit public interest conservation organization with over 1,000,000 members and supporters nationally, 100,000 of whom are in California.

Defenders is dedicated to protecting wild animals and plants in their natural communities. To achieve this end, Defenders employs science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction. Defenders submitted issue scoping comments for the proposed project on August 11, 2009.

The proposed project would entail the exclusive use of 4,350 acres of public land for the construction, operation, and eventual decommissioning of a concentrating solar-thermal power generation facility. Power would be generated from two 232 MW dry-cooled solar power plants equipped with thermal energy storage. The site of the proposed project is located immediately east of Death Valley National Park; north of Death Valley Junction; and approximately 15 miles northwest of the Ash Meadows National Wildlife Refuge.

As we transition toward a clean energy future, it is imperative for our future and the future of our wild places and wildlife that we strike a balance between addressing the near-term impact of large scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands.

**National Headquarters**

110 17th Street, 3 W.  
Washington, D.C. 20036-3604  
tel 202.682.9400 | fax 202.682.9410

We strongly support renewable energy production and utilization, but we do not consider the construction of large-scale projects, and especially the very large solar energy projects proposed on public lands throughout southern Nevada and the adjacent California Desert Conservation Area, to be the primary way to meet our renewable energy goals. We believe such large scale solar projects must be located on degraded or disturbed land such as abandoned agricultural fields, industrial sites, and near existing structures before public lands containing natural plant and animal communities are considered.

Our comments on the DEIS are as follows, arranged by subject:

Comment No.  
27-01

## I. NEPA

**Purpose and Need:** The range of alternatives analysis is “the heart of the environmental impact statement.” 40 C.F.R. § 1502.14. The National Environmental Policy Act (“NEPA”) requires BLM to “rigorously explore and objectively evaluate” a range of alternatives to proposed federal actions.” See 40 C.F.R. §§ 1502.14(a) and 1508.25(c). In specifying their EIS obligations under NEPA, federal agencies must “specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” 40 C.F.R. § 1502.13. Agencies may not “contrive a purpose so slender as to define competing ‘reasonable alternatives’ out of consideration (and even out of existence).” *Simmons v. U.S. Army Corps of Eng’rs*, 120 F.3d 664, 665 (7th Cir. 1997). Nor may agencies “define the objectives of its action in terms so unreasonably narrow that only one alternative . . . would accomplish the goals of the agency’s action, and the EIS would become a foreordained formality.” *Citizens Against Burlington v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991) cert. denied 503 U.S. 994 (1991).

**Bureau of Land Management Purpose and Need:** According to the DEIS, the stated purpose and need for the proposed project is to:

...respond to the Proponent’s application under Title V of the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. § 1761) for a right-of-way grant to construct, operate and decommission a solar thermal generation facility and associated infrastructure in accordance with FLPMA, BLM right-of-way regulations, and other applicable federal laws.

**Department of Energy Purpose and Need:** According to the DEIS, the stated purpose and need for proposed action is “...to comply with its mandate under the EPAct by selecting eligible projects (potentially suitable for funding support) that meet the goals of the EP Act.” (DEIS at 1-4).

Rather than presenting a purpose and need statement that reflects the larger goal of providing for the development of solar energy, and then evaluating different means to achieve that goal, the Bureau of Land Management (“BLM”) has instead defined the Amargosa project and other infrastructure construction itself as the goal. By so radically narrowing the scope of the project’s purpose, BLM has impermissibly constricted the range of alternatives considered. See *Carmel by the Sea v. U.S. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1995).

A response to this comment is provided on a separate page following this comment document.

Comment No.  
27-02

**Project Alternatives:** In addition to properly defining the purpose and need of an agency action, agencies must consider a range of reasonable alternatives to the agency action in the EIS. See 42 U.S.C. § 4332(2)(E). The purpose of this requirement is “to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.” *Environmental Defense Fund v. Cops of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974); *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810 (9th Cir. 1987), rev’d on other grounds, 490 U.S. 332 (1989) (agency must consider alternative sites for a project). The BLM analyzed two alternatives: the proposed action and the no action alternative. The failure to provide meaningful alternatives violates NEPA.

Such a truncated alternatives analysis violates the agency’s duty under NEPA to fully review “all reasonable alternatives.” The EIS must analyze project alternatives including: (1) site alternatives, including development on private lands and (2) alternative technologies.

BLM appears to have severely limited consideration of what constitutes a reasonable alternative by adopting the requirement that the project size, location, technology, site control and overall cost efficiency conform to the applicants desires. This is very troubling. In fact, BLM rejected three alternative sites selected by the project applicant because they did not meet the site criteria identified in the DEIS which were developed by the applicant. Apparently projects of smaller size(s) were not considered because they did not meet the applicant’s criteria that at least 4,000 contiguous acres be available to support two 232 MW powerplants. The following paragraph from the alternatives section of the DEIS illustrates our concern with BLM’s approach with regard to reasonable alternatives:

*The Proponent also considered the alternative of developing the proposed Project as a single 232 MW plant. Generally, building one plant would have fewer environmental impacts. However, given the infrastructure requirements associated with building a single 232 MW plant, building two plants allows for economies of scale and reduces the infrastructure impacts, including transmission access and water development. In addition, a single 250 MW plant would not be as effective in meeting the Project objective of supporting attainment of renewable energy mandates and objectives. For these reasons, the development of a smaller project was rejected.*

Furthermore, given the applicants decision to modify the proposed project from a wet-cooled powerplant to an air-cooled power plant, the analysis of the wet-cooled alternative was not sufficient as a reasonable alternative. (DEIS at 2-4).

*Recommendation:* BLM should identify and evaluate alternatives to the proposed project, including those that are of different size, different technology and different location. Alternatives should include robust analysis of the potential adverse impacts from the proposed projects. BLM should not preclude consideration and analysis of a private land alternative or any other alternative from analysis because it is not within the agency’s jurisdiction. In fact, NEPA regulations require inclusion of reasonable alternatives not within the jurisdiction of the lead agency. 40 C.F.R. § 1502.14(c).

A response to this comment is provided on a separate page following this comment document.

**Cumulative Impacts Analysis:** Cumulative impact is defined as the impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7.

## II. Climate Change

Comment No.  
27-03

We applaud BLM for forecasting the changes likely to occur in the Great Basin as a result of climate change in describing the affected environment.<sup>1</sup>

*Recommendation:* We recommend that BLM carry that analysis into its discussion of the environmental consequences, cumulative effects and mitigation measures, including those associated with climate change.<sup>2</sup>

## III. Water Resources

Comment No.  
27-04

**Project Water Source and Consumption:** We are pleased to see that the project developer has decided to use an air-cooled power plant instead of a wet-cooled power plant. The project will now use almost 90 percent less water than originally proposed, decreasing water use from 4,600 acre-feet per year (afy) to 400 afy.

All water used in support of the project will be provided by either new or existing wells that pump naturally occurring groundwater from the Amargosa Hydrographic Basin ("basin"). Approximately 65 percent of this basin is located within Nevada and 35 percent within California. All of the wells used for this project will be located on land within Nevada. The portion of the basin within California is located primarily within Death Valley National Park.

The Amargosa basin lies within the Death Valley Regional Flow system. Groundwater in this system flows from recharge areas in the mountains of central and southern Nevada to discharge areas of playas and springs that are in Ash Meadows – one of the largest discharge areas – and Oasis Valley, Nevada, and Death Valley, California. The Ash Meadows/Death Valley regional

<sup>1</sup> BLM's assessment that "uncertainty exists as to whether observed climate changes reflect natural variations or may be caused by increasing emissions of greenhouse gases," (DEIS at 3-13), does not reflect our state of knowledge of climate change. The latest scientific assessment from the U.S. Global Change Research Program, the body responsible for integrating and coordinating federal research on climate change, "global warming observed over the past 50 years is due primarily to human-induced emissions of heat-trapping gases." *Global Climate Change Impacts in the United States* 9 (Thomas R. Karl, Jerry M. Melillo & Thomas C. Peterson eds., 2009). Environmental analysis of this project should incorporate U.S. scientific knowledge.

<sup>2</sup> See Secretarial Order 3226, *Evaluating Climate Change Impacts in Management Planning* § 4 (January 16, 2009) ("Each bureau and office of DOI shall, in a manner consistent and compatible with their respective missions: Consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, and/or when making major decisions affecting DOI resources"); Council on Environmental Quality, *Considering Cumulative Effects under the National Environmental Policy Act* 24, 42 (1997) (including documentation and analysis of global warming in the affected environment and effects), available at <http://eeq.ch.doe.gov/nepa/ccenepa/ccenepa.htm> (last visited Apr. 20, 2010).

Responses to these comments are provided on a separate page following this comment document.

Comment No. 27-04 (continued) groundwater flow system supplies water to many springs, streams, seeps and wetlands that are home to threatened and endangered species, and found within or near national wildlife refuges and national parks. Because the Amargosa basin is over-allocated, the Nevada state engineer has taken steps to prevent additional or changed groundwater pumping to protect basin resources, including the endangered Devils Hole pupfish.

Devils Hole, a small water-filled limestone cavern, is the only natural habitat for the Devils Hole pupfish. The water depth of Devils Hole is several hundred feet deep. However, most of the pupfish persist on a small shallow shelf which provides critical feeding and spawning habitat; spawning and feeding depends on water levels above this limestone shelf. These water levels are extremely sensitive to groundwater pumping up-gradient in the flow system. In absence of the proposed project, the elevation of groundwater in Devil's Hole has continued to decline at a steady rate over the last twenty years based on systematic monitoring conducted by the National Park Service. Although located within Ash Meadows National Wildlife Refuge, the area is administered by the National Park Service as part of Death Valley National Park.

Responses to these comments are provided on a separate page following this comment document.

Comment No. 27-05 Baseline Information for Groundwater Resources: According to the DEIS, the applicant plans to purchase or lease existing water rights.<sup>3</sup> Defenders appreciate the level of detail provided by the applicant regarding the proposed sources of water for the project. It appears, though, that BLM accidentally switched the annual duty for certificates 5715 and 12460.<sup>4</sup> The NDWR 2009a reference is a water rights permitting manual, not a reference containing information about the subject certificates.

Comment No. 27-06 Groundwater Impact Analysis: The DEIS analysis of impacts to the regional groundwater from the proposed project rely on the Death Valley Regional Flow System model (DVRFSM). The DVRFSM is used by the National Park Service, U.S. Fish and Wildlife Service ("FWS") and U.S. Geological Survey in conducting analyses of the groundwater resources comprising the Death Valley regional flow system which includes the Amargosa basin. According to the DEIS, this regional flow model is numerically driven and is the only accepted groundwater flow model available for this flow system. Unfortunately, this flow model has limitations on its usefulness in predicting effects of groundwater pumping on surface springs and features at relatively large distances from the point of water use (i.e. the proposed project).

Comment No. 27-07 We are pleased the DEIS includes an analysis of the effects of current groundwater pumping on Devils Hole, which reveals that current pumping in the basin would result in a 13 foot decline in the elevation of the water surface in approximately 200 years. This emphasizes the severity of groundwater depletion in the Amargosa Desert basin. Unfortunately, the DEIS fails to adequately consider the impacts to groundwater that will result from the proposed project.

<sup>3</sup> Applications 15702 (Certificate 6444), 15893 (Certificate 5717) and 43873 (Certificate 12460). Table 2-4 provides an annual duty and 6-year pumping average for each right.

<sup>4</sup> See Certificate 12460, available at <http://images.water.nv.gov/images/Certificates/12000/12460c.pdf> (annual duty of 545.38 af); Certificate 5717, available at <http://water.nv.gov/Water%20Rights/permitsdb/page1.cfm?app=15893> (annual duty of 603 af); cf. Table 4-14. BLM should also clarify the years used to obtain the 6-year pumping average in Table 2-4.

Comment No. 27-08	<p><i>Recommendation:</i> Considering the sensitivity of groundwater use in the basin, and the demonstrated long-term adverse impact to water-dependent resources within the region (e.g., Devil’s Hole, Ash Meadows, and springs within Death Valley National Park), we highly recommend the BLM analyze alternatives to the proposed project that would not require the use of groundwater from the Amargosa Desert basin. This approach could include alternative technology such as photovoltaic panels, or locating the project in an area where wastewater from existing facilities would be available.</p>
Comment No. 27-09	<p><i>Recommendation:</i> The DEIS must further analyze the impacts to groundwater and groundwater-dependent resources due to project construction. Given that the construction over a 39 month period is projected to require 1,950 acre-feet of groundwater, or 600 acre-feet annually, a thorough analysis of the proposed projects effect on the already depleted groundwater from the Amargosa Desert Hydrographic Basin is needed. Construction water loss from the basin should be added to the operational water use rate for the operational time frame of the project so as to give a cumulative impact analysis for all phases of the project.</p>
Comment No. 27-10	<p><i>Recommendation:</i> Considering limitations in using the DVRFSM and the acknowledgment that it is useful for modeling regional groundwater changes that are of much coarser scale than those addressed for the proposed project, we believe it would be more appropriate to simply state that the potential impact to groundwater at Devil’s Hole cannot be determined with certainty.</p>
Comment No. 27-11	<p><i>Recommendation:</i> We recommend that the impact analysis include potential effects to water resources within Death Valley National Park, both within the Amargosa River channel and the groundwater discharging into Death Valley as underflow through the Funeral Range. The analysis should address the effects of current and reasonably foreseeable future land uses that would require use of groundwater from the Amargosa basin.</p>
Comment No. 27-12	<p><u>Existing Groundwater Use:</u> Analysis of the potential effects of groundwater pumping from three wells to be utilized in support of the proposed project is based, in part, on what is described as “reported” recent use of 1,328 afy. The time period from 2005 to 2007 was given as an example of the recent time period. We consider this timeframe inappropriate, as explained below.</p> <p><i>Recommendation:</i> Because of the significant impacts groundwater pumping has on the Amargosa basin, we highly recommend that BLM perform its groundwater modeling and analyses with greater accuracy and precision. Analysis of the No Action alternative chose 2003 pumping and return flow to determine changes in water levels due to pumping – an utterly non-representative year – for a baseline analysis. In 2003, total groundwater pumping was 13,588 af, far less than the 17,967 af pumped in 2008, the most recent year for which records are available. Note that 2008 was not an aberration, groundwater pumping in the Amargosa basin has been increasing since 2003. Moreover, in 2003 the three wells pumped only 301.50 af, far below the 2005-2007 average, full duty use of 1,328 af. This modeling assumption understates the effect of current groundwater pumping and the environmental baseline. BLM should utilize a recent, representative year for its baseline analysis, or an average of years, such as the 2005-2007 time period. We also recommend BLM consult with the National Park Service in establishing an appropriate baseline year for the analysis.</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No. 27-13 | Cumulative Impacts Analysis: The use of water in the Amargosa Valley for the proposed project and for other solar energy projects proposed for this basin alone will deplete the waters of the Ash Meadows/Death Valley regional groundwater flow system, which supplies water to many springs, streams, seeps and wetlands that are home to threatened and endangered species and found within or near national wildlife refuges and national parks.

Comment No. 27-14 | Recommendation: BLM should take a hard look at the water availability in the Amargosa Valley, contrasted with the water requirements of solar energy projects, and the cumulative effects in the Death Valley regional flow system. The Nevada State Engineer has ruled that the Amargosa Desert hydrographic basin is over-appropriated by 18,000 afy and applications for new water rights will be denied because they too are in excess of the perennial yield and against the public interest.<sup>5</sup> As a result, the total annual water demand (50,000 afy) estimated for solar energy development projects in the Amargosa Valley cannot be sustained by the water that is theoretically, but unlikely, available for purchase or lease in the basin (approximately 7,000 afy).<sup>6</sup> Even existing water rights may not be available, because the State Engineer will deny, with few exceptions, any application to change the point of diversion of an existing ground-water right to a point of diversion closer to Devils Hole.

Comment No. 27-15 | Recommendation: BLM must analyze the water level at Devils Hole. In particular, if the water level in Devils Hole reaches the minimum court-ordered level in 2020, as stated in the DEIS, the BLM must assess whether the project is still viable. The impact analysis for the proposed action and all the alternatives should be included.

Comment No. 27-16 | Water Treatment and Disposal: Most of the water supply will be treated by reverse osmosis or electro dialysis reversal for total dissolved solids reduction. These processes produce a waste stream of high concentrate of salts and other impurities.

Recommendation: BLM should take a hard look at the environmental effects of creating and disposing of this waste stream. The DEIS simply states that concentrate will be used for dust suppression (DEIS at 4-22) without analyzing the TDS level of the waste stream or the effect of applying high TDS water to the ground, to any vegetation and to any underlying aquifer. The DEIS also does not state whether all of the waste stream would be used or needed for this purpose, especially since BLM does not identify dust suppression as a need during operation (DEIS sec. 2.3.6.4) – when the waste stream would be produced – but during construction (DEIS sec. 2.3.6.5) – when no waste stream would be available.

Comment No. 27-17 | **IV. Biological Resources**

Endangered species and critical habitat: The BLM has a duty under the Endangered Species Act (“ESA”) to consult with the U.S. Fish and Wildlife Service to ensure that the impacts from solar development will not “jeopardize the continued existence of threatened and endangered species . . . or . . . destroy or adversely modify their designated critical habitat.” 16 U.S.C. § 1536(a)(2).

Responses to these comments are provided on a separate page following this comment document.

<sup>5</sup> See State Engineer’s Ruling No. 5750 (July 16, 2007), available at <http://images.water.nv.gov/images/callings/5750r.pdf>.  
<sup>6</sup> *Id.* at 19.

Comment No.  
27-17  
(continued)

The ESA “is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court’s review of the ESA’s “language, history, and structure” convinced the Court “beyond a doubt” that “Congress intended endangered species to be afforded the highest of priorities.” *Id.* at 174.

Under section 7(a)(2) of the ESA, every federal agency “shall...insure that any action authorized, funded, or carried out by such agency (“action agency”) is not likely to jeopardize the continued existence of the endangered or threatened species or result in the destruction or adverse modification of habitat of such species...determined...to be critical...” 16 U.S.C. § 1536(a)(2) (Section 7 consultation). Agency “action” is defined in the ESA’s implementing regulations to include “all activities or *programs* of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas.

Of great concern are project impacts on the water dependent biological resources, including the Devils Hole pupfish. According to the DEIS, the water level in Devils Hole is declining due to current ground water pumping, and by 2020 the water level is expected to reach the court mandated minimum water level deemed necessary to sustain the Devils Hole pupfish. That water level is currently approximately 0.7 feet above minimum legal mandate.

The use of measurable conservation targets and thresholds (*e.g.* self-sustaining populations, minimize the likelihood of listings) adds structure to decision-making processes, and is very much in line with BLM’s desire to practice science-based management in solar development policy, as expressed by Department of the Interior leadership, including Assistant Secretary for Land and Minerals Management Wilma Lewis.<sup>7</sup> The use of baseline biological information concerning target fish and wildlife population condition, along with the forecasting and monitoring of population trends/habitat conditions over time following development decisions, provides a science-based means of evaluating solar development policy within an adaptive management framework.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
27-18

Scope of the impact analysis: The DEIS impact analysis for biological resources is focused largely on plants and animals occurring on the proposed project site, and those at-risk species associated with Ash Meadows and Devil’s Hole. Ash Meadows supports approximately 25 endemic species, many of which are listed under the federal Endangered Species Act (ESA) as threatened or endangered. At least five Federal threatened and endangered species in the Ash Meadows area are dependent on wetland and aquatic habitats derived from groundwater.<sup>8</sup> Due to potential adverse impacts on protected species and designated critical habitat, the BLM must consult with the FWS pursuant to Section 7 of the ESA.

The analysis of the effects of the proposed project on water dependent biological resources is limited to those associated within the Ash Meadows region. The regional groundwater flow

<sup>7</sup> Wilma Lewis, Assistant Secretary for Land and Minerals Management, Keynote Address at the 2009 BLM Renewable Energy Summit (Aug. 31, 2009).

<sup>8</sup> Devils Hole Pupfish (*Cyprinodon aberti*) (Endangered), Ash Meadows Amargosa Pupfish (*Cyprinodon nevadensis mionectes*) (Endangered), Warm Springs Pupfish (*Cyprinodon nevadensis parvulus*) (Endangered), Ash Meadows Speckled Dace (*Etheostichus ocaulis nevadensis*) (Endangered), Ash Meadows moxid (*Amblyurus amargosus*) (Threatened)

<p>Comment No. 27-18 (continued)</p>	<p>system includes Death Valley and the Amargosa River in addition to Ash Meadows, and the surface manifestations resulting from groundwater discharge.</p> <p><i>Recommendation:</i> The analysis of the effects of the current situation and all of the reasonable alternatives on these resources needs to be part of the analysis of effects. Analysis of the no action alternative may be particularly important because information contained in the DEIS indicates that current levels of groundwater pumping in the Amargosa basin are unsustainable and will likely have to be legally curtailed to comply with existing federal and state laws.</p>
<p>Comment No. 27-19</p>	<p><i>Recommendation:</i> BLM must analyze the water level at Devils Hole. In particular, if the water level in Devils Hole reaches the minimum court-ordered level in 2020, as stated in the DEIS, the BLM must assess whether the project is still viable. The impact analysis for the proposed action and all the alternatives should be included.</p>
<p>Comment No. 27-20</p>	<p><i>Recommendation:</i> The management framework for public lands that will guide the analysis of the effects of the proposed project and alternatives should include the policy provisions of BLM Manuals 6500 and 6840. They contain policy guidance for BLM management of wildlife habitat on public lands. Manual 6500 directs BLM "...to manage habitat on an ecosystem basis for the purpose of ensuring self-sustaining populations and a natural abundance and diversity of wildlife, fish, and plant resources on the public lands." Ensuring self-sustaining fish and wildlife populations provides a measurable, affirmative conservation objective to the BLM that should be used to help structure renewable energy development decisions as well as associated mitigation strategies. Manual 6840 policy requires BLM to manage public lands to meet two objectives: 1) To conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species; 2) To initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing these species under the ESA.</p> <p>Clearly, these two manuals provide critical direction to BLM in considering and analyzing environmental impacts of the proposed project and strengthen the importance of considering and analyzing alternatives that would allow BLM to meet its policy objectives with regard to wildlife resources, including those at risk in the Ash Meadows region.</p>
<p>Comment No. 27-21</p>	<p><u>Mitigation measures:</u> NEPA requires agencies to include a discussion of the means to mitigate adverse environmental impacts of projects. 40 C.F.R. § 1502.16(h). The DEIS indicates that because the impact assessments for ESA protected species occurring in Ash Meadows have not been completed, mitigation measures will be developed for certain affected species after ESA consultation is completed. NEPA requires agencies to include a discussion of the means to mitigate adverse environmental impacts of projects. 40 C.F.R. § 1502.16(h). We are concerned that BLM appears to consider the applicant's approval of any impact mitigation measures a necessary aspect of the NEPA process. While the applicant has a role in assisting BLM in identification of impact mitigation measures, it is for the action agency to determine the most effective mitigation measures.</p> <p><i>Recommendation:</i> Impact analysis for the projected loss of approximately 7 afy of groundwater discharge at Ash Meadows needs to be part of the final environmental impact statement for the</p>

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 27-21 (continued) proposed project. This impact analysis should be based, in large part, on the outcome of the ESA Section 7 consultation.
- Comment No. 27-22 *Recommendation:* Since the impact analysis for all groundwater-dependent species potentially affected by the proposed project has not been completed, we strongly recommend that BLM prepare a supplement to the DEIS that fully addresses this current shortcoming. The NEPA analysis for public review cannot be considered adequate until the effects of the project on federally protected species and designated critical habitat are analyzed and revealed. This is especially important because formulation of effective impact mitigation measures is dependent on a comprehensive and detailed impact analysis.
- Comment No. 27-23 *Recommendation:* Please analyze impacts to Amargosa basin groundwater and groundwater-dependent biological resources associated with the Amargosa River and springs and seeps within Death Valley National Park. The impact assessment should include both the proposed action and no action alternatives.
- Comment No. 27-24 *Recommendation:* Please clarify that the project applicant does not have authority to control the outcome of the NEPA compliance process agreeing or disagreeing to mitigation measures the agencies deem necessary.

#### V. Visual Resources

- Comment No. 27-25 Nighttime lighting: We are pleased that the DEIS recognizes the value of visual values associated with the natural landscape and includes sections addressing effects of nighttime lighting. Unfortunately, the DEIS broadly states that “[p]roject lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives” and that “[l]ighting would be shielded and oriented to focus illumination on the desired areas (predominately the power block), thus minimizing additional nighttime illumination in the site vicinity.” (DEIS, Page 4-65) These statements provide no assurance that the illumination would not result in significant degradation of night sky conditions.
- Recommendation:* Dark sky conditions within the region, and especially within Death Valley National Park, should be more accurately described using a systematic approach that provides an objective analysis of the current conditions and their values. Natural dark sky conditions within Death Valley National Park are extremely important and characteristic of many areas within the park. Over time this resource has been degraded by commercial and residential development in Las Vegas and by addition of the prison facility north of Las Vegas on the west side of Highway 95. We question the significance of automobile traffic on Highway 95 as a source of nighttime lighting and effects on dark sky conditions.
- Comment No. 27-26 *Recommendation:* Modeling of the illumination effects of the proposed facility for safety and security needs to be performed and the change in nighttime conditions analyzed and disclosed in the final environmental impact statement. The modeling and analysis needs to include night sky viewing locations within Death Valley National Park. The National Park Service should be asked to take a lead role in this effort. The analysis should include actual night sky photographs plus simulations of the effects of the lighting at the proposed project from viewing points within

Responses to these comments are provided on a separate page following this comment document.

Comment No. 27-26 (continued) | the park. The sheer size of the proposed project, nearly six square-miles, and one in which safety and security lighting is needed, poses a potentially significant impact to visual resources and especially those associated with Death Valley National Park.

Comment No. 27-27 | Impact mitigation: The DEIS recommended mitigation for the impacts to night sky conditions is to simply require the project proponent to "... consider location and type of lighting to minimize potential light pollution to the greatest extent practicable." The suggested measures included requirements to use or consider light hoods/shields, directional lighting, minimum amount of illumination required to provide the necessary safety and security, perimeter setback and use on an as-needed basis. There is no assurance that these measures would not prevent unacceptable levels of dark sky resources impacts from sensitive viewing locations, such as areas within Death Valley National Park

Recommendation: Mitigation of impacts to dark sky conditions cannot be developed in the absence of an objective analysis of existing conditions and those that would occur as a result of night lighting for the proposed project. An analysis from key observation areas within Death Valley National Park is essential. The management threshold for dark sky conditions within the Park should be established by the National Park Service and fully accepted by BLM.

Thank you for considering our comments. If you have any questions, please contact me at (916) 313-5800 x110 or via email at [jaardahl@defenders.org](mailto:jaardahl@defenders.org).

Sincerely,



Jeff Aardahl  
California Representative

Cc: Superintendent, Death Valley National Park

Responses to these comments are provided on a separate page following this comment document.

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## RESPONSES TO COMMENT NO. 27-01 THROUGH 27-27

### Response to Comment No. 27-01

The BLM believes that the EIS is consistent with NEPA requirements and that the level of information and analysis reasonably represents baseline conditions in the ROI.

### Response to Comment No. 27-02

This EIS evaluates the potential environmental effects associated with Solar Millennium's request for a right-of-way to construct, operate and decommission a solar thermal general facility on federal lands they identified in their right-of-way application (Case No. NVN-084359). BLM's decision based on this EIS will be whether to grant, deny, or grant with modifications that application. Alternatives considered, but not evaluated in detail did not meet the project purpose and need.

The EIS considers a reasonable range of alternatives, including three fully-studied alternatives and many that were evaluated but dismissed from further study because they did not meet the purpose and need for the Proposed Action, including offsite and smaller alternatives.

Regarding why a wet-cooled alternative remains a viable alternative, see the responses to comments 20-10 and 25-03.

The purposes of an alternatives analysis are to present sufficient choices for reasoned decision making, and to use alternatives to reveal differences in effects. The FEIS effectively serves these purposes.

### Response to Comment No. 27-03

At this time there is no solid method for determining if the project will have future environmental consequences based on an assumption that the project has an effect on climate change. With the amount of information available today about climate science, and future projects, it is not possible to determine the overall climate change contribution the cumulative effects will have. Currently, climate change is not something that is regulated; therefore there are no approved mitigation measures for climate change. Some greenhouse gases are regulated, for this project NDEP-BAPC will be the agency involved with the air quality of the project.

Response to Comment No. 27-04

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

Response to Comment No. 27-05

Commenter is correct; the annual duty for certificates 5715 and 12460 were switched. Table has been updated in the FEIS. Also, the correct reference has been added to the FEIS.

Response to Comment No. 27-06

Comment noted. The limitations of the DVRSM for use in this analysis are described in the EIS. Model results are treated cautiously and used in conjunction with other data to evaluate potential impacts to groundwater resources.

Response to Comment No. 27-07

Impacts to groundwater from the construction and operation of the proposed project are described in section 4.4.

Response to Comment No. 27-08

Solar Millennium is proposing to build a concentrating solar power project with thermal energy storage. This is the technology they selected for use at this particular location. The BLM's purpose and need is to respond to Solar Millennium's application under Title V of the Federal Land Policy Management Act for a right-of-way grant to construct, operate, and decommission said facility. The BLM's action for this EIS is to grant, grant with modifications, or deny Solar Millennium's application for a right of way on lands managed by the BLM.

Response to Comment No. 27-09

Impacts to groundwater from the construction and operation of the proposed project are described in section 4.4.

Response to Comment No. 27-10

Comment noted. Model results are treated cautiously and used in conjunction with other data to evaluate potential impacts to groundwater resources. The limitation of the model is fully described in the EIS.

Response to Comment No. 27-11

The commenter is referred to Section 4.17.7.4.

Response to Comment No. 27-12

The DVRFS model is the only existing groundwater flow model of the study area. The model only has data through 2003.

Response to Comment No. 27-13

Comment noted. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin. The State Engineer has the authority to modify existing or proposed water uses in accordance with any such determination.

Response to Comment No. 27-14

The usefulness in the DVRFS model is showing that cumulative effects of pumping at current levels will cause an impact to Devils Hole and Ash Meadows. The magnitude may be uncertain, but is still an important finding that should be noted.

Response to Comment No. 27-15

The water level in Devils Hole is monitored daily by the National Park Service and occasionally by the U.S. Geological Survey.

Response to Comment No. 27-16

There is no vegetation in the area that will be affected as the Project area will be graded. The water table is too deep for pollutants to infiltrate the aquifer.

Response to Comment No. 27-17

See response to Comment 22-13.

Response to Comment No. 27-18

As stated in Section 3.4, the Region of Influence (ROI) for surface water is different from the groundwater ROI. The ROI for surface water included the Amargosa Desert Hydrographic Basin (see section 3.4.3). The ROI for groundwater included the Death Valley Regional Flow system (see section 3.4.4).

Response to Comment No. 27-19

The effects of the construction and operation of the proposed project on water levels at Devils Hole are described section 4.4. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin. The State Engineer has the authority to modify existing or proposed water uses in accordance with any such determination.

Response to Comment No. 27-20

The EIS is consistent with the requirements of NEPA and FLPMA, and with the BLM policies that implement those statutes. The FEIS fully evaluates and discloses impacts to biological resources, and consultation with USFWS under the Endangered Species Act (ESA) further adds to this analysis and provided for meaningful conservation of protected species in the case of any ESA-covered adverse impacts.

Response to Comment No. 27-21

See response to Comment 22-13.

Response to Comment No. 27-22

The BLM is currently in Section 7 Consultation with the USFWS. A Biological Assessment has been submitted and will be made publicly available with a Biological Opinion once the inter-agency consultation is complete.

Response to Comment No. 27-23

The proposed Project would not impact groundwater-dependent biological resources associated with the Amargosa River and springs and seeps within the Death Valley National Park.

Response to Comment No. 27-24

The BLM is the lead federal agency in the preparation of this EIS, and has the final authority to issue a right-of-way grant subject to certain terms and conditions. BLM has prepared the DEIS and the FEIS at its own direction; Solar Millennium has had no control over that environmental review process or over BLM's decision making process.

Response to Comment No. 27-25

The Proponent has committed to specific mitigation measures that will be incorporated in the FEIS that will mitigate impacts to night sky to the greatest extent feasible (i.e., mitigation of night lighting).

Visual impacts were based on preliminary engineering and design, which did not consist of a lighting plan. Therefore, effects to night sky associated with Death Valley National Park could not be assessed. As stated above, more specific night light mitigation measures will be incorporated into the FEIS.

Traffic from US 95 contributes to the affected environment regarding night sky. Although US 95 is among the most traveled routes in Nye County, no time-of-day studies were available from NVDOT.

Response to Comment No. 27-26

A lighting plan with specific lighting mitigation measures will be developed by the Proponent in consultation with the BLM. Specific mitigation measures will be incorporated in the final Plan of Development (POD) that will mitigate impacts to the night sky to the greatest extent feasible.

Response to Comment No. 27-27

Dark sky mitigation measures listed in the EIS are listed in general terms as a detailed lighting plan has not been developed at the time of the EIS. Following final engineering design, the Proponent will be required to submit a Lighting Plan that BLM will revise and approve. However, the FEIS discloses the Project's visual effects based on the Project's near-final design specifications.

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JIM GIBBONS  
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May 3, 2010

NDOW-SR#: 10-273  
SAI #: E2010-164

Mr. Greg Helseth, Renewable Energy Project Manager  
Bureau of Land Management  
Pahrump Field Office  
4701 Torrey Pines Drive  
Las Vegas, NV 89130-2301

Re: Draft EIS for the Amargosa Farm Road Solar energy Project, DES 10-10; March 2010 (DEIS)

Dear Mr. Helseth:

Thank you for sharing the DEIS with the Nevada Department of Wildlife (Department). Sections addressing wildlife, a subset of the biological resources impact analyses, were overall adequately prepared and in some instances well-done and comprehensive. While most proposed mitigation seemed appropriate for direct and indirect impacts regarding wildlife/habitat resources, certain aspects of the DEIS remained problematic. Two concerns we believe significant were identified.

Comment No. 28-01 | The first has to do with drawing from a water supply that if exceeded and hydrological dynamics become adverse for sustaining present use demands and continuing preservation and conservation of aquatic resources at Ash Meadows, irreparable compromise of those aquatic resources could occur. We understand hydrology is not the Department's forte', and the 400 ac-ft/year for the Proposed Action Alternative is to be obtained by the proponent's purchasing or leasing of existing water allocations. However, the uncertainties indicated with a largely non-metered water supply and modeling assumptions made in the DEIS cannot be supported without contingency(ies) should the hydrological system show unanticipated vulnerability while the solar energy facility is in operation. It would seem the BLM assumes an accountable position should it not have contingency measures clearly lined out as to how unanticipated impacts to irreplaceable aquatic resources would be mitigated. The Department requests additional discussion on this point.

Comment No. 28-02 | The second concern is that no measures proposed to trigger action for obtaining a better informed perspective of wildlife, habitat and other biological resources on a landscape level. This is especially apparent when considering the cumulative impacts associated with this project and others proposed and pending in southern Nevada. Other pre-existing multiple uses would become more restricted by available space reductions on which to occur, the same space on which biological resources depend. What is the threshold at which management decisions can be made before irreplaceable or irreparable harm to biological resources or ecosystem function occurs? In view of the large project area required, direct

Responses to these comments are provided on a separate page following this comment document.

Comment No. 28-02 (continued)	<p>impacts and certainly cumulative effects to wildlife and habitat will culminate over the life of the Proposed Action. Identifying a mechanism for invoking off-site compensation now as a worse case mitigation scenario would seem appropriate. Passing the responsibility on to other future projects as they occur or to planning processes (e.g. Programmatic EIS for Solar Energy Development in the Western States; Las Vegas RMP Revision) would seem counter-productive when the Proposed Action could support through example efforts to address this issue as other projects and planning processes progress. Gaining an enhanced decision making foundation through the Proposed Action Alternative is a topic the Department requests additional discussion.</p> <p>Observations and comment to more specific areas of the DEIS include but are not limited to:</p>
Comment No. 28-03	<p><u>Page ES-9, Section ES-1.4.2, last line of 2<sup>nd</sup> paragraph:</u> Conflicting prepositions in the sentence segment, "...identified for use <i>in under</i> the dry-cooled alternative..."</p>
Comment No. 28-04	<p><u>Page ES-10, Section ES-1.4.2, last word to last paragraph:</u> The judgmental severity of <i>penalty</i> implied is puzzling. Are there not other deficits or costs to other natural resources relative to dry versus wet-cooled technology?</p>
Comment No. 28-05	<p><u>Page ES-14, Section ES-1.4.4.2, entire last paragraph:</u> The paragraph seems to be unnecessary as it is redundant to statements made previously in section 1.4.2.</p>
Comment No. 28-06	<p><u>Page ES-16, Table ES-1-4, Wet-Cooled column, Water Resources – Sections 3.4 &amp; 4.4:</u> What is the measure or basis of confidence in the assumption made; should the assumption be in error, what is the contingency?</p>
Comment No. 28-07	<p><u>Page ES-17, Table ES-1-4, Wet-Cooled column, 2<sup>nd</sup> paragraph under Vegetation Resources:</u> The paragraph would be more appropriately placed under the Wildlife Resources heading.</p>
Comment No. 28-08	<p><u>Page ES-18, Table ES-1-4,</u></p> <ul style="list-style-type: none"> <li>• <u>Proposed Action column, middle of 1<sup>st</sup> paragraph under Wildlife Resources:</u> Regarding the statement, "<i>Pre-construction clearance surveys would be conducted to ensure that activities associated with the construction and operation of the Project would not cause mortality to individuals.</i>" Clarity of the scope of this mitigation action is requested as it may be somewhat misleading as to its realistic coverage of all wildlife species potentially disturbed.</li> </ul>
Comment No. 28-09	<ul style="list-style-type: none"> <li>• <u>Wet-Cooled column, Wildlife Resources:</u> Efforts for specifically addressing possible consequences to the Ash Springs system would seem appropriate here.</li> </ul>
Comment No. 28-10	<p><u>Page 1-12, Table 1-2, State Laws and Statutes:</u> None as administered by the Nevada Department of wildlife are included here. Unless mistaken, Nevada Revised Statutes 503.584 through 503.589 are an indication of the framework and process for certain wildlife. At least NRS 502.390, NRS 503.430, NRS 503.597, NRS 503.610, NRS 503.620, as well as Nevada Administrative Codes 503.0015 through 503.104 in all or part would seem to have relevance.</p>
Comment No. 28-11	<p><u>Page 1-15, Table 1-3:</u> Authorization for moving or handling wildlife from one location to another, even out of harm's way is required. NRS 503.597 and related regulations like NAC 503.093 are germane.</p>

Responses to these comments are provided on a separate page following this comment document.

Comment No. 28-12	<u>Page 2-46, 1<sup>st</sup> paragraphs under <i>Wildlife Resources in Proposed Action and Wet-Cooled Alternative columns:</i> Regarding the statement, "Pre-construction clearance surveys would be conducted to ensure that activities associated with the construction and operation of the Project would not cause mortality to individuals." Clarity of the scope of this mitigation action is necessary as it may be somewhat misleading as to its realistic coverage of all wildlife species potentially disturbed.</u>
Comment No. 28-13	<u>Pages 3-80 (middle paragraph) &amp; 3-81 (Table3-16).</u> Relative to bighorn sheep on the Project Area, the last two sentences to the paragraph state that a bighorn skull was found in Forty Mile Wash and imply it was on the Project Area; whereas in Table 3-16, "Sheep sp." is identified. Domestic sheep were not found in DEIS narratives so clarity is requested.
Comment No. 28-14	<u>Page 3-96, Section 3.6.5.3. Reptiles paragraph, last sentence:</u> The Project Area provides habitat (as opposed to <i>potentially suitable</i> ) for the shovel-nosed snake as it was observed there; see Table 3-14 on Page 3-79.
Comment No. 28-15	<u>Page 4-40, 1<sup>st</sup> three lines of top paragraph:</u> Please read NDOW's personal communication carefully.
Comment No. 28-16	<u>Page 4-43, Section 4.6.2.2, 2<sup>nd</sup> paragraph:</u> <ul style="list-style-type: none"> <li>• Additional to birds, bats may also be vulnerable to hyper-saline solutions.</li> <li>• The end of the last sentence might need a punctuation mark.</li> </ul>
Comment No. 28-17	<u>Page 4-101, Section 4.14:</u> Reverse order of the last two paragraphs would benefit the DEIS.
Comment No. 28-18	<u>Page 4-102, 2<sup>nd</sup> line of 2<sup>nd</sup> paragraph from top:</u> Should the presumption of permanent loss of habitat be correct, what measures for habitat enhancement, maintenance and rehabilitation will be implemented elsewhere where desert tortoise and other wildlife habitat become more important conservation bastions?
Comment No. 28-19	<u>Page 4-190, Section 4.17.6:</u> The last paragraph could become the opening lines of the 2 <sup>nd</sup> paragraph.
Comment No. 28-20	<u>Page 4-115, Section 4.17.7.7, last paragraph:</u> The last two sentences provide a flat ending to the consequences described for wildlife resources. Treating present and future projects does have benefit by ensuring mitigation and other actions are tailored to each regarding direct and many indirect effects; however discussion of the eventual culmination of overall landscape effects is avoided. Discussion of the potential for compensatory measures here would seem in order inclusive of context for other land use projects and planning processes, especially concerning the threshold of landscape-scale adverse impacts.
Comment No. 28-21	<u>Page A-5, Measure WL-5:</u> Relative to the transmission right-of-way mentioned, overlap of the Proposed Action with tie-in to other transmission projects (e.g. Valley Electric) is unclear. Mindful of this, structural design of transmission towers is relevant. Additional to APLIC guidelines as stated in the DEIS, altogether avoidance of installing lattice-style towers is requested. Tubular monopole, Tubular-H or a new Tubular-V design is

Responses to these comments are provided on a separate page following this comment document.

recommended. Relative to the cross beams of the latter two designs, an inverted Y member is also recommended to deter perching by birds. The Department will be happy to further discuss these designs.

Thank you again for this opportunity for providing input. As a cooperating agency, the Department looks forward to additional discussions relative wildlife resources. Should immediate questions or concerns arise please contact me at the Department's Southern Region office or by email at [bhrdnbrk@ndow.org](mailto:bhrdnbrk@ndow.org).

Sincerely,



D. Bradford Hardenbrook  
Supervisory Biologist - Habitat

Southern Region  
Nevada Department Wildlife  
4747 Vegas Drive  
Las Vegas, NV 89108  
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DBH:dbh

cc: NDOW, Files

## RESPONSES TO COMMENT NO. 28-01 THROUGH 28-21

### Response to Comment No. 28-01

See responses to Comment No.'s 05-01 and 24-02.

### Response to Comment No. 28-02

BLM appreciates your comment.

### Response to Comment No. 28-03

Grammatical error corrected in FEIS.

### Response to Comment No. 28-04

The information is provided to disclose the differences in efficiency between wet- and dry- cooled process.

### Response to Comment No. 28-05

Agreed; paragraph is redundant. Paragraph deleted in Final EIS.

### Response to Comment No. 28-06

Water required for construction and operation of the proposed solar facility were developed by Solar Millennium's engineers based on their understanding of facility requirements.

### Response to Comment No. 28-07

In response to comment, Table ES-1-4 has been updated in the Final EIS.

Response to Comment No. 28-08

In response to comment, Table ES-1-4 has been updated in the Final EIS.

Response to Comment No. 28-09

As stated in the Table ES-1-4, there would be no new groundwater pumping under the wet-cooled alternative; therefore, it is assumed that the impacts to biological resources would be similar to the dry-cooled alternative.

Response to Comment No. 28-10

In response to comment, Table 1-2 has been updated in the Final EIS. The BLM does not believe that NRS 503.610 is applicable as there is no evidence that Bald or Golden Eagles are likely to occur on the site and be subject to take. Text has been added to Sections 3.6.5.3 and 4.6.2.1 elaborating on impacts to eagles. Additionally, the Proponent has committed to develop a site-specific Avian Protection Plan.

Response to Comment No. 28-11

In response to comment, Table 1-3 has been updated in the Final EIS.

Response to Comment No. 28-12

In response to comment, Table ES-1-4 has been updated in the Final EIS.

Response to Comment No. 28-13

In response to comment, Table 3-17 has been updated in the Final EIS.

Response to Comment No. 28-14

In response to comment, the text has been updated in the Final EIS.

Response to Comment No. 28-15

In response to comment, the text has been updated to more accurately reflect NDOW's personal communication in the Final EIS.

Response to Comment No. 28-16

In response to comment, the text has been updated in the Final EIS.

Response to Comment No. 28-17

Comment noted. Last two paragraphs reversed for readability.

Response to Comment No. 28-18

As stated in Section 4.6.2.4, compensatory mitigation is required to fully offset any impact to Desert Tortoise.

Response to Comment No. 28-19

Comment noted. Incorporated commenter's suggestion for readability.

Response to Comment No. 28-20

It is speculative to make assumptions of impacts of all projects with applications submitted to BLM. As stated in 4.17.4, the likelihood of implementation of these cumulative project is unknown. Each project will be required to comply with NEPA which will include a cumulative effects analysis.

Response to Comment No. 28-21

Transmission lines to be developed or upgraded by Valley Electric Association will be analyzed in a separate NEPA action. However, the BLM will require that all transmission line structure constructed as part of their proposed action meet APLIC guidelines.

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## Nevada State Clearinghouse

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**From:** John Walker  
**Sent:** Tuesday, April 27, 2010 1:17 PM  
**To:** Nevada State Clearinghouse  
**Subject:** FW: Amargosa Valley Solar Project - Tech Review of EIS

FYI – Clearinghouse Comments

---

**From:** Cliff Lawson  
**Sent:** Tuesday, April 27, 2010 12:03 PM  
**To:** John Walker  
**Cc:** Alan Tinney; Janine Hartley; Mark Kaminski; Michele Reid; Kristen Rose  
**Subject:** FW: Amargosa Valley Solar Project - Tech Review of EIS

BWPC may require permits for some (or all) of the following. These activities would include any necessary review of engineering plans for the facility:

### General Stormwater Permits

1. Site Grading Activities (> 1 acre) – General Construction Storm Water Permit NVR100000 for the Amargosa River Watershed - [http://ndep.nv.gov/bwpc/storm\\_cont03.htm](http://ndep.nv.gov/bwpc/storm_cont03.htm)
2. Prior to beginning operations of the Facility a General Industrial Storm Water Permit NVR050000 for a Steam Generating Power Plant - [http://ndep.nv.gov/bwpc/storm\\_ind03.htm](http://ndep.nv.gov/bwpc/storm_ind03.htm)

### General Onsite Sewage Disposal System Permits

3. Sanitary Wastewater Disposal (180 Employees) – Large Capacity Septic System (LCSS) General Permit GNEVOSDS09 - [http://ndep.nv.gov/bwpc/uic\\_lessinfo.htm](http://ndep.nv.gov/bwpc/uic_lessinfo.htm)

### NEV Groundwater Discharge Permit - <http://ndep.nv.gov/bwpc/forms.htm>

4. Four Evaporation Ponds (46 acres) - NEV Groundwater Discharge Permit - <http://ndep.nv.gov/bwpc/nevapp03.doc>
5. Non-Potable Water Reuse (Dust Abatement) on Unspecified Acreage - NEV Groundwater Discharge Permit - <http://ndep.nv.gov/bwpc/nevapp03.doc>
6. Bio-Remediation Cell (7.3 Acres) - NEV Groundwater Discharge Permit - <http://ndep.nv.gov/bwpc/nevapp03.doc>

Note:

Item 2 assumes a startup fossil fuel source (e.g. propane, methane) to heat the HTF in the morning until circulatory temperature is maintained since the solar troughs “cool” down each evening when the sun goes down.

Items 4-6 would require potentially two NEV Discharge Permits.

Comment No.  
29-01

Response to Comment No. 29-01  
Comment noted: Potential authorizations, permits, reviews, and approvals are listed in Table 1-3.

The first NEV permit would cover the four evaporation ponds and the reuse of non-potable water from them for dust abatement.

The second NEV permit would address the lined bio-remediation cell where spillage onto soils and composting thereof of the Heat Transfer Fluid (HTF) or diphenyl/biphenyl oxide is addressed.

The Permits Branch may decide that items 4-6 would best be covered under one discharge permit but this would combine two unrelated activities, i.e., ponds and soil farming.

Clifford M. Lawson, P.E.  
Technical Services Supervisor  
Bureau of Water Pollution Control  
Nevada Division of Environmental Protection

05:29-10:14 3d

**Rebecca Palmer**

---

**From:** Nevada State Clearinghouse  
**Sent:** Thursday, March 25, 2010 8:59 AM  
**To:** Rebecca Palmer  
**Subject:** E2010-164 Amargosa Farm Road solar energy project, Nye County - Bureau of Land Management



**NEVADA STATE CLEARINGHOUSE**  
Department of Administration, Budget and Planning Division  
209 East Musser Street, Room 200, Carson City, Nevada 89701-4298  
(775) 684-0213 Fax (775) 684-0260

TRANSMISSION DATE: 3/25/2010

State Historic Preservation Office

Nevada SAI # E2010-164

**Project: Amargosa Farm Road solar energy project, Nye County**

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

[E2010-164](#)

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than Wednesday, April 28, 2010.  
EIS also available [here](#).

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference.

[Clearinghouse project archive](#)

Questions? Reese Tietje, (775) 684-0213 or [clearinghouse@state.nv.us](mailto:clearinghouse@state.nv.us)

No comment on this project  Proposal supported as written

AGENCY COMMENTS:

*Rebecca Palmer*

3/29/10

Comment No.  
30-01

Response to Comment No. 30-01  
Comment noted. The BLM appreciates the commenter's participation in the EIS process.

John F. Bosta  
P.O. Box 42  
Amargosa Valley, NV 89020  
(775) 372-9038

May 3, 2010

DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Southern Nevada District  
Pahrump Field Office  
4701 N. Torrey Pines  
Las Vegas, NV 89130-2301

SUBJECT: Draft Environmental Impact Statement (EIS) for the Solar Millennium  
Amargosa Farm Road Solar Power Project, Nye County, NV

ATTN: Gregory Helseth, Project Manager

Comment No.  
31-01

Thank you for the opportunity to make the second set of comments on the Draft Environmental Impact Statement (EIS) for the Solar Millennium Amargosa Farm Road Solar Power Project, Nye County, NV

Due to the outstanding unresolved and addition of issues that this project has instigated, I would like to request that the review and comment deadline be extended into the end of July 2010.

The EPG, Inc. has had more than six months to write the Draft EIS for BLM and the public has only 45 days to respond to the Draft EIS.

**Acronyms and Abbreviation, page xv**

The Amargosa Valley, Nevada AREA PLAN (AVAP) and the Nye County Comprehensive Plan (NCCP) are not included in the list. Why?

**3.9 Socioeconomic**

The existing social and economic conditions within Region of Influence (ROI) "emphasis on the communities closest to the Project area, such as Amargosa ..." are factually incorrect.

1. This Project area is within the boundaries and sphere of influence of the Town of Amargosa Valley. In fact, all of the solar project applications located on the map, Cumulative Impacts Figure 4-10, page 4-106 is within the Town of Amargosa Valley except NVN 083220 and NVN08321.
2. All of the solar applications within the Town of Amargosa Valley comply with land use of the Amargosa Valley, Nevada AREA PLAN except this Project.

The House and Senate Energy and Natural Resources Committee passed a Renewable Energy Standard (RES) that would order utilities to generate 25% of their power from renewables by 2025.

Many Congressmen were angered by the Investigative Reporting Workshop at American University study that found 79% of the \$2 billion in renewable energy grants given out from the stimulus went to foreign companies.

The economic bubble in Spain has burst. Look at these two articles:

1. The New York Times, by Elisabeth Rosenthal March 09, 2010, [After boom and bust, solar power finds a place in Spain](#)

Response to Comment No. 31-01

The 45-day comment period is consistent with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act regarding the review of draft environmental impact statements. Significant effort was made to advise people of the schedule and duration for the review well in advance.

Response to Comment No. 31-02

The Amargosa Valley Area Plan and Nye County Comprehensive Plan were spelled out in the main body of the text. Only acronyms and abbreviation used in the main body of the text are listed in this section.

Comment No.  
31-02

Comment No.  
31-03

Comment No.  
31-03  
(continued)

Half the solar power installed globally in 2008 was installed in Spain. But as low-quality, poorly designed solar plants sprang up like weeds on Spain's plateaus, Spanish officials came to realize that they would have to subsidize many of them indefinitely, and that the industry they had created might never produce efficient green energy on its own.

In its haste to create a solar industry, Spain made some miscalculations: solar plants can be set up so quickly and easily that the rush into the industry was much faster than anticipated. And the lavish subsidies inflated Spanish solar installation costs at a time when they were rapidly decreasing elsewhere—in part because of increasing competition from panel makers in China, but also because higher volumes produced economies of scale.

In Spain, the tariff, adjusted quarterly, is about 39 cents per kilowatt-hour for electricity from freestanding solar power plants, and slightly higher for panels on rooftops.

Germany's tariff, 53 cents per kilowatt-hour, is expected to come down at least 15 percent this summer, and there are proposals before Parliament to eliminate subsidies for solar plants on farmland.

In September, the government abruptly changed course, cutting payments and capping solar construction. Puertollano's brief boom went bust. Factories and stores shut, thousands of workers lost their jobs, foreign companies and banks abandoned contracts that had already been negotiated.

Puertollano's wrenching fall points to the delicate policy calculations needed to stimulate nascent solar industries and create green jobs, and might serve as a cautionary tale for the United States, where a similar exercise is under way. 2. Nevada Agriculture & Livestock Vol. 61 No. July 2000, Can Nevada afford to be the center of Green America

First is that the Spanish experience is considered a leading example to be followed by many policy advocates and politicians. This study marks the very first time a critical analysis of the actual performance and impact has been made.

Most important, it demonstrates that the Spanish, EU-style 'green jobs' agenda now being promoted in the U.S. in fact destroys jobs, detailing this in terms of jobs destroyed per job created.

The central finding of the study is that --treating the data optimistically--for every renewable-energy job that the government finances, "Spain's experience reveals with high confidence, by two different methods, that the U.S. should expect a loss of at least 2.2 jobs on average, or about 9 jobs lost for every 4 created."

To create about 50,000 green jobs, Spain lost 110,000 jobs elsewhere in the economy, principally in metallurgy, nonmetallic mining and food processing and in the beverage and tobacco industries.

Each green megawatt brought on line by photovoltaics destroyed 8.99 jobs elsewhere in the economy. The proposed 484 MW equals 4,351 jobs.

The total higher energy cost --the higher cost of renewable energy over the market price of carbon-based energy --between 2000 and 2008 was about \$10 billion.

#### Response to Comment No. 31-03

Information on the existing social and economic characteristics of Amargosa Valley were derived from data available through well qualified sources such as the U.S. Census Bureau, US Dept of Commerce, Bureau of Economic Analysis, NV Dept of Employment, Training and Rehabilitation – Research and Analysis Bureau, and the Nevada State Demographer's office. The Project is consistent with the policies, goals, objectives and land use descriptions set forth in the Amargosa Valley Area Plan as the designated Special Development Area permits the uses contemplated.

Solar Millennium has worked with local, state, and federal agencies in order to comply with any land use provisions. Nye County and Solar Millennium have negotiated a Development Agreement for the construction and operation of this facility. This Agreement is provided in Appendix F.

It is outside the analysis of the EIS to determine if economic stimulus money is being utilized for companies based out of the U.S.

Comment No.  
31-04

### 3.9.2.1 Population

The author of this Draft EIS a wide background brush to paint the landscape of this project by talking about the facts of Las Vegas and Pahrump, which nothing to do with the ROI, the Town of Amargosa Valley. Las Vegas and Pahrump are only looking for jobs to support their failing economies.

Table 3-18 Populations Estimates for Nevada, Clark County, and Nye County show that Amargosa Valley has had a 30% growth from 2000 to 2008 without this solar project. Again the statement that includes Beatty, "In contrast, the economies of Amargosa and Beatty have been historically been tied to government (Nevada Test Site), mining, and agriculture; slow population growth rates have reflected the declines of the economic sectors" is partially incorrect.

1. Beatty that is not in ROI has declined in population, not Amargosa Valley.
2. The population growth in Amargosa Valley that has not been included in the quote above is the people moving here to live and enjoy the life style, not the mining, test site, or agriculture.
3. Why do people live here in Amargosa Valley?
  - a. The price of land is cheaper than in Las Vegas or Pahrump.
  - b. The pace of life is slower and more peaceful.
  - c. People enjoy the beautiful sunsets and the view the change of colors of the landscape.
  - d. There is no excessive zoning and building codes.
  - e. There are no excessive developer fees.
  - f. My closest neighbor is ¼ of a mile from my house. This is not Las Vegas with only 10 feet between rooftops.
  - g. The proposed solar projects will destroy our life style, as we know it today.

### 3.9.2.2 Housing

The short-term housing in the ROI in the form of hotels and motels is distorted by including Beatty and Pahrump.

The Table 3-20 Housing Characteristics source of the Number of Units (541) and the Vacant Units (198) is unrealistic.

1. Amargosa Valley has only one hotel, Longstreet with 59 rooms.
2. Amargosa Valley has three RV parks.
  - a. Longstreet RV Park with 50 spaces
  - b. Amargosa RV Park behind the Fort on Hwy. 95 with 84 spaces
  - c. My Own Mobil Home & RV Park across the road from Longstreet with about 200 spaces

### 3.11.1 Regulatory Framework

#### 1. BLM Las Vegas RMP and Final EIS (1998)

- a. The adopted 1998 Las Vegas Resource Management Plan does not include renewable energy development of geothermal, wind, and solar power; management of site type rights-of-way for renewable energy and other uses; visual resources management; land tenure adjustments to meet community growth needs; evaluation of existing and potential new Areas of Critical Environmental Concern; Off-Highway Vehicle

#### Response to Comment No. 31-04

The study area, or Region of Influence (ROI), varies depending on the resource being analyzed and the predicted locations of direct and indirect impacts from the Proposed Action or alternatives. The quoted portion of from the DEIS states why people historically moved to the area and not why people are currently moving there, and therefore is not incorrect. Population numbers are based on the best available sources, which are included in the DEIS and FEIS.

Comment No.  
31-05

The short-term housing in the ROI in the form of hotels and motels is distorted by including Beatty and Pahrump.

The Table 3-20 Housing Characteristics source of the Number of Units (541) and the Vacant Units (198) is unrealistic.

1. Amargosa Valley has only one hotel, Longstreet with 59 rooms.
2. Amargosa Valley has three RV parks.
  - a. Longstreet RV Park with 50 spaces
  - b. Amargosa RV Park behind the Fort on Hwy. 95 with 84 spaces
  - c. My Own Mobil Home & RV Park across the road from Longstreet with about 200 spaces

#### Response to Comment No. 31-05

The study area, or Region of Influence (ROI), varies depending on the resource being analyzed and the predicted locations of direct and indirect impacts from the Proposed Action or alternatives. The only available data on housing availability in Amargosa Valley was from the 2000 Census and it is understood that these may not reflect current conditions.

Comment No.  
31-06

#### 1. BLM Las Vegas RMP and Final EIS (1998)

- a. The adopted 1998 Las Vegas Resource Management Plan does not include renewable energy development of geothermal, wind, and solar power; management of site type rights-of-way for renewable energy and other uses; visual resources management; land tenure adjustments to meet community growth needs; evaluation of existing and potential new Areas of Critical Environmental Concern; Off-Highway Vehicle

#### Response to Comment No. 31-06

This EIS does not tier to the 1998 Las Vegas Resource Management Plan. Until an updated RMP/EIS is approved by the BLM, the 1998 provides regulatory oversight for land management activities on BLM lands in the Southern Nevada District.

Comment No.  
31-06  
(continued)

- Designation and Special Recreation Management; and Nye County FEMA floodplain maps.
- b. An EIS should not be able to tier an outdated and obsolete document.
  - c. This ROW should not be approved by BLM until the Revision to the Las Vegas Resource Management Plan and Associated Environmental Impact Statement has been completed and approved for the Las Vegas Field Office and the Pahrump Field Office.
  - d. Clark County and Nye County have different Master Plans and Ordinances. The revision of the 1998 Las Vegas RMP has to be separated into two RMPs, one RMP for the Las Vegas Field Office and one RMP for the Pahrump Field Office.

**2. Nye County Comprehensive Plan (Nye County Board of Commissioners 1994)**

Comment No.  
31-07

- a. The BLM should not allowed to tier insufficient Nye County comprehensive Plan (NCCP), non existing tortoise plans, and plans that have not been developed for renewable energy projects except the September 23, 2009 update of the Amargosa Valley Area Plan (AVAP).
- b. "It is Nye County's objective to establish long-term partnerships with the renewable energy sector, and it goals to: Support and encourage the effective use of energy; Promote the siting (sic) of renewable energy research or pilot technology and demonstration projects in Amargosa Valley; Become proactively involved in the federal and state efforts to route and approve renewable energy transmission corridors for distributing power from Amargosa Valley to the national grid." Is conjecture on the author of this Draft EIS. This objective and goals is not included in the NCCP.
  - i. At this time there are no transmission lines to transport power out of Amargosa Valley to the national grid.
  - ii. The negotiation to cross the Indian Reservation west of Las Vegas has not been accepted by the investors backing the solar projects because of the clause that tribal council can request that the power line easement can be cancelled at any time and the lines must be removed.
  - iii. Abengoa Solar, NVN086571 has requested BLM for an extension of 180 days of their Notice of Intent until they can secure a different method to transport the power out of Amargosa Valley.

**3. Amargosa Valley Area Plan (Amargosa Valley Area Plan Committee 2009)**

Comment No.  
31-08

- a. The Draft EIS statement is again incomplete. The statement is only Guiding Principle A without listing the five subset statements and three other Principles B with 3 subset statements, C with 4 subset statements, and D. The Final EIS should list all four Principles with subsets that are located on page 4. When one sees these four Principles with the list of subsets, it is obvious that this Project is not compatible with the Area Plan.
- b. The Area Plan was designed to amend and update the NCCP. The Nye County Board of Commissioner adopted AVAP September 23, 2009, which updated the NCCP.

Response to Comment No. 31-07

This EIS does not tier to the Nye County Comprehensive Plan. The reference to the Nye County Comprehensive Plan serves to inform the reader that other plans guide development activities in the area. The citation regarding the objectives and goals of Nye County is a direct quote from the Plan.

Response to Comment No. 31-08

See response to comment 25-05.

Comment No.  
31-09

### 3.11.3 Existing Land Use

- a. "There is no state-owned land within the ROI" is not factually correct. The Nye County Assessor lists two APN for the State of Nevada in the Amargosa Tax District 08.
- b. "While the BLM has exclusive jurisdiction over land use activities on land that it manages, the Amargosa Valley Planning Commission provides guidance to ensure that proposed projects within the Town Planning boundary are constructed and operated in a manner that is consistent with the standards set forth in the Amargosa Valley Area Plan (Amargosa Valley Area Plan Committee 2009)." Solar Millennium has not submitted a complete construction plan signed a Nevada Engineer to the Amargosa Town Planning Commission for review.

### 3.11.4 Planned Land Use

Two jurisdictional entities' plans are referenced for future land use within the ROI; the 1998 Las Vegas RMP/EIS and the local AVAP.

Nye County has two sets of Ordinances, one set for the Pahrump Regional Planning District (PRPD) and one set for the rest of the County.

"... the County does not provide official guidance for new developments" is factually incorrect. See Bill No. 91-1.

Bill No. 91-1, Ordinance No. 135, Title: AN ORDINANCE AMENDING TITLE 16 OF THE NYE COUNTY CODE BY ADDING CHAPTER 16.20, THERETO; ADOPTING DIVISION OF LAND BY PARCEL MAP MEASURES; STATING GENERAL PROVISIONS INCLUDING PURPOSE AND COMPLIANCE; PROVIDING DEFINITIONS; PROVIDING FOR FORM AND CONTENT OF PARCEL MAPS; PROVIDING REQUIREMENTS FOR LOT SIZE, MONUMENTS AND ADDITIONAL REQUIREMENTS; PROVIDING DEVELOPMENT STANDARDS INCLUDING ROAD Dedications, ROAD IMPROVEMENTS, ROAD OBSTRUCTIONS, WATER SUPPLY AND SEWAGE DISPOSAL AND A PROCEDURE FOR CHANGING THE INTENDED USE OF A PARCEL; PROVIDING FORSEVERABILITY, REPEAL AND CONSTITUTIONALITY; PROVIDING FOR AN EFFECTIVE DATE AND OTHER MATTERS PROPERLY RELATING THERETO.

Land has to be parceled before the Nye County Assessor can issue APN for an assessment can be issued for property tax purposes.

The Waite 2009 quotation is from a Pahrump Valley Times newspaper article, which is the author's opinion that implies the comment, is from the AVAP.

The Special Development Area (SDA) is an AVAP Land Use Classification, is shown on Map 4 "Future Land Use". The SDA is for Solar, Wind, and Other developments, which is north of Farm Road.

"It also shows a specification of a 0.25-mile Open Space, Parks & Trails land use designation between residential areas and the area where the proposed Project is located" is factually incorrect. The area is RDR-Rural Density Residential for larger to vary large residential lots with wide open spaces and ample separation between neighboring uses designed to accommodate the "American West" lifestyle combining agricultural, farming ranching, and residential uses.

#### 3.11.6.1 Future Transportation

"The plan identified multiple extension and improvement to secondary roads in the ROI, south of the Project area" is not a factually correct and

#### Response to Comment No. 31-09

The Development Agreement made between Nye County and the Proponent includes provisions that "require the Developer to consult with the Amargosa Town Advisory Board if a proposed amendment would, in the County's opinion, affect that entity."

Comment No.  
31-10

#### Response to Comment No. 31-10

The proposed Project is located on federal lands managed by the BLM, which are subject to land management regulations set forth under the Federal Land Policy and Management Act (FLPMA). The Amargosa Valley Area Plan is a local land planning guide for development in the Amargosa Valley planning area. While the BLM considers the recommendations of the Amargosa Valley Area, the BLM must comply with its requirements under FLPMA.

Comment No.  
31-11

#### Response to Comment No. 31-11

Comment noted. Nye County has negotiated a voluntary Development Agreement with Solar Millennium to mitigate direct impacts to roads, emergency services, etc.

Comment No.  
31-11  
(continued)

complete statement. The Project also includes multiple extension and improvements extension and improvement to secondary roads within the Solar Field footprint. See AVAP Map 5 Transportation

Comment No.  
31-12

### 3.12 Visual Resources

“Additionally, in order to comply with BLM VRM policy, the Visual Resource Inventor (VRI) that was used to develop agency visual management objectives within the Las Vegas RMP/EIS should be addressed and documented accordingly within the context of the Project.”

The RMP/EIS has no VRI classes for Amargosa Valley and the VRI will develop mitigation on a projects specific basis. Interim visual management objectives are established where a project is proposed and there are no RMP, or Management Framework Plan (MFP) approved VRM objectives. These objectives are developed using the guidelines in Manual Section 8410 and must conform to the land use allocations set forth in the RMP, which covers the project area.

There is no MFP for this Project.

“The Amargosa Valley area is found north and west of Las Vegas between the municipalities of Pahrump and Beatty. Most of the landscape is not remarkable, characterized by flat bajada type desert country with creosoted bush communities and some minor hills and mountains. The eastern portion of the area borders NTS and exhibits colorful and rugged mountain ranges that breakup the monotony of the valley floor. Several cinder cones and Big Dune offer a unique scenic contrast to the Amargosa Valley.”

When visual resources are not carefully managed and the visual impacts of poorly designed surface-disturbing activities are ignored, there can be dire consequences to the scenic values of American landscapes.



V

Comment No.  
31-13

#### 3.12.3.1 Distance Zones and Viewing Conditions

The viewing conditions of the residents along Sandy Lane (KOP 1) will be within 50 feet of the Project right-of-way and will be looking up, which is an inferior viewing position, at a 30 foot fence with a mural. These residents might not be able to see the evening sunset and the changing colors on the mountains.

The Project’s take of the view of the residents along Sandy Lane is a violation of their civil rights. Page 7 of the NCCP makes the following statement, **Nye County citizens must be protected from arbitrary federal regulation through the recognition that Article X of the Bill of Rights of the U.S. Constitution states, “The powers not delegated to the United States by the Constitution nor prohibited by it to the states, are reserved to the states respectively, or to the people.”**

#### Response to Comment No. 31-12

The Visual Resource Inventory develops management objectives, not mitigation measures. The VRM outlines general guidelines for mitigation, but specific mitigation measures are project specific and based on project design information. General mitigation measures are covered in Section 4.12.6. A description of BLM supplied VRI is described in Section 3.12.2.

#### Response to Comment No. 31-13

In the context of this study, ‘inferior’ refers to location of viewer in relation to the project itself. As such, the close proximity of the viewer to the project was characterized as ‘level’.

Comment No.  
31-14

Issuing the ROW for this project is not one of powers delegated to BLM by the Constitution.

**Withdrawal of public lands must include consideration of any private split estate rights which may be involved to ensure that private property is compensated for in accordance with the Article V of the Bill of Rights of the U.S. Constitution and Presidential Executive Order 12630. Any withdrawal of public lands must also consider the fiscal and economic impact on the tax base of Nye County with the objective being no net loss in tax base or economic output of Nye County. All withdrawals must be done in accordance with Article 1, Section 8, and Clause 17 of the U.S. Constitution.**

Comment No.  
31-15

The authors of the Draft EIS has used the option, keep it very general (pass the buck) on the effects of foreseeable future on-the-ground actions that have not approved by BLM, Nye County or State of Nevada. The DEIS has tiered the 1998 Las Vegas RMP/EIS, which has no environmental analyze of the site-specific area of the Project.

The definition of Tiering: **Sec. 1508.28 Tiering.**

"Tiering" refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is:

(a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.

(b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.

Programmatic versus site-specific NEPA documents, Court ruling on tiering.

"We are convinced that such specific analysis is better done when a specific development action is to be taken, not at the programmatic level." Resources Ltd. v. Robertson, 8 F.3d 1394, 1401 (9<sup>th</sup> Cir. 1993)

The DEIS should be edited and circulated for review again.

Respectfully submitted,

John Bosta

Response to Comment No. 31-14

The BLM is authorized to process right-of-way applications in accordance with FLPMA, BLM right-of-way regulations, and other applicable federal laws.

The Constitution vests the U.S. Congress with control over federal lands. Congress has constitutionally delegated management authority over those lands to various federal agencies, including to BLM under the Federal Land Policy Management Act (FLPMA).

Response to Comment No. 31-15

This EIS does not tier to the 1998 Las Vegas RMP/EIS. The RMP/EIS is used to guide the decision framework for analyzing impacts to various resources within the BLM Las Vegas District, and to establish whether specific projects, such as the proposed Project, are consistent with that RMP. Site- and resource-specific analyses were conducted to evaluate the effects of the proposed project on the human and natural environment.



## United States Department of the Interior

Pacific Southwest Region  
FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office  
1340 Financial Blvd., Suite 234  
Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301



May 3, 2010

File No. 84320-2009-CPA-0138

### Memorandum

To: Field Manager, Pahrump Field Office, Bureau of Land Management,  
Las Vegas, Nevada

From: State Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Review of Draft Environmental Impact Statement for the Amargosa Farm Road  
Solar Energy Project, Nye County, Nevada

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) for the Amargosa Farm Road Solar Energy Project, Nye County, Nevada. We prepared this letter under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 852], as amended, the Endangered Species Act of 1973 [16 U.S.C. 1531 *et seq.*; 87 Stat. 884], as amended (Act), and other authorities mandating the Fish and Wildlife Service's (Service) concern for environmental values including the National Wildlife Refuge System. Based on these authorities, we offer the following comments for your consideration:

#### *Desert tortoise*

Comment No. 32-01 | As discussed in our August 31, 2009, letter (Service File No. 84320-2009-FA-0138), we are concerned that the proposed project may adversely affect the federally listed desert tortoise (*Gopherus agassizii*) (Mojave population) and its habitat. A Biological Assessment for compliance with section 7 of the Endangered Species Act should include a thorough analysis of the potential effects from this project; identify measures to minimize mortality and injury to desert tortoises from project activities; and commit resources and funding for such measures.

A response to this comment is provided on a separate page following this comment document.

*Federally listed aquatic or water-dependent species*

Comment No. 32-02 | As discussed in our August 31, 2009, letter (Service File No. 84320-2009-FA-0138), we are concerned that the proposed project may affect federally listed water-dependent species and their designated critical habitat at Devils Hole and Ash Meadows National Wildlife Refuge (NWR). The Draft EIS failed to provide a meaningful analysis of effects to water-dependent species and their critical habitat at Ash Meadows NWR and Devils Hole from the proposed project. The Final EIS should provide a discussion how the error associated with the groundwater model construction and analysis provides uncertainty of the potential impacts to these species and their critical habitat from this project. Beyond the quantitative analysis using the Death Valley Regional Flow System Model, we recommend additional analysis using other available information such as Nevada State Engineer pumpage inventories. There should be discussion of interconnectedness between the regional groundwater basins and the aquatic and terrestrial ecosystems they support. Even small declines in spring discharge, small changes in water temperature, and small adjustments in soil or water chemistry resulting from groundwater withdrawals in the basin may affect species which inhabit spring pools and systems at Ash Meadows NWR and may render areas of habitat unsuitable for federally listed water-dependent plants. If the Final EIS identifies potential effects to federally listed aquatic or water-dependent species and their critical habitat from the proposed project, it should identify measures to avoid effects to these species and their critical habitats. If impacts to these sensitive species and their critical habitat cannot be avoided, the responsible Federal agency must initiate formal consultation pursuant to 50 CFR § 402.14.

*Injury to Federal water rights*

Comment No. 32-03 | As discussed in our August 31, 2009, letter (Service File No. 84320-2009-FA-0138), we are concerned that the proposed project may injure Department of Interior water rights. The Draft EIS failed to provide a meaningful analysis of potential injury to these rights and did not consider: 1) how these purchased or leased water rights would be more fully utilized during solar energy production as compared to previous agricultural activities and 2) the incremental increase associated the lack of recharge of waters to local valley-fill aquifers with the consumptive use of groundwater. Should either or both of the above occur, net groundwater withdrawals from the Amargosa Desert basin will increase which would impact Federal water rights at Ash Meadows NWR and Devils Hole. The Final EIS should provide an appropriate analysis of impacts from the proposed project and identify measures to mitigate any injury to Federal water rights.

Responses to these comments are provided on a separate page following this comment document.

Field Manager

File No. 2009-CPA-0138

Thank you for the opportunity to participate in this process. If you have any questions, please contact Brian A. Novosak in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230. Please reference File No. 84320-2009-FA-0138 in future correspondence concerning this project.



Robert D. Williams

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## RESPONSES TO COMMENT NO. 32-01 THROUGH 32-03

### Response to Comment No. 32-01

The BLM is currently in consultation with the USFWS. A Biological Assessment has been submitted and is being reviewed by the USFWS. Mitigation measures will be finalized during this process.

### Response to Comment No. 32-02

Comment noted. The BLM is currently in Section 7 consultation with the USFWS regarding this project.

### Response to Comment No. 32-03

See responses to comments 05-01 and 24-02.

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Bureau of Land Management

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For more information, please contact Gregory Helseth ([solar\\_millennium@blm.gov](mailto:solar_millennium@blm.gov)).

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FROM \_\_\_\_\_  
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Place  
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**Bureau of Land Management**  
Pahrump Field Office  
Attention: Gregory Helseth  
4701 North Torrey Pines Drive  
Las Vegas, NV 89130

**COMMENTS**  
**Amargosa Farm Road Solar Energy Project**  
**Draft Environmental Impact Statement**

Judy Palmer

My comments regarding this project fall into four categories as follows: (1) inappropriate use of a wet-cooled solar thermal parabolic trough project as the alternative for comparison, (2) placement of solar thermal project using heat transfer fluid (HTF) in the midst of a rural community, (3) water usage, and (4) environmental justice.

Comment No.  
33-01

1. Wet-cooled solar thermal parabolic trough project as the alternative for comparison

The use of a wet-cooled solar thermal parabolic trough project as the alternative for comparison to the proponents project is deceptive, as a wet-cooled solar power plant is not suitable for a desert environment, especially in a basin where the water is already overdrawn. Using of this alternative for comparison is therefore meaningless and serves only to artificially attribute positive benefits to the proponents chosen technology. A more realistic comparison would be photovoltaic (PV) technology.

Comment No.  
33-02

2. Placement of solar thermal project using HTF in the midst of a rural community

The placement of this solar project in the midst of a rural community is unnecessary and potentially dangerous. All of the other pending solar projects (Cumulative impacts, fig 4-10) are along Hwy 95 and well away from residences and community facilities. Unlike the residents of Amargosa Valley, who are unlikely to realize any benefit from the project, travelers on Hwy 95 are destination-oriented and a large power plant would be not be intrusive. With minimal reconfiguration, it appears that all the pending projects could be accommodated without exposing the community of Amargosa Valley to the hazards and disruptions this plant will engender.

The heat transfer fluid (HTF) proposed is a mixture of toxic, combustible hydrocarbons that will be circulated in miles of pipes throughout the facility. According to the information on page 4-97, there will be close to 2 million gallons (1,849,337 gallons) of this substance in the system. In spite of the precautions outlined, it is to be expected that there will be leaks and spills, especially as the facility ages. In the event of a large leak, especially if under pressure, there is the risk of fire that could expose workers and community members to inhaling the products of combustion. Because this facility is close to a school, a senior center, and other community facilities, vulnerable populations (children and elders) would be placed at risk. It would seem more reasonable to place these HTF facilities along Hwy 95 where accidents would not carry such grave risks to the residents.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
33-03

3. Water usage (In general, the five mitigation measures suggested for water resources (A-3) seem weak and more a more robust plan for protecting this key resource should be developed.)

a. Buy and retire water rights: This facility is estimated to use 400 acre feet (130,340,400 gallons) per year of water in a basin that is already overdrawn, and where water levels are falling and projected to reach the court-mandated minimum at Devils Hole in the near future (3-36 to 3-40 and 4-42). If this project (and all the other pending solar projects) were required to buy and retire 3 agricultural water rights for each industrial water right used, it would go a long way toward correcting this downward trend.

b. Water conservation: Half the annual water usage by this facility (200 acre feet or 65,170,200 gallons) would be used to rinse the mirrors. Rinse (RO) water would be sprayed from a truck and allowed to drip off and evaporate. Collection, filtration, and reuse of this water could significantly reduce the water usage. Additionally, an automatic sprinkler system could improve air quality by reducing the amount of vehicular traffic at the facility. Doubtless other water conservation measures could be employed.

c. Mitigation to include removal of aggressive phreatophytes: The Amargosa Valley area is heavily vegetated with phreatophytes (Athel and Salt Cedar) (3-38, and 3-56 to 57, 3-71, 3-77, 3-133, 3-150). The EIS mentions the presence of these species but does not address the issue of phreatophyte control as a mitigation measure. Salt Cedar is especially invasive and its distribution in the area should be evaluated, as removal and control by the proponent could serve as a significant mitigation measure by reducing local evapotranspiration.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
33-04

4. Environmental justice:

The residents of Amargosa Valley will suffer considerably from this project and will see no benefit. They will be subjected to construction traffic, noise, fumes, and dust. Those close to the project will see a reduction in their property values. They also will be exposed to the potential risk of accidents at the facility both during construction and operation. It is unlikely that facility will provide a significant number of jobs to local residents, as most of the jobs will go to skilled labor in Las Vegas.

The most important measure to address these injustices would be locating the facility closer to Hwy 95 and away from this community. The proponents should also take more responsibility for fire and safety issues and not rely so heavily on the Amargosa Valley Volunteer Fire Department (2-32, 3-111, and 4-53). Fire fighting at this facility could pose significant health risks to local volunteers. The proponents should also be required to support the local community infrastructure (roads, schools, community center, library, etc) and contribute to the energy needs of low-income residents by such measures as subsidizing residential insulation and rooftop solar.

## RESPONSES TO COMMENT NO. 33-01 THROUGH 33-04

### Response to Comment No. 33-01

A wet-cooled solar facility is a viable alternative; however, the level of effort to acquire the amount of water needed for a wet-cooled solar project and the potential legal action from concerned stakeholders increases time and costs to develop a wet-cooled solar project in this region. Solar Millennium only develops solar thermal parabolic trough power plants.

### Response to Comment No. 33-02

Comment noted. The BLM's purpose and need is to respond to Solar Millennium's application for a right-of-way on BLM managed lands. These lands were designated for disposal under the 1998 Las Vegas RMP/EIS. In evaluating whether to grant or deny Solar Millennium's application, BLM must comply with Title V of the Federal Land Policy Management Act, BLM right-of-way regulations, and other federal laws.

In addition, the risks associated with the hazardous materials for the Project have been fully evaluated in the FEIS. All of those risks were determined to be minor. There is no basis to believe that the Project would pose any serious risk to nearby residents or anyone else. There also exist adequate fire, police, and medical services nearby in the event of any unforeseen risk or other issue.

### Response to Comment No. 33-03

In response to Comment A - See responses to comments 05-01 and 24-02.

In response to Comment B - The use of RO water is the standard industry practice for cleaning mirrors. At this time, Solar Millennium does not intend to capture and reuse mirror wash water.

In response to Comment C - The BLM acknowledges that control of aggressive phreatophytes is a concern in the arid southwest due to their high water consumption. However, in the Amargosa Valley, aggressive phreatophytes are primarily an issue on private lands, not federal lands. It is beyond the scope of this EIS and beyond BLM's authority to require phreatophyte control on private land as a mitigation measure

Response to Comment No. 33-04

As per the Development Agreement between Nye County and Solar Millennium, the Developer (Solar Millennium) agrees to assist in supplementing fire, police, and medical services through various means. For more specific information on how Solar Millennium will contribute please refer to the Developer Agreement in Appendix F. Any energy produced from the Project would be sold to a utility, which would then sell the energy to consumers. This inquiry should be directed to the appropriate utility. Accordingly, whether the proponent will contribute to the energy needs of low-income residents is outside the scope of this EIS.



# United States Department of the Interior

NATIONAL PARK SERVICE

Death Valley National Park

PO Box 579

Death Valley, California 92328



IN REPLY REFER TO  
L7619

May 11, 2010

Patrick Putnam, Field Manager  
Pahrump Field Office  
Southern Nevada District BLM  
4701 N. Torrey Pines Drive  
Las Vegas, Nevada 89130

Re: Comments on Draft EIS (DEIS) for Amargosa Farm Road Solar Energy Project

Dear Mr. Putnam:

Comment No. 34-01 Thank you for the opportunity to comment on the DEIS for the Amargosa Farm Road Solar Energy Project as a cooperating agency. As we have stated previously, the National Park Service (NPS) supports the efforts of the Nevada State Office of the BLM to promote renewable energy development projects on public lands. We hope that by working with the BLM on this project we can help to promote these efforts while still providing maximum protection for the Devils Hole pupfish and other Park resources.

Comment No. 34-02 In general, the NPS is concerned that the DEIS does not completely address project-related effects on NPS water rights and resources for Devils Hole. The Amargosa Desert Hydrographic Basin is over-appropriated according to the Nevada State Engineer. The Draft EIS indicates that existing pumping, including any water right leased for this project, will eventually have an effect on Devils Hole and Ash Meadows. The NPS's primary concern regarding this project is that it *not* increase the likelihood of injury to our senior water right for Devils Hole.

Comment No. 34-03 The NPS believes that in order for Solar Millennium to obtain the groundwater necessary to meet its long-term project demands of 400 acre-feet per year *without* impairing the senior water rights of the NPS, Solar Millennium must lease or purchase the full amount of water authorized under Permit 15893 and commit the same to supply the water demands of its project. Such a transfer should include the following two terms and conditions: (1) totalizing meters be installed on all wells associated with the project to record all groundwater withdrawals at the well head for Permit 15893; and, (2) a designation of the acres retired or "stripped" from the original permit for the life of the lease.

The NPS also has the following comments on the DEIS:

Comment No. 34-04 **Section 1.3 Project Location** refers to three water supply wells. Text should be revised to one water supply well.

Comment No. 34-05 **Project Area Figure 1-2** shows three water supply wells. Figure should be corrected to show which well will be used.

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 34-06 | **Section 2.3.6.2 Water Source** states that there are three wells under consideration. It is our understanding that only one well is currently under consideration. The text needs to be revised to reflect the water supply well that is under consideration.
- Comment No. 34-07 | **Table 2-4 Project Wells** lists the three wells originally under consideration. The table should be revised to reflect the current proposed water supply well. Note that the 6 year average pumping rate is different depending on which 6 year period is used. Between 2003 and 2008 (a six year period), the average *reported* water use for Permit 15893 was 391 acre-ft per year, not 288 as shown on the table.
- Comment No. 34-08 | **Section 2.3.6.4 Water Needs during Construction** describes the estimated water use for the duration of the project construction to be about 600 acre-ft per year for 3.25 years. The document states that construction water will be sourced from wells near the site and piped to the site for use by the contractor. It is not clear how this water will be administered. For example, will a temporary permit be requested from the Nevada State Engineer? Or will a short-term lease be negotiated for water from an existing user, and if so, will that require a temporary change in manner of use? The NPS would like to ensure that water used during construction is well documented, and that no net increase in water use occurs, even if the use is temporary.
- Comment No. 34-09 | **Section 2.4 Wet-Cooled Alternative** refers to the three wells identified under the dry-cooled alternative. These two sections need to be consistent in how they identify the proposed water supply for the dry-cooled alternative.
- Comment No. 34-10 | **Section 2.5.1 Agency-Preferred Alternative.** The NPS is concerned that a preferred alternative was not selected in the DEIS. Based on several conversations between NPS staff and BLM staff, our understanding is that the applicant has voluntarily chosen to go with the dry-cooled alternative. The NPS would strongly prefer selection of the dry-cooled alternative over the wet-cooled alternative to reduce impacts to the Devils Hole pupfish as a result of groundwater pumping. Although both action alternatives would impact pupfish, impacts from the wet-cooled alternative are significantly greater than from the dry-cooled alternative.
- Comment No. 34-11 | **Table 2-5 Summary of Impacts..., Water Resources - Sections 3.4 and 4.4.** The table refers to three existing wells under the proposed source of water, and a demand for 400 acre-ft per year, for the proposed action. The Table does not identify the proposed source of water or the impacts to water resources associated with the wet cooled alternative, or the impacts to water resources associated with the no action alternative.
- Comment No. 34-12 | **Section 3.1.5 Climate Change.** The second paragraph suggests that there is uncertainty about whether observed climate changes represent natural variability or are due to increasing emissions of greenhouse gases. This statement does not appear to be based on any substantive investigations and is in contradiction to the findings of the Intergovernmental Panel on Climate Change. The IPCC states that "there is very high confidence that the net effect of human activities ...has been one of warming". Also, the last sentence in this paragraph, citing Chambers, 2006, states that the following changes may be expected to occur, but then neglects to include any changes. This section needs to be revised to more accurately reflect the current understanding of climate change, including changes predicted for the Great Basin.
- Comment No. 34-13 | **Section 3.2.4 Geological Units in the Project Area** suggests that the valley fill aquifer, as described by Winograd and Thordarson, 1975, is present between about 650 - 960 feet deep, and

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 34-13 (continued) | the lower carbonate aquifer is present between about 1,370 and 1,800 feet deep. This is not an accurate description of the conditions in the vicinity of the Project area. Based on monitoring wells in the vicinity of the Project area, depth to water in the alluvial basin-fill sediments was approximately 50 to 60 feet below land surface prior to agricultural development in the 1960s, and is currently about 100 to 120 feet below land surface. Depth to pre-Cenozoic basement rock is at least 1 to 2 kilometers in the vicinity of the Project area, so the carbonate rock aquifer in the vicinity of the Project area is at much greater depth than indicated by the text.
- Comment No. 34-14 | In addition, the description of Devils Hole and the source of water to springs in Ash Meadows is inadequate. Devils Hole is a collapse depression in the Bonanza King formation that intercepts the regional carbonate aquifer. In the vicinity of Ash Meadows, on the eastern side of the gravity fault, the carbonate rocks are at land surface. Springs in Ash Meadows are fed by the regional carbonate aquifer, where higher permeability rocks are juxtaposed against the lower permeability basin-fill sediments to the west and water is forced to the surface. An accurate description is important because it provides the basis for the concerns of the NPS and USFWS.
- Comment No. 34-15 | **Section 3.2.6 Geological Hazards.** The text implies that subsidence in the Amargosa Valley is due to groundwater usage and complex spring activity. Note that according to Katzenstein and Bell (2005), the subsidence that has occurred in the vicinity of the Project area "represent aquifer response in close proximity to local groundwater withdrawals." Nearby groundwater monitoring wells that show more than 50 feet of decline since the 1960s are evidence of excessive groundwater pumping in the project area. In looking at the signals near the springs in Ash Meadows, Katzenstein and Bell (2005) assumed that water levels had not changed. However, that is not correct. In the Ash Meadows area, excessive pumping occurred in the 1970s, water levels have never fully recovered, and previously flowing wells are no longer flowing. Therefore, subsidence signals are more difficult to interpret in the Ash Meadows area and require further investigation. The text is misleading and needs to be revised.
- Comment No. 34-16 | **Death Valley Regional Flow System Figure 3-6.** The map legend incorrectly identifies the colors for the Ash Meadows and Alkali Flat-Furnace Creek Sub-regions.
- Comment No. 34-17 | **Section 3.4.6.7 Groundwater Pumping.** This section needs to be revised to correctly describe the conditions in the basin. The perennial yield estimate of 24,000 acre-ft per year for Amargosa Valley includes 17,000 acre-ft that discharges from springs in Ash Meadows. The 17,000 acre-ft is not available for development and should not be included as "useable water". The amount of "useable water" is equal to 7,000 acre-ft (e.g., 24,000 - 17,000 acre-ft). An imbalance exists between the amount of usable water that was available for appropriation for development (e.g. the perennial yield minus the discharge from springs) and the amount that has been appropriated by the Nevada State Engineer. Therefore, the basin has been over-appropriated.
- Comment No. 34-18 | **Pg. 3-40, second paragraph.** The description of water use in the basin suggests that due to a decrease in mining, non-irrigation water use has decreased. This is not the case. Commercial use has steadily increased in the basin: from less than 5% in 1998, to about 10% in 2003, and to more than 22% in 2008. The increase in non-irrigation water use in the basin is an important trend to note in this discussion. In addition, overall water use has been increasing in the basin since the 1980s.
- Comment No. 34-19 | **Figure 3-7.** There appears to be a discrepancy in the location of the three proposed project wells, and the location of permitted water rights. For example, according to the

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 34-10 (continued) NSE mapped permitted wells, Section 23 only has 4 wells associated with water right permits, including Permit 15893, yet Figure 3-7 suggests that there are a total of five wells associated with water right permits. The same issue occurs in Section 14 where there is only one permitted water right, yet the figure suggests two, including the proposed project well. Although wells are often not plotted accurately within a quarter section, the correct number of permitted water rights within a quarter section should be shown. The figure should be revised to correctly locate permitted wells, including the proposed project well.
- Comment No. 34-20 **Page 3-43 through page 3-44.** The text indicates that because of an apparent error in the pumping dataset "it is not definite whether the model would produce an effect from other more distant pumping, but the later time results suggest otherwise." This statement is confusing and is inconsistent with the modeling report contained in Appendix 2. The long term pumping projections simulated with 2003 pumping amounts should not be significantly affected by a possible discrepancy in the pumping data for 1975. The predictive modeling simulations show 13.5 feet of drawdown at Devils Hole after 200 years of pumping at 2003 levels. Therefore, it is quite clear that the model shows that distant pumping occurring throughout the Amargosa Basin will have a significant impact at Devils Hole. The magnitude of the impact may not be entirely accurate due to uncertainties in the model, but there will clearly be an impact from pumping at current rates. This point must be made in the EIS.
- Comment No. 34-21 **Page 3-44 Groundwater Model Summary.** The discussion focuses on the fact that the model overestimated the drawdown at Devils Hole from pumping. According to the DEIS, the overestimation, which becomes apparent in simulated water levels in the 1970s, must have been due to pumping from wells that were within 1 or two miles of Devils Hole since these wells were doing most of the pumping in the early 1970s. An overestimation in drawdown caused by discrepancies in pumping data from wells located in close proximity to Devils Hole does not mean that the model would also produce an overestimation in drawdown from wells further from Devils Hole. What is more notable is that the model achieved a remarkably similar shape in drawdown and recovery. The fact that the calibration is not accurate to within a foot at a particular point on a map is not significant given the scale of the model. The value of the model is in showing that the cumulative effect of pumping at current levels will cause an impact at Devils Hole and to Ash Meadows springs. The magnitude of the impact may be less clear, but this is still an important finding and should be noted.
- Comment No. 34-22 **Page 3-89 Threats to the Species.** The text incorrectly states that the primary threat to the Devils Hole pupfish is decreased spring discharge. The primary threat is lowering of groundwater levels, not decreased spring discharge. In addition, if water levels drop below the ledge, the pupfish would have no habitat to feed upon, spawn or lay eggs. The fish would therefore likely go extinct, not just suffer population declines. This needs to be corrected.
- Comment No. 34-23 **Section 4.4 Water Resources, Page 4-17.** GeoTrans, Inc. did not develop the groundwater model for the Death Valley regional flow system. They used an existing model developed by the USGS.
- Comment No. 34-24 **Page 4-17, Scenario 1 (No Action) Results.** Text states that drawdown is predicted to be more than 5 feet over a large area. In fact, drawdown will be greater than 10 feet over a large area, including the area that encompasses Ash Meadows and Devils Hole. This point

Responses to these comments are provided on a separate page following this comment document.

- Comment No. 34-24 (continued) | needs to be made clear. In addition, the text suggests that drawdown is predicted to decrease rapidly in the Ash Meadows area, due to a buffering effect from capturing discharge from springs. It is not clear what evidence this statement is based upon. The rate of drawdown is quite steady at Devils Hole for the entire period of simulation.
- Comment No. 34-25 | **Page 4-18, Scenario 2 (Proposed Action) Results.** The text describes pumping from three wells, and should be revised to reflect pumping from one well. Historical use from the individual well needs to be described accurately. It has not been fully used over the last 5 years, 10 years or full period of record. The model report will also have to be revised to reflect pumping from only one well. Mirror washing is not likely to produce any recharge. The studies in the basin show that only fields that are irrigated fairly regularly produce return flow. Areas of native vegetation are characterized by an upward flux, not downward.
- Comment No. 34-26 | **Section 4.4.1 Proposed Action.** Text needs to be revised to reflect the current understanding of the proposed project with only one well.
- Comment No. 34-27 | **Section 4.4.1.1 Impacts from Construction.** Revise text to describe water use from only one well. The change application currently pending before the Nevada State Engineer suggests only 400 acre-ft is being sought. Therefore, an additional 200 acre-ft per year for the period of construction is likely to be needed to meet construction needs. This needs to be described accurately.
- Comment No. 34-28 | **Section 4.4.1.2 Operation, Water Use.** Text suggests two wells, with a third well for redundancy. The sources of water for the project need to be described consistently throughout the document.
- Comment No. 34-29 | **Section 4.4.2 Wet-Cooled Alternative.** This section needs to be revised to describe in better detail the potential impacts under this alternative. The increased water demand would mean less return flow from irrigation, additional water rights would be necessary and the impact of pumping more than 4000 acre-ft on Devils Hole would be much greater. Depending on what existing water rights were leased or acquired to meet the increased demand, they may not have been fully used and therefore could represent an additional demand on the system. These points should be addressed.  
  
The DEIS failed to disclose results of groundwater modeling for the wet-cooled alternative, as was disclosed for the dry-cooled alternative. The EIS needs to fully analyze the impacts of each alternative. Results of groundwater modeling are important for determining the degree of impacts to the Devils Hole pupfish.
- Comment No. 34-30 | **Section 4.4.3 No Action Alternative.** The impacts to sensitive water resources under the No-Action alternative may not be fully quantified, but they are projected to be significant based on the evidence presented in the modeling report. Water levels will eventually decline at Devils Hole and discharge will be reduced from springs. What cannot be determined with accuracy at this point is the timing and magnitude of the impacts.
- Comment No. 34-31 | **Section 4.6.1.4 Mitigation.** The NPS remains hopeful that mitigation measures will be adequate to offset impacts of water use to the Devils Hole pupfish. As mitigation measures are still under development, we look forward to commenting on them when they are complete. We hope that we will have the opportunity to review the proposed measures prior to their release in the FEIS.

Responses to these comments are provided on a separate page following this comment document.

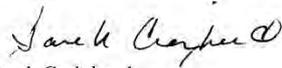
Comment No. 34-32 | **Section 4.17.7.4 Water Resources.** This section needs to describe the cumulative effects of multiple projects. Water usage based on air cooled versus wet cooled technologies can be estimated based on the size of the facility. Many of the developers have provided proposed Plans of Development to the BLM and describe estimated water use in publically available documents. The cumulative impacts from multiple projects need to be clearly analyzed in the EIS.

Responses to these comments are provided on a separate page following this comment document.

Comment No. 34-33 | **Section 4.12.5 Mitigation.** The NPS is pleased that a mitigation measure has been put in place to minimize impacts of nighttime lighting on dark night sky. However, the mitigation measure is vague and would be difficult to enforce. We hope that the applicant will truly put forth their best effort to minimize impacts from nighttime lighting. However, if they do not we expect that the BLM will enforce this mitigation measure. Cumulative impacts to dark night sky from multiple projects should be assessed as part of the visual resource analysis. Death Valley National Park currently has exceptional dark night skies and any net increase in fugitive light would impact the park.

We look forward to continued work with you and your staff on this and other solar renewable projects in the Amargosa Valley.

Sincerely yours,



Sarah Craighead  
Superintendent

cc: Regional Director  
NPS Pacific West Regional Office  
1111 Jackson Street, Suite 700  
Oakland, CA 94607

cc: Alan Schmierer  
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## RESPONSES TO COMMENT NO. 34-01 THROUGH 34-33

### Response to Comment No. 34-01

Comment noted. The BLM appreciates the commenter's participation in the EIS process.

### Response to Comment No. 34-02

See responses to comments 05-01 and 24-02.

### Response to Comment No. 34-03

See responses to comments 05-01 and 24-02.

### Response to Comment No. 34-04

The reference to three wells has been changed in the FEIS to reflect use of only one well.

### Response to Comment No. 34-05

The reference to three wells has been changed in the FEIS to reflect use of only one well.

### Response to Comment No. 34-06

The reference to three wells has been changed in the FEIS to reflect use of only one well.

### Response to Comment No. 34-07

The reference to three wells has been changed in the FEIS to reflect use of only one well.

#### Response to Comment No. 34-08

Solar Millennium has filed an application with the Nevada State Engineers Office to change the place and manner of use of an existing certificated water right near the Project site. To allow for redundancy should one of the wells fail, Solar Millennium intends to drill a new well and move the point of diversion to a location just west of the current well. Meters will be placed on both wells to ensure there is no exceedance of the permissible annual duty. Pending permitting by the Nevada State Engineer, the Proponent will lease 400 afy for project operations, while the water right holder retains the remaining 203 afy to be used for agriculture purposes. During construction, the Proponent will lease the remaining 203 afy to meet their 600 afy water needs during construction. A new pipeline will be constructed between the well and the project site to convey the water needed for project construction and operation. Appropriate permits from Nye County would be obtained to construct and operate the new pipeline.

#### Response to Comment No. 34-09

The reference to three wells has been changed in the FEIS to reflect use of only one well.

#### Response to Comment No. 34-10

The BLM preferred alternative is the Proposed Action (dry-cooled alternative).

#### Response to Comment No. 34-11

Since it is unknown where water for a wet-cooled alternative would ultimately be obtained, the assumption is made that any water acquired would be sourced from an existing water right owner(s) who would be willing to sale or lease their water right. It could be assumed that the water that would be acquired for the wet-cooled option is fully used on an annual basis by the current water rights owner(s) in the current capacity.

Under the No Action alternative, the BLM assumes current conditions and trends would continue.

#### Response to Comment No. 34-12

This EIS has to look at the broad amount of information available about climate science. The IPCC report is referenced in the document, but cannot be the only information on the topic utilized. Therefore the EIS cannot make statements about a topic based off one piece of information, and must address that there is uncertainty. The last sentence in the paragraph, citing Chambers, 2006, lists expected changes to occur in the following paragraph and bullet point list. Since the sentence was followed up with the corresponding information in the DEIS no changes have been made regarding this comment.

Response to Comment No. 34-13

The information cited is from Winograd and Thordarson (1975). The BLM acknowledges there are differences in opinions regarding groundwater flow and occurrence in the carbonate aquifer system.

Response to Comment No. 34-14

See response to Comment No. 34-13.

Response to Comment No. 34-15

Text in Section 3.2.6 has been updated in the FEIS to reflect that observed subsidence in Amargosa Valley is attributed to groundwater usage, as it is not clear exactly what Katzenstein and Bell (2005) meant by “hydrologic processes related to the abundant spring activity” near Amargosa Flat and Ash Meadows National Wildlife Refuge.

Response to Comment No. 34-16

Figure has been revised.

Response to Comment No. 34-17

The BLM acknowledges the Nevada State Engineer has determined the perennial yield in the Amargosa Desert Hydrographic Basin to be 24,000 afy, and the basin is over-allocated. Sections 3.4 and 4.4 in the FEIS have been expanded to describe conditions and trends in the basin.

Response to Comment No. 34-18

Sections 3.4 and 4.4 in the FEIS have been expanded to describe conditions and water use trends in the basin.

Response to Comment No. 34-19

The location of the well to be used for this project has been updated on the maps included in the FEIS.

Response to Comment No. 34-20

The quoted statement was referring to the 1998 model not the updated model where the pumping dataset was corrected. The text has been revised to say, “Even with the model limitations and assumptions presented above, the model can still be used as a qualitative tool to provide information on the potential impacts to local groundwater resources.

Response to Comment No. 34-21

The following statement will be added to the text: An important conclusion from Scenario 1 is that the cumulative effect of 2003 groundwater withdrawal levels continuing into the future will cause an impact to Devils Hole and Ash Meadows even though the magnitude and timing of this impact is uncertain.

Response to Comment No. 34-22

In response to comment, the text has been updated in the Final EIS.

Response to Comment No. 34-23

The statement has been modified to clarify the citation.

Response to Comment No. 34-24

The text has been changed from 5 ft to 10 ft as suggested. The buffering effect occurs in the model due to the drawdown cone reaching a significant discharge area (Ash Meadows spring complex), not just Devils Hole. The statements referring to the buffering effect will be removed from the text for clarity.

Response to Comment No. 34-25

The model report and section 4.4 has been rewritten to reflect pumping from one well, not three. Statements discussing unknown recharge from mirror washing will be deleted from the text.

Response to Comment No. 34-26

See response to comment 34-25.

Response to Comment No. 34-27

See response to comment 34-08.

Response to Comment No. 34-28

Comment noted. The FEIS has been updated to expand the description of water requirements during construction and operation.

Response to Comment No. 34-29

Section 4.4.2 has been modified in the FEIS to clarify certain statements. A groundwater model for the wet-cooled alternative is not feasible since it is unknown where water for a wet-cooled alternative would ultimately be obtained. The assumption is made that any water acquired would be sourced from an existing water right owner(s) who would be willing to sale or lease their water right. It can be assumed that the water that would be acquired for the wet-cooled option is fully used on an annual basis by the current water rights owner(s) in the current capacity.

Response to Comment No. 34-30

The following sentence has been added: "The magnitude and timing of these impacts is unknown and cannot be determined with accuracy at this time." Also, in a previous sentence, "with unknown impacts" has been replaced with "producing impacts."

Response to Comment No. 34-31

See responses to comments 05-01 and 24-02.

Response to Comment No. 34-32

The DEIS followed Council on Environmental Quality guidelines in developing the cumulative analysis. In addition, the final EIS contains substantive improvements in the cumulative analysis, and the reader is referred to Section 4.17 of the FEIS for further information on cumulative analysis.

Response to Comment No. 34-33

Impacts to night sky conditions of Death Valley National Park were not assessed, due to preliminary design plans not containing a lighting plan. The Proponent has, however, committed to specific mitigation measures that will be incorporated into the FEIS and will

mitigate impacts to night sky to the greatest extent feasible. To this end, lighting impacts from future projects within the Region of Influence are not known in order to inform the Cumulative Impacts. However, future lighting plans will be reviewed and approved by the BLM in an effort to reduce cumulative effects to night sky.

DRAFT ENVIRONMENTAL IMPACT STATEMENT

AMARGOSA FARM ROAD SOLAR ENERGY PROJECT NVN-084359

COMMENTS OF THE OETTINGER FAMILY

1318 NORTH SANDY LANE

AMARGOSA VALLEY NEVADA 89020

4 MAY 2010

- Comment No. 35-01 | Congratulations on a very fine job in mitigating our earlier concerns. This draft is very well done and addressed most of our worries. Thank you.
- Our remaining concerns revolve around the loss of view to the west from our home. We feel that this is a takings and as such need to be addressed.
- Comment No. 35-02 | We also would wish clarification about our ability to access public lands from our home. Will the 730 feet between our property and the wind fence be under the solar plants' control or do we have free access for horseback riding or other activities?
- Comment No. 35-03 | We brought up previously about the reflected glare during the morning hours. The wind fence is transparent and only 30' tall, will there be any mitigation for the glare issue.
- Comment No. 35-04 | The Nye County road dept said that North Sandy lane between Desert Senior and Frontier cannot be paved unless BLM deeds easement to the county for the remaining width (40'). The county will not pave any more single lane roads. Dust from increased traffic on Sandy Lane due to the projects' construction workers leaving and returning will be bothersome to the residents without paving! Will a stipulation for the easement please be put as part of the BLM acceptance and approval of the project!
- Comment No. 35-05 | During construction activities how will the control of vermin leaving the site be controlled? We don't feel we should have to deal with extra mice and snakes and bugs!
- Comment No. 35-06 | Lastly, dust control of the site while construction activities are in progress, and after the plant is turned over are a real concern. We would like to see more detail in the final statement.

Michael and Sherry Oettinger

Responses to these comments are provided on a separate page following this comment document.

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## RESPONSES TO COMMENT NO. 35-01 THROUGH 35-06

### Response to Comment No. 35-01

Sensitive viewers within the foreground distance zone with level, unobstructed views would have the highest impacts as stated in section 4.12 (i.e. the project would dominate the view).

### Response to Comment No. 35-02

The area between the eastern property line and Sandy Lane will be open to public access. Per the Development Agreement by and between Nye County and the Proponent, landscape design features will be incorporated into the project design, including landscape buffers between the eastern property line and Sandy Lane. Specific details have not been finalized and provided to the BLM.

### Response to Comment No. 35-03

The wind fence is primarily considered as design feature to decrease wind effects on the solar array and as a result, the fabric on the fence is partially transparent. In this regard, the fence is considered a mitigation measure in that it decreases visibility of the solar array and other project elements as well as reducing the effects of glint and glare.

### Response to Comment No. 35-04

Access to the project site will be via Valley View Blvd., which is approximately 3.5 miles west of Sandy Lane. Sandy Lane would not be used during construction or operations.

### Response to Comment No. 35-05

Surveys of the Project area conducted in 2009 found relatively low densities of small mammals, snakes, and invertebrates. It is anticipated that any individuals of these species will preferentially move to the natural habitats to which they are accustomed, such as the native desert areas to the north and west or to the agricultural fields to the south.

### Response to Comment No. 35-06

See response to Comment No. 24-06.

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To Whom it May Concern,

We would like to submit the following information and request to the appropriate officials in the US Fish and Wildlife Service and the Bureau of Land Management. Solar Millennium has submitted an application for a Right of Way for over 7,800 acres on public lands in the Amargosa Farm area near Amargosa Valley, Nevada to develop a 4,000 acre parabolic trough solar energy facility.

We have submitted comments on the Draft Environmental Impact Statement, however, the comment deadline has passed and we have come across some important information concerning biological resources, that has been surprisingly overlooked by the Bureau of Land Management. Listed below is a reference from the Journal, *Copeia*, describing the genetic significance of isolated desert tortoise (*Gopherus agassizii*) populations in the Amargosa Desert and Pahrump Valley. It is suggested that parts of this population could qualify as an Evolutionarily Significant Units (ESU).

We are aware that the Solar Millennium proposed project site does not sustain a high density population of desert tortoise, but after reviewing Solar Millennium's contractor's biological survey reports submitted to BLM by Tierra Biological Consulting, we have noted some problems with the surveys and information provided to the BLM.

Comment No.  
36-01

**Problem Number 1:** All surveys were conducted during the spring season of only 2009. This was a drier than average year. Even a good biological field crew will have limited survey results from a drier than average year. The spring of 2010 received abundant rainfall, yet all of the data has gone unrecorded due to a fast tracking schedule that seems to prioritize approval of the ROW over reviewing sound biological survey information first.

The survey information states no desert tortoise were found on the site and only "class 4" burrows were observed. We observed an active desert tortoise burrow on the site on April 26<sup>th</sup>, 2010. Below is a photograph.



The GPS coordinates are: NAD27, UTM zone 11, e-542777, n-4047023

Response to Comment No. 36-01

See response to comment 20-25.

As stated in Appendix A.6 mitigation measures WL-6, clearance surveys will be conducted for Desert Tortoise in accordance with all State and Federal regulations. In addition, as stated in Appendix A.6, biological monitors will be on site to ensure that no tortoises are harmed during the construction process. Appropriate mitigation measures will be developed during the consultation process between BLM and U.S. FWS under the ESA. A Biological Assessment has been submitted and will Opinion when this inter-agency consultation is complete.

Approximate location of tortoise burrow on Solar Millennium project site, north of Amargosa Farm Rod, near Casada Rd.

Comment No.  
36-02

**Problem Number 2:** The Tierra Biological Resources Report (written by retired Tonopah BLM field manager Bill Fisher, now desert tortoise consulting biologist) states that "the vegetation within the project boundaries is generally very sparse and dominated by creosote and burrobush (Photo 3-1), with very little herbaceous growth most of which is confined to the shrub canopies or just a short distance beyond."

That statement does not apply to the spring season of 2010. The annual vegetation is far more abundant on the site this year than it was when the surveys were conducted. The point is, one field season does not represent an accurate account of the biological resources of the Mojave Desert.

While we do not expect that a new survey would find an abundance of desert tortoise, we do believe that a more objective survey may find more desert tortoise than the Tierra report concludes. High density numbers are not the only important attribute of a desert tortoise population. If there is a potential Evolutionarily Significant Unit of tortoise on the site, we need a full analysis in the EIS.

We believe that the BLM has not required Solar Millennium to conduct a good enough biological survey of the site. We would like to request that Solar Millennium be required to conduct at least one more additional season of biological surveys before BLM issues a Record of Decision. We would also like to request a written response to this letter.

Thank you for your time,  
Sincerely,

Kevin Emmerich  
Laura Cunningham  
Basin and Range Watch  
P.O. Box 70  
Beatty, NV 89003  
[atomicoadranch@netzero.net](mailto:atomicoadranch@netzero.net)

Please review the below reference:

**Genetic Delineation of Management Units for the Desert Tortoise, *Gopherus agassizii*, in Northeastern Mojave Desert** HUGH B. BRITTEN, BRETT R. RIDDLE, PETER F. BRUSSARD, RON MARLOW, AND THOMAS E. LEE JR. 1997. *Copeia*, 1997(3), pp. 523-530

Response to Comment No. 36-02

See response to comment No. 36-01.

Moritz (1994a, 1994b) provided a useful dichotomy between Evolutionarily Significant Units (ESUs) and Management Units (MUs) in recent reviews of the application of genetic data to conservation questions. Generally, population segments within a species' geographic range are considered ESUs if they possess two criteria: (1) "substantial" reproductive isolation from other such segments; and (2) evolutionarily important genetic uniqueness (Waples, 1991). MUs can be distinguished by significant nuclear or mitochondrial gene frequency differences (Moritz, 1994b). Populations with divergent gene frequencies likely exchange so few migrants that they exhibit substantive demographic independence and should be managed appropriately (Moritz, 1994b).

Finally, tortoise populations sampled from Amargosa Desert and Pahrump Valley form another MU because they possess the GPI-b allele at high frequencies. The Piute Valley is partially isolated from the southern Las Vegas Valley by the McCullough Range to the west and north and the Colorado River (Lake Mead) to the east. Similarly, Amargosa Desert/Pahrump Valley is almost completely isolated from tortoise habitat to the east by the Spring Mountains and the Spotted and Specter Ranges. In both cases, drift and founder events may account for divergent allozyme and mtDNA haplotype frequencies. Delineation of DWMA's was based on both ecological and genetic considerations (USFWS Recovery Plan, 1994, unpubl.), and their locations and boundaries have not been finalized.

Similarly, populations in the Amargosa Desert and Pahrump Valley are not contained within any proposed DWMA.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

MAY 17 2010

Attn: Gregory Helseth  
Renewable Energy Project Manager  
BLM Pahrump Field Office  
4701 North Torrey Pines Drive  
Las Vegas, NV 89130-2301

Subject: Draft Environmental Impact Statement for the Solar Millennium Amargosa Farm Road Solar Energy Project, Nye County, Nevada [CEQ# 20100083]

Dear Mr. Helseth:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Solar Millennium Amargosa Farm Road Solar Energy Project, Nye County, Nevada. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources such as solar power can help the nation meet its energy requirements while minimizing the generation of greenhouse gases. While renewable energy facilities offer many environmental benefits, they are not without the potential for adverse impacts. Appropriate siting and design of such facilities is of paramount importance if the nation is to make optimum use of its renewable energy resources without unnecessarily depleting or degrading its water resources, wildlife habitats, recreational opportunities, and scenic vistas.

The Bureau of Land Management (BLM) has identified thirty-four proposed renewable energy projects as "fast track" projects that are expected to complete the environmental review process and be ready to break ground by December 2010 in order to be eligible for funding under the American Recovery and Reinvestment Act. Twenty-eight of these projects are located in our Region; 13 of them are located in Nevada. We are aware that many more projects that have not been designated "fast-track" are also being considered by BLM. Many, if not all, of these projects, fast track or otherwise, are proposed for previously undeveloped sites on public lands. In making its decisions regarding whether or not to grant rights-of-way for such projects, we recommend that BLM consider a full range of reasonable alternatives to minimize the adverse environmental impacts. Such alternatives could include alternative technologies or altered project footprints at the proposed location, as well as alternate sites, such as inactive mining or other disturbed sites that may offer advantages in terms of availability of infrastructure and less vulnerable habitats. Given the large number of renewable energy project applications currently under consideration, particularly in the Desert Southwest, we encourage BLM to apply its land

management authorities in a manner that will promote a long-term sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health.

On August 6, 2009, EPA provided extensive scoping comments for the Amargosa Farm Road Solar Energy Project, which included detailed recommendations regarding purpose and need, range of alternatives, water resources, and other resource areas of concern. On May 3, 2010, we requested and received an informal two-week extension of the comment period for the DEIS. We appreciate your willingness to provide us with additional time to complete our review.

Comment No.  
37-01

Based on our review of the DEIS, we have rated the document as *Environmental Objections – Insufficient Information* (EO-2). Please see the enclosed “Summary of EPA Rating Definitions.” An “EO” signifies that EPA’s review of the DEIS has identified potential significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may involve substantial changes to the project. A “2” rating signifies that the DEIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment.

We are particularly concerned about the potential impact of the proposed project to waters of the United States, and this is the basis for our “EO” rating. We understand that the jurisdictional delineation of waters of the United States has not been finalized and the full extent of impacts has not been determined. Based on the preliminary analysis, however, the impacts appear to be of a magnitude that is a significant environmental concern, especially within an arid ecosystem. We are also concerned about the long-term availability of groundwater in the Amargosa Valley, given that future appropriations have already been curtailed. Finally, we are concerned about the indirect and cumulative effects associated with the influx of at least 10 other large-scale solar energy projects proposed in the Amargosa Valley, and the potential impacts on aquatic and riparian communities at Devils Hole and Ash Meadows National Wildlife Refuge.

The Final Environmental Impact Statement (FEIS) should clarify the extent of the jurisdictional waters, demonstrate that the proposed project is the *Least Environmentally Damaging Practicable Alternative* (LEDPA), and identify measures that could mitigate the impacts. It should include a robust discussion of all mitigation measures proposed for the project. To facilitate this action, EPA staff, the U.S. Army Corps of Engineers, BLM, and the project proponent and consultants met on May 13, 2010 and toured the proposed project site to: 1) discuss the geographic extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts that would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the LEDPA; and 4) outline the requirements of a compensatory mitigation plan. We are available for further discussion of these matters and our comments on the DEIS.

EPA appreciates the Bureau’s coordination to date and the opportunity to provide input on this project. Please send one hard copy of the Final EIS and two CD ROM copies to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at 415-972-3843, or contact Ann McPherson, the lead reviewer for this project. Ann can be reached at 415-972-3545 or [mcperson.ann@epa.gov](mailto:mcperson.ann@epa.gov).

A response to this comment is provided on a separate page following this comment document.

Sincerely,



Enrique Manzanilla, Director  
Communities and Ecosystem Division

Enclosures: Summary of EPA Rating Definitions  
Detailed Comments

Cc: Ron Wenker, Bureau of Land Management, Nevada State Office, Reno, NV  
Colonel Thomas C. Chapman, U.S. Army Corps of Engineers, Sacramento, CA  
Kristine Hansen, U.S. Army Corps of Engineers, Reno, NV  
Amy M. LaVoie, U. S. Fish and Wildlife Service, Las Vegas, NV  
Sharon McKelvey, U.S. Fish and Wildlife Service, Amargosa Valley, NV  
Dan McGlothlin, National Park Service, Ft. Collins, CO  
Wayne R. Belcher, U.S. Geological Survey, Henderson, NV

## **SUMMARY OF EPA RATING DEFINITIONS\***

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

### **ENVIRONMENTAL IMPACT OF THE ACTION**

#### ***"LO" (Lack of Objections)***

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### ***"EC" (Environmental Concerns)***

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### ***"EO" (Environmental Objections)***

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### ***"EU" (Environmentally Unsatisfactory)***

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

### **ADEQUACY OF THE IMPACT STATEMENT**

#### ***Category "1" (Adequate)***

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### ***Category "2" (Insufficient Information)***

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyzes, or discussion should be included in the final EIS.

#### ***Category "3" (Inadequate)***

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyzes, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SOLAR MILLENNIUM AMARGOSA FARM ROAD SOLAR ENERGY PROJECT, NYE COUNTY, NEVADA, MAY 17, 2010

Project Description

Solar Millennium, LLC, has submitted a right-of-way application to the Bureau of Land Management (BLM) to construct two concentrated solar thermal parabolic trough power plant facilities with a combined capacity of 464 megawatts (MW). The proposed project would consist of two 232 MW dry-cooled power plants, solar fields composed of parabolic trough mirrors, and thermal storage tanks containing molten salt, capable of producing additional energy for 3 1/2 hours after sundown. Water needs for the proposed project will be met by one of two options: 1) leasing and conveying groundwater from three existing wells nearby; or 2) purchasing existing water rights from the three wells and moving the point of diversion to the power block areas. The proposed design also includes a stormwater retention pond, water pipeline, bioremediation area, and switchyard and will utilize a 230-kilovolt (kV) transmission line connecting the plant to the nearby Valley Electric Substation. The project facilities would be located on approximately 4,350 acres of public land within a 6,320 acre right-of-way (ROW) in Amargosa Valley about 80 miles northwest of Las Vegas, Nevada. Each facility is expected to operate for approximately 30 years.

Compliance with Clean Water Act Section 404

Comment No.  
37-02

In our scoping comments (August 6, 2009), EPA noted that the project applicant should coordinate with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act (CWA). The Draft Environmental Impact Statement (DEIS) presents no information on this topic except to note that activities resulting in dredging or filling of jurisdictional waters of the United States (WUS or jurisdictional waters), which can include drainages and ephemeral washes, require authorization under a Section 404 Permit (pg. 3-27).

The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of waters of the United States. These goals are achieved, in part, by prohibiting discharges of dredged or fill material that would result in avoidable or significant adverse impacts on the aquatic environment. Pursuant to Section 404 of the CWA, discharge of dredged or fill material to WUS requires a permit, issued by the Corps. If a permit is required, EPA will review the project for compliance with the *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230) (Guidelines), promulgated pursuant to Section 404(b)(1) of the CWA. The burden to demonstrate compliance with the Guidelines rests with the permit applicant. The Guidelines contain four main requirements that must be met to obtain a Section 404 permit:

- a) Section 230.10(a) prohibits a discharge if there is a less environmentally damaging practicable alternative to the proposed project.

A response to this comment is provided on a separate page following this comment document.

Comment No.  
37-02  
(continued)

- b) Section 230.10(b) prohibits discharges that will result in a violation of water quality standards or toxic effluent standards, jeopardize a threatened or endangered species, or violate requirements imposed to protect a marine sanctuary.
- c) Section 230.10(c) prohibits discharges that will cause or contribute to significant degradation of waters. Significant degradation may include individual or cumulative impacts to human health and welfare; fish and wildlife; ecosystem diversity, productivity and stability; and recreational, aesthetic or economic values.
- d) Section 230.10(d) prohibits discharges unless all appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

*Recommendation:*

Discuss and demonstrate compliance with the Guidelines in the Final Environmental Impact Statement (FEIS).

*Geographic Extent of Waters of the United States*

Comment No.  
37-03

EPA is concerned about the potential adverse impact to aquatic resources that would result from the project, as proposed. The DEIS contains no information on the geographic extent of waters of the United States on the project site. EPA has received two documents<sup>1</sup> submitted on behalf of the project proponent to the Corps that assess CWA jurisdiction at the proposed project site. These two documents are currently under review by the Corps and EPA. At present, we are unable to determine the full extent of project impacts to jurisdictional waters. We are concerned that the extent of such waters may be underestimated. EPA met with the Corps, BLM, and others on May 13, 2010 at the project site to discuss this issue further.

*Recommendation:*

The FEIS should include a final determination of the extent of waters of the United States at the project site, and address any issues raised as a result of the EPA/Corps site visit.

*Analysis of Alternatives – 40 CFR 230.10(a)*

In order to comply with the Guidelines, the applicant must comprehensively evaluate a range of alternatives to ensure that the "preferred" alternative is the *Least Environmentally Damaging Practicable Alternative (LEDPA)*. Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, indirect, and cumulative impacts to jurisdictional waters resulting from a set of on- and off-site project alternatives. Project alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences. Only when this analysis has been performed can the applicant and the permitting authority be assured that the selected alternative is the LEDPA (40 CFR 230.10(a)).

<sup>1</sup>*Delineation of Wetlands and Waters of the U.S. for Amargosa Farm Road Solar Power Project, Nye County, Nevada, August 2009, and Appendix A: Drainage C Addendum, March 11, 2010, prepared for Solar Millennium, LLC, Berkeley, CA, by Tierra Data Inc., Escondido, CA.*

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
37-04

As currently proposed, we cannot determine whether or not the preferred alternative represents the LEDPA. It is not possible to determine the LEDPA in the absence of an approved determination of the geographic extent of waters of the United States on the project site. The DEIS contains only a cursory evaluation of three off-site alternatives (pgs. 2-3 to 2-4), with minimal consideration of practicable alternatives in light of costs, logistics, and existing technology as required under the Guidelines. Furthermore, the DEIS does not include a formal analysis of on-site alternatives that may reduce impacts to jurisdictional waters. For example, the DEIS provides only cursory information on the potential for reconfiguration or redesign of building footprints, drainage channels, roads, or project downsizing that could result in avoidance of jurisdictional waters.

The DEIS states that the project proponent has considered the alternative of developing the proposed project as a single 232 MW plant, and that building one plant would have fewer environmental impacts (pg. 2-4). The single plant alternative is rejected, in part, because two plants allow for economies of scale and a single plant would not be as effective in meeting the project objective of attainment of energy mandates and objectives. Based on the information in the DEIS, it appears that the single plant alternative may be practicable and less environmentally damaging to jurisdictional waters when compared to the proposed project alternative. As such, a single 232 MW plant would be considered an on-site *less environmentally damaging, practicable alternative*, pursuant to the Guidelines.

*Recommendation:*

EPA recommends that BLM include analyses of on- and off-site alternatives in the FEIS and identify the LEDPA. Sufficient detail should be provided to allow for meaningful comparisons.

Comment No.  
37-05

*Minimize Potential Adverse Impacts and Mitigation – 40 CFR 230.10(d)*

Pursuant to the Guidelines, mitigation of project impacts begins with the avoidance and minimization of direct, indirect, and cumulative impacts to the aquatic ecosystem, followed by compensatory measures if a loss of aquatic functions and/or acreage is unavoidable. Compensatory mitigation is, therefore, intended only for unavoidable impacts to waters after the LEDPA has been determined. For this reason, it would be premature to examine in detail any mitigation proposal before compliance with 40 CFR 230.10(a) is established.

The DEIS has not clearly demonstrated that all practicable measures to minimize unavoidable impacts to potential waters of the United States have been incorporated into the proposed project design. For example, the DEIS states that off-site flows originating within potentially jurisdictional waters will be managed by filling natural washes and rerouting surface flows through a system of concrete-lined channels around the perimeter of the project site (pg. 2-34). We believe there may be project designs that avoid and minimize direct, indirect, and cumulative impacts to potential jurisdictional washes by reducing the fill footprint, utilizing existing drainage channels, and if necessary, constructing drainage channels with more natural features, such as earthen berms. In addition, the DEIS provides no assessment of the cumulative

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
37-05  
(continued)

impacts on waters of the United States of the proposed project and another 12 proposed energy-related projects in the area. Finally, the DEIS includes no compensatory mitigation measures for potential impacts to jurisdictional waters. In short, the project appears not to comply with EPA's Guidelines, nor with the Corps and EPA's regulations governing mitigation under Section 404 of the CWA.<sup>2</sup>

*Recommendations:*

Discuss the steps taken to avoid and minimize impacts to waters of the United States. To the extent any aquatic features that could be affected by the project are determined not to constitute waters of the United States, EPA recommends that the FEIS characterize the functions of such features and discuss potential mitigation.

Include in the FEIS a mitigation plan for unavoidable impacts to waters of the United States, as required by Corps and EPA regulations.

*Ephemeral Washes and Drainage*

Comment No.  
37-06

EPA is concerned about the potential impact to the ephemeral water segments of Fortymile Wash located within the project area. The DEIS provides basic hydrologic information on the location of the proposed project, but does not include a detailed map of the water resources or hydrographic basins in the Amargosa Valley (pg. 3-29).

*Recommendation:*

Include a more detailed map of the water resources and hydrographic basins surrounding the proposed project, specifically Fortymile Wash.

Comment No.  
37-07

Natural washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems: adequate capacity for flood control, energy dissipation, and sediment movement, as well as impacts to valuable habitat for desert species.

*Recommendation:*

Include information on the functions and locations of ephemeral washes in the project area because of the important hydrologic and biogeochemical role these washes play in direct relationship to higher-order waters downstream.

Comment No.  
37-08

The DEIS states that the section of Fortymile Wash that transverses the project area will be rechanneled and designed to intercept the 100-year storm event and convey the concentrated flow to historic discharge points at the southwest corner of the property. Flood protection of the

Responses to these comments are provided on a separate page following this comment document.

<sup>2</sup> Compensatory Mitigation for the Loss of Aquatic Resources, Final Rule, 33CFR 325 and 332, April 10, 2008.

Comment No.  
37-08  
(continued)

property from off-site flows will be provided by means of a continuous concrete-lined channel around the northern and western perimeter of the site. Four primary onsite channels will provide 100-year stormwater runoff interception; minor channels onsite within each section will be designed to intercept and convey the 25-year storm event. All primary channels are proposed to be concrete lined. Energy dissipation facilities will be provided in order to disperse the concentrated flow back to a shallow sheet flow condition prior to leaving the property boundary (pg. 2-34).

*Recommendations:*

Demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes nor the excavation of large amounts of sediment.

Include a functional assessment of the waters on the proposed project site and the change to the function of those waters as a result of the proposed project.

Discuss the feasibility of utilizing existing drainage channels on site. Discuss the feasibility of utilizing more natural features, such as earthen berms or channels, rather than concrete-lined channels.

Comment No.  
37-09

The DEIS does not provide detailed information about fencing (pg. 2-33) or the effects of fencing on drainage systems. In this region, storms can be sudden and severe, resulting in flash flooding. Fence design must address hydrologic criteria, as well as security performance criteria. The National Park Service recently published an article<sup>3</sup> on the effects of the international boundary pedestrian fence on drainage systems and infrastructure. We recommend that BLM review this article to ensure that such issues are adequately addressed.

*Recommendation:*

Provide more detailed information about fencing and potential effects of fencing on drainage systems within the FEIS. Ensure that the fencing proposed for this project will meet appropriate hydrologic performance standards.

Comment No.  
37-10

The DEIS also states that a regional flood control alternative was presented to the BLM and Nye County staff. The alternative would provide a regional off-site detention basin at the apex of the Fortymile Wash that would effectively and considerably reduce existing condition peak storm flow. Reducing off-site peak flows impacting the site would allow for a reduction in size of perimeter flood control facilities. EPA contacted BLM to ascertain whether this was still being considered and was told that Nye County was unlikely to move forward with the stormwater detention basin.

*Recommendation:*

Provide an update on the status of the regional flood control alternative in the FEIS.

Responses to these comments are provided on a separate page following this comment document.

<sup>3</sup> National Park Service, August 2008, Effects of the International Boundary Pedestrian Fence in the Vicinity of Lukeville, Arizona, on Drainage Systems and Infrastructure, Organ Pipe Cactus National Monument, Arizona.

Comment No.  
37-11

*Clean Water Act Section 303(d)*

Section 303(d) of the CWA requires each State to develop, every two years, a list of impaired waters that do not meet water quality standards; to establish priority rankings of such waters; and to develop Total Maximum Daily Loads (TMDLs) for the pollutants causing impairment. Based on Nevada's 2006 Section 303(d) list, there are no impaired waters in the project area. The Nevada Division of Environmental Protection and the EPA have agreed that Nevada need not develop a 2008 303(d) list, but can combine the 2008 and 2010 303(d) lists. A draft 2008–2010 303(d) Impaired Waters list should be available for review in Spring 2010.

*Recommendation:*

Utilize the 2008-2010 303(d) Impaired Waters list, if it is available, and update the information regarding impaired waters in the FEIS.

Groundwater Resources

Comment No.  
37-12

*Over Appropriation of Groundwater Resources*

EPA is concerned about the over appropriation of groundwater within the Amargosa Valley and potential impacts associated with pumping groundwater in the basin. The project site is located in the Amargosa Desert Hydrographic Basin, a region that has already experienced rapid water level declines. Several springs of regional importance are located nearby in the Ash Meadows National Wildlife Refuge (NWR), including Devils Hole, a 40-acre detached unit of Death Valley National Park. Devils Hole provides habitat for the only naturally occurring population of the endangered Devils Hole Pupfish.

Water rights in the Amargosa Valley have been scrutinized for many years due to the proximity of environmentally sensitive areas at Devils Hole, Ash Meadows, and Death Valley. In the late 1960s/early 1970s, ranching and farming operations in the Ash Meadows area resulted in a decline in water levels in Devils Hole, which threatened the survival of the Devils Hole Pupfish (pg. 3-37). In 1973, the U.S. District Court<sup>4</sup> granted a preliminary injunction preventing pumping that would lower the pool below a certain datum. In 1978, the U.S. District Court issued a permanent injunction to limit pumping, and, by 1988, water levels had recovered to about 1 foot below the pre-pumping level. More recently, concerns were raised that the pool level would fall below the court mandated minimum level in the intermediate to long-term future. To further protect federally reserved<sup>5</sup> water rights at Devils Hole, the Nevada State Engineer issued Order 1197, ruling that conditions warranted the curtailment of future appropriations of underground water and additional regulation of change applications within portions of the Amargosa Desert Hydrographic Basin (November 4, 2008).

<sup>4</sup> Note: The District Court's decision was upheld by the Court of Appeals and the Supreme Court of the United States. See: *United States v. Cappaert*, 375 F. Supp. 456 (D. Nev. 1974); *Cappaert v. United States*, 426 U.S. 128, 141 (1976); *United States v. Cappaert*, 455 F. Supp. 81 (D. Nev. 1978).

<sup>5</sup> Since 1989, the U.S. Fish and Wildlife Service (USFWS) has acquired certified water rights for 19,250 acft to protect groundwater sources that feed the springs and seeps in the Ash Meadows National Wildlife Refuge, making it the largest water rights holder in the basin (pg. 3-37).

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
37-12  
(continued)

As disclosed in the DEIS, the perennial yield of the Amargosa Valley Hydrographic Basin is estimated at 24,000 acre-feet per year (afy). Active annual duty (approved water use) is estimated at 25,260 afy; pending annual duty is estimated at 619 afy (table 3-7; pg. 3-39). Missing from the discussion in the DEIS, however, is the correlation between perennial yield and discharge from springs at Ash Meadows NWR. The 17,000 afy discharged by springs in Ash Meadows, which is used to satisfy the certificated rights of the U.S. Fish and Wildlife Service (USFWS) (pg. 3-37), is a component of perennial yield<sup>6</sup>. This results in a net imbalance between committed resources (25,260 afy + 17,000 afy) and perennial yield (24,000 afy), which should be disclosed and discussed more clearly within the DEIS.

*Recommendation:*

Discuss the apparent over appropriation of groundwater resources within the Amargosa Valley in the FEIS.

Comment No.  
37-13

Utilization of Groundwater Flow Model

Groundwater flow modeling was conducted using the Death Valley Regional Flow System (DVRFS) Model. As described in the DEIS, there are limitations associated with using a regional-scale groundwater model to evaluate potential water resource impacts at springs or other sites that are local in scale (pg. 3-43). The DEIS states, in fact, that it is not an appropriate use of the DVRFS Model to predict hydraulic heads or water-level change at Devils Hole, although the model may give a qualitative sense of how water levels change over time at a given location. Furthermore, the Groundwater Modeling Report states that all the model results presented here are not accurate to the feet scale, but several meters (GWMR; pg. 3). In the Biological Resources section the DEIS further states that, "It is impossible to specifically measure Project effects on drawdown at Devils Hole, because of the limitations of the model design" (pg. 4-37). In spite of these precautions, however, the DVRFS Model results are presented in the DEIS and are utilized to support the conclusion that an additional 400 afy of pumping reduces simulated water levels at Devils Hole by a minute amount, less than 0.6 of an inch after 200 years (pg. 4-18).

*Recommendation:*

Quantify the uncertainty associated with using the DVRFS Model to predict drawdown at specific points, such as Devils Hole. Discuss calibration standards used to calibrate the DVRFS Model, and compare them to the results. Consider revising summary and conclusions to reflect qualitative information rather than quantitative information.

Comment No.  
37-14

Even more noteworthy, however, is the fact that the DVRFS results indicate that groundwater levels at Devils Hole are steadily declining and may reach critical levels in the near future. Simulated water levels in Devils Hole show a decline of over 13 feet after 200 years of pumping at current (2003) levels (pg. 4-18). By 2020, the water level is expected to reach a court mandated minimum water level needed to sustain the Devils Hole pupfish if 2003 pumping levels continue (pg. 4-37; pg. 4-42). According to the Groundwater Modeling Report, pumping in the basin would have to be reduced between 80 and 90% from 2003 levels to stabilize water

<sup>6</sup> Ruling 5750, Nevada State Engineer, July 16, 2007.

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
37-14  
(continued)

levels at Devils Hole (Appendix B, pg. 6). This is important information; however, the DEIS focuses the discussion, instead, on the minute amount of groundwater decline associated with project-related pumping.

*Recommendations:*

Revise the summary to note that groundwater levels at Devils Hole are steadily declining and may reach critical levels in the near future. Discuss when the U.S. District Court mandated level will be reached using current pumping data. Illustrate this critical point on figures 6, 7, 8, and 9 (Appendix B). Address this issue with greater transparency within the FEIS, including in the Water Resources and Cumulative Impacts section.

Demonstrate whether there is sufficient groundwater for the lifetime of this project, considering current pumping levels in the basin.

Discuss whether existing water rights are likely to be curtailed in the event that pool levels at Devils Hole decline, leading to the imperilment of the Desert Pupfish. Discuss how the proponents would deal with this situation and the adaptability of the project to this scenario.

Consider whether it would be prudent and feasible to lease or purchase additional water rights to compensate for this possible scenario.

Comment No.  
37-15

EPA recently learned that the U.S. Geological Survey (USGS) is currently working on a hydrologic study utilizing the Southern Amargosa Embedded Model (SAMM), a higher resolution embedded flow model. This study should provide additional information about the study area and be utilized as a more accurate tool for groundwater management in the Amargosa Valley.

*Recommendations:*

Describe the USGS SAMM hydrologic study and compare this to the DVRFS Model.

Include a discussion of the potential effect of future climate change on the proposed project and groundwater resources.

Cumulative Impacts Analysis

Comment No.  
37-16

The BLM has received more than 220 ROW applications for utility-scale solar energy projects in California, Nevada, Arizona, New Mexico, Utah, and Colorado (pg. 4-105). The DEIS discusses the Solar Programmatic EIS (PEIS) but does not provide detailed information about this project since it is not yet complete. The 24 solar energy study areas identified in conjunction with the Solar PEIS encompass 670,000 acres, and that area could be used to generate nearly 100,000 MW of solar electricity. Seven solar energy study areas were identified in Nevada, including one in the Amargosa Valley (32,699 acres) located nearby. The DEIS lists 10 solar projects in close proximity to the proposed project, but does not include an estimate of annual water requirements associated with these projects (fig. 4-10; pgs. 4-110-111). Without

Responses to these comments are provided on a separate page following this comment document.

Comment No.  
37-16  
(continued)

this type of information, it is difficult to conduct a thorough cumulative impacts analysis. We also understand that the Department of Energy (DOE) is planning a large-scale solar demonstration project (1,000 MW) at the Nevada Test Site, in proximity to the proposed site. That project is not mentioned in the DEIS cumulative impacts analysis.

*Recommendations:*

Update the list of reasonably foreseeable projects to include the large-scale solar demonstration project at the Nevada Test site.

Discuss whether the proposed project might be better situated at one of the solar energy study areas or at another location nearby, including the Nevada Test Site.

Evaluate site conditions at locations with an existing ROW application. Determine whether the ROW applications are active and viable.

Comment No.  
37-17

The DEIS presents a brief cumulative impacts analysis discussion but does not provide detailed information nor an in-depth analyses of potential impacts for any resource, including groundwater (pg. 4-103 to 4-119). Although the DEIS notes that there would be no net increase in groundwater pumping within the basin (due to Order 1197), it does not consider what will happen to groundwater levels if pumping continues at existing rates (2003 conditions); nor does it address what might happen if there is an incremental increase associated with pumping due to the influx of large-scale solar projects in the area.

The DEIS states that annual water requirements for each of the renewable energy projects is unknown, but the developer would need to either lease or purchase water currently being pumped under an existing certified water right (pg. 4-113). The DEIS concludes that since the water user can only pump up to the authorized duty of the water right, there would be no net increase in groundwater pumping within the basin. To the extent that the purchased or leased water rights are more fully utilized, however, actual pumping may increase and incremental declines in groundwater levels and spring discharge may occur. Due to the scarcity of water in the region, the large number of solar projects proposed nearby, and the ever-increasing demand for this commodity, EPA is concerned about the depletion of this resource in the Amargosa Valley, and the potential impact on aquatic and riparian communities, particularly in Devils Hole and Ash Meadows NWR.

*Recommendations:*

Discuss the DVRFS results indicating that groundwater levels in Devils Hole are steadily declining and may reach critical levels in the near future. Evaluate the indirect impacts associated with groundwater pumping in the Amargosa Valley using recent pumping rates. Utilize more recent pumping data than 2003, or explain why 2003 is a representative number.

Identify owners with existing water rights within a 25-mile radius of Devils Hole and illustrate this with a table and map. Evaluate the extent to which existing water rights are fully utilized. Evaluate the consequences (indirect and cumulative impacts) should the

Responses to these comments are provided on a separate page following this comment document.

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(continued)

existing water rights become more fully utilized in the future. Consider that existing water rights are largely associated with irrigation where there is some return flow to the aquifer; solar energy projects will not provide that recharge.

Estimate the annual water use associated with the reasonably, foreseeable large-scale solar projects proposed in the Amargosa Valley. The BLM should be able to obtain this information, upon request, from proponents of viable projects.

Demonstrate whether there is sufficient groundwater for the lifetime of this project and other reasonably foreseeable projects in the study area, based on the additional information.

Address what measures would be taken, and by whom, should groundwater resources in the basin become overextended to the point that further curtailment is necessary due to, for example, additional growth, the influx of large-scale solar projects, drought, and the utilization of existing or pending water rights in the basin.

Describe mitigation and monitoring measures appropriate for groundwater resources.

Consider the indirect and cumulative impacts associated with multiple large-scale solar projects proposed in the desert southwest on various resources including: habitat, endangered species, groundwater, aquatic species, and air quality.

Comment No.  
37-18

As an indirect result of providing additional power, it can be anticipated that this project will allow for development and population growth to occur in those areas that receive the generated electricity.

*Recommendation:*

The DEIS should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, likely location, and the biological and environmental resources at risk.

Comment No.  
37-19

Biological Resources and Habitat

The DEIS states that a Biological Assessment (BA) has been prepared for the proposed action and will be submitted to the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act. Submission of the BA will initiate consultation with the USFWS. The DEIS states that the BA is being prepared for seven plant species (table 3-13) that may occur in the Project's Region of Influence (pg. 4-37) and for six wildlife species that may be affected by the implementation of the project (pg. 4-42). Long-term groundwater pumping could indirectly impact six of the seven plant species at Ash Meadows and six wildlife species. EPA believes the FEIS should include a more in-depth discussion of the project's potential impacts to biological resources, including the aquatic species in the Ash Meadows NWR.

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37-19  
(continued)

*Recommendations:*

The FEIS should include the outcome of consultation with the USFWS. Include a copy of the BA or Biological Opinion and/or concurrence received from USFWS in the FEIS.

Specify, in the FEIS, the measures that will be taken to protect important wildlife habitat areas from potential adverse effects of the proposed activities. Discuss any associated monitoring and mitigation.

Climate Change

Comment No.  
37-20

The DEIS presents a brief discussion on climate change in Section 3.1.5 but does not include measures to avoid, minimize, or mitigate the effects of climate change on the proposed project (pg. 3-13). Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Effects on weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates can be expected.

*Recommendations:*

Consider how climate change could affect the proposed project, specifically within sensitive areas, and assess how the impacts of the proposed project could be exacerbated by climate change.

Identify strategies to more effectively monitor for climate change impacts in the surrounding area, such as monitoring groundwater change or special status species.

Quantify and disclose the anticipated climate change *benefits* of solar energy. We suggest quantifying the greenhouse gas emissions that would be produced by other types of electric generating facilities (solar, geothermal, natural gas, coal-burning, and nuclear) generating comparable amounts of electricity, and compiling and comparing these values.

Alternatives Analysis

CEQ Regulations for implementing NEPA (40 CFR, Parts 1500-1508) state that the alternatives section of an EIS should “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly describe the reasons for their having been eliminated” (40 CFR, part 1502.14). As stated in our scoping comments, reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts. A robust range of alternatives will include more options for avoiding significant environmental impacts.

The DEIS presents only two action alternatives and a no-action alternative. Each of the alternatives includes two 232 MW parabolic trough solar power plants with a nitrate salt thermal storage system. The two alternatives are virtually identical except for the type of cooling

Responses to these comments are provided on a separate page following this comment document.

technology utilized. The Proposed Action includes dry-cooling technology and the other alternative uses wet-cooling technology. Water requirements for dry-cooling technology are approximately 400 afy; whereas, water requirements for wet-cooling technology would be approximately 4,600 afy.

These two alternatives provide a very limited range of options for decision makers to evaluate the proposed project, except within the context of water use. While we strongly support the decision to utilize dry-cooling rather than wet-cooling, we expect that it would have been difficult to obtain and utilize sufficient water rights for the wet-cooling option for the lifetime of the project, given the situation in the Amargosa Valley. From that standpoint, the wet-cooling option may not represent a viable alternative. In essence, what remains is a very limited range of alternatives (Proposed Action and a No-action Alternative), rather than a robust range of alternatives. In addition, we note that existing water rights are likely to be in ever-increasing demand in the future because of the large number of solar projects that have been proposed within the Amargosa Valley.

The DEIS states that three other alternative sites were considered, but were eliminated after further analysis. While the DEIS includes a very brief qualitative discussion (2-3 sentences) on the reasons for eliminating alternatives, it provides no detailed information on these three sites. The DEIS also states that the proponent considered the alternative of developing the proposed project as a single 232 MW plant, but the development of a smaller project was rejected given the infrastructure requirements associated with building a single 232 MW plant and the economies of scale. The DEIS notes, however, that building one plant would have fewer environmental impacts (pg. 2-4).

Since the proponent has been unable to identify any other site suitable for further consideration, we recommend that the FEIS analyze an on-site alternative with a reduced footprint. Defining another alternative within the project area would enable decision makers to evaluate the proposed project using a wider range of variables.

*Recommendations:*

Include maps of the three alternative sites and a more detailed discussion regarding the reasons for elimination. Quantify potential impacts to the greatest extent practicable.

Consider, analyze, and present an on-site alternative with a reduced footprint and lesser environmental impacts. Discuss how the project was reduced down to 4,350 acres and provide an illustration of the original ROW application.

Discuss whether another technology might be more suitable for this particular site, such as photovoltaic or dish systems. These technologies use less water than parabolic trough systems, which is an important factor, considering the shortage of groundwater in the Amargosa Valley. In addition, there is greater flexibility associated with the layout of components, which could result in avoidance and minimization of impacts to Fortymile Wash.

Comment No.  
37-21

A response to this comment is provided on a separate page following this comment document.

Comment No.  
37-22

EPA has worked closely with the DOE's National Renewable Energy Laboratory (NREL) to develop maps<sup>7</sup> showing contaminated lands and mining sites with renewable energy generation potential. These maps were developed in conjunction with the *RE-Powering America's Land: Renewable Energy on Contaminated Land and Mining Sites* program,<sup>8</sup> which was launched by the EPA Office of Solid Waste and Emergency Response (OSWER) in September 2008. Under this initiative, EPA is taking a multi-pronged approach<sup>9</sup> to encouraging reuse of EPA-tracked lands<sup>10</sup> into clean and renewable energy production facilities. EPA has developed a Renewable Energy Interactive Mapping Tool<sup>11</sup> that utilizes Google Earth to display these sites. We estimate that there are approximately 480,000 disturbed and contaminated sites and almost 15 million acres of potentially contaminated properties across the United States. Many of the contaminated properties are suitable for renewable energy development and have existing transmission capacity and infrastructure in place, as well as adequate zoning.

*Recommendations:*

Describe the current condition of the land selected for the proposed project, discuss whether the land is classified as disturbed, and describe to what extent the land could be used for other purposes.

Utilize the Renewable Energy Interactive Mapping Tool to explore whether there are disturbed sites located in proximity to the proposed project and discuss this in the FEIS. Consider the Nevada Test Site as well.

Purpose and Need

EPA believes the discussion in the DEIS regarding the purpose and need for the proposed Project should be expanded to include more robust information regarding the *need* for the proposed project. As indicated in our scoping comments (August 6, 2009), the DEIS should discuss the proposed project in the context of the larger energy market that this project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the state in meeting its renewable energy portfolio standards and goals. Strengthening the discussion on these topics will improve the readability of the document and may also provide further justification for the project.

Comment No.  
37-23

<sup>7</sup> To develop the maps, EPA and NREL collected renewable energy resource information and merged it with EPA and state data on contaminated lands and mining sites across the country. The mapping analysis applied basic screening criteria, such as distance to electric transmission lines, distance to roads, renewable energy potential, and site acreage in order to identify EPA tracked lands that might be good candidates for solar, wind, or biomass energy production facilities.

<sup>8</sup> For additional information on EPA's RE-Powering America's Land, please use the following weblink: <http://www.epa.gov/renewableenergyland/index.htm>

<sup>9</sup> See Internet site: [http://www.epa.gov/renewableenergyland/docs/repower\\_contaminated\\_land\\_factsheet.pdf](http://www.epa.gov/renewableenergyland/docs/repower_contaminated_land_factsheet.pdf)

<sup>10</sup> EPA tracks abandoned mine lands, Brownfields, Resource Conservation and Recovery Act (RCRA) sites, Federal Superfund Sites, and Non-Federal Superfund Sites.

<sup>11</sup> See Internet site: [http://www.epa.gov/renewableenergyland/mapping\\_tool.htm](http://www.epa.gov/renewableenergyland/mapping_tool.htm). Open the Renewable Energy Interactive Map (KMZ) to launch the Renewable Energy Mapping Tool. More detailed information on the EPA tracked sites is available at: [http://epa.gov/renewableenergyland/maps/ocpa\\_renewable\\_energy\\_data.xls](http://epa.gov/renewableenergyland/maps/ocpa_renewable_energy_data.xls).

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37-23  
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The DEIS presents purpose and needs statements for two federal agencies: BLM (pg. 1-3) and the DOE (pg. 1-4). The BLM's purpose and need for the proposed project is to respond to the application for a ROW grant to construct, operate and decommission a solar thermal generation facility and associated infrastructure. The DOE's purpose and need would be to comply with its mandate under the Energy Policy Act (EPAct) to select eligible projects that meet the goals of the EPAct, and is contingent upon the decision to enter into negotiation of a loan guarantee. In addition, the DEIS presents the proponent's objectives and purpose for the proposed project (pg. 1-8).

Within the introduction, the DEIS cites Executive Order 13212 and Section 211 of the Energy Policy Act (EPAct). Executive Order 13212 orders executive departments and agencies to take appropriate actions to expedite projects that will increase the production, transmission, or conservation of energy. Section 211 of the EPAct calls for the Secretary of the Interior to seek to have at least 10,000 MW of approved renewable energy projects located on public lands by 2015. The DEIS states that Nevada utilities will need in excess of 3,000 gigawatt hours per year (GWh/yr) of new renewable energy generation capability over the next 10 years to meet the State's renewable energy needs, and cites the Nevada Renewable Energy and Energy Conservation Task Force 2005 Annual Report. In the same paragraph, the DEIS states that at least 1,000 MW of new solar power will be required annually to meet this need (pg. 1-1).

EPA reviewed the 2005 Annual Report but did not locate a citation for 3,000 GWh/yr nor 1,000 MW. The 2005 Annual Report summarizes results from a 2004 workshop on how to improve the Nevada Renewable Portfolio Standard (RPS). At that time, utilities were having difficulty complying with the 2003 RPS and anticipated having difficulty complying with the 2004 and 2005 RPS. Since 2004, the energy sector has changed dramatically. In the last three years, there has been tremendous growth in renewable energy, and decline in the more traditional sectors, including the postponement/indefinite delay/modification of three large coal-fired power plants. Many factors have triggered this shift, including concerns about global warming and climate change. These events have spawned an unprecedented increase in the number of applications submitted to BLM for large-scale renewable energy projects on public lands in the desert southwest. BLM has received over 470 renewable energy project applications, to date, with a projected capacity of 97,000 MW of electricity<sup>12</sup>.

We would urge BLM to revise this section of the DEIS and utilize more robust and up-to-date estimates on the *need* for renewable energy within Nevada in the Final Environmental Impact Statement (FEIS). As a starting point, we suggest that BLM examine Governor Jim Gibbons' Nevada Renewable Energy Transmission Access Advisory Committee (RETAAC) Phase II Report (July 2009). Other sources of information include the Nevada Public Utilities Commission (NPUC) and U.S. Energy Information Administration, as well as annual reports on Portfolio Standard Compliance and the Status of Energy in Nevada.

A response to this comment is provided on a separate page following this comment document.

<sup>12</sup> "Secretary Salazar, Senator Reid Announce 'Fast-Track' Initiatives for Solar Energy Development on Western Lands", U.S. Department of Interior, News Release, June 29, 2009.  
[http://www.blm.gov/wo/st/en/info/newsroom/2009/june/NR\\_0629\\_2009.html](http://www.blm.gov/wo/st/en/info/newsroom/2009/june/NR_0629_2009.html)

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37-23  
(continued)

*Recommendation*

Update the discussion regarding the *need* for the proposed project, utilizing more accurate, robust, and up-to-date references.

Comment No.  
37-24

The RETTAC Phase II Report recognizes that there is great potential for renewable energy development within Nevada and provides estimates of this potential. The report also recognizes that there is a market for renewable energy not only in Nevada, but also in surrounding states, particularly California. We note that the DEIS does not identify a specific purchaser for the power generated. In light of these facts, we recommend that the FEIS expand the introduction to include a discussion of how renewable energy generated in Nevada might also be utilized to satisfy renewable portfolio standards of nearby states, in particular California.

*Recommendation:*

Identify potential purchasers of the power produced and discuss how the project will assist Nevada, and/or California, in meeting its RPS goals.

Comment No.  
37-25

The DEIS includes a list of the Proponent's objectives and purpose of the proposed Project (pg. 1-8). We are pleased to see a wide range of objectives, with no specific objective (such as MW generated) used to preclude a specific alternative. According to these objectives, the 464 MW facility will contribute approximately 1,000,000 MW hours of clean, renewable solar energy per year to meet renewable energy goals. This terminology can confuse the reader if one is not careful. Many people don't realize that "*GWhr/yr*" provides a measure of the actual output of the plant; whereas "*megawatts*" provides a measure of how much a solar power plant is able to generate instantaneously. The ratio of these two values is deemed the net capacity factor. Solar energy projects typically have a capacity factor that is much lower than baseload systems (coal, natural gas, geothermal). The RETAAC report, for example, assumes a capacity factor of 30% for solar projects. Based on the information presented in the DEIS, the capacity factor for this project is assumed to be about 24.6% ( $1,000,000 / (464 * 24 * 365.25) * 100$ ). Power purchase agreements (PPA) between the power plant owner and the electric utility contain the expected annual output of the plant (in GWh/yr) and the price to be paid for each MWh produced. For the proposed project, we might expect to see a PPA signed for 139 MW ( $464 * 0.3$ ), for example, rather than 464 MW.

*Recommendation:*

Expand the introduction to include a discussion of RPSs, PPAs, and capacity factors and how this is relevant to intermittent energy sources such as solar energy.

Hazardous Materials/Hazardous Waste/Solid Waste

Comment No.  
37-26

The DEIS states that approximately 8,300 tons of heat transfer fluid (HTF) will be utilized in the parabolic trough heat transfer system (pg. 4-98). The HTF (Therminol) is not listed as a hazardous material, but may be considered hazardous waste as that term is defined by RCRA, 40 CFR 261.24, due to its toxicity characteristic. The HTF can be heated up to 752 degrees Fahrenheit and circulates in a closed loop system that is monitored continuously for pressure. The DEIS states that this material at high temperatures can present a fire hazard (pg. 4-

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99), but does not elaborate on the risks. A literature search reveals that concerns have been expressed regarding the compatibility of Therminol and molten salt and the subsequent reaction that would occur due to a failure in the oil-to-salt heat exchanger. Because the proposed project would be located in close proximity to residential housing and schools, EPA recommends that the FEIS discuss this topic in greater detail.

*Recommendation:*

EPA recommends that the FEIS provide additional information on solar energy fire hazards, particularly those associated with the compatibility of HTF and nitrate salt thermal energy storage systems.

Miscellaneous Edit

Comment No.  
37-27

1. Page 4-42, Ash Meadows NWR Species – Text states that there are five fish that inhabit the Ash Meadows NWR within the Project’s ROI, but lists only four fish.

Responses to these comments are provided on a separate page following this comment document.

## RESPONSES TO COMMENT NO. 37-01 THROUGH 37-27

### Response to Comment No. 37-01

See response to comment 22-07.

### Response to Comment No. 37-02

See response to comment 22-07.

### Response to Comment No. 37-03

See response to comment 22-07.

### Response to Comment No. 37-04

The alternatives considered in this EIS are described in Chapter 2. The Proponent is working with the U.S. Army Corps of Engineers to obtain the required permits under the Clean Water Act. The USACE compliance requirements are a separate action from the BLM's right-of-way permitting process. The BLM must make a decision whether to approve, approve with modification, or deny issuance of the right-of-way grant requested in the application. The BLM's purpose and need is to process the right-of-way application in accordance with FLPMA, BLM right-of-way regulations, and other applicable federal laws. The BLM recognizes there are other BLM managed land that could produce renewable energy. However, for this EIS, BLM's purpose and need is to process a specific application. Should BLM decide to deny the right-of-way, the Proponent can pursue any other energy development methods, technology, and locations that the Proponent desires, including applying for a different BLM land parcel.

### Response to Comment No. 37-05

See response to comment 22-07.

### Response to Comment No. 37-06

A map showing the Amargosa Desert Hydrographic Basin and surrounding basins has been added to the FEIS.

#### Response to Comment No. 37-07

See Section 3.4.3.1 – Surface Water Features. The FEIS includes a description of ephemeral washes in the project area, including Fortymile Wash, which is tributary to the Amargosa River. Drainages that traverse the project area are not considered to be prominently linked with downstream ecosystems, including the Amargosa River, because of the ephemeral nature of flows of xeroriparian drainages in the project vicinity. The sparse vegetation in the project vicinity provides little detrital material to support a significant carbon resource for downstream ecosystems. Biological and ecological values on the site are typical of valleys in the Mojave Desert. Plants and wildlife are highly adapted to this low-water, high-temperature environment. The suite of plants and wildlife present on the site are all xeric-adapted upland species, and species diversity is primarily limited by availability of water resources. In contrast, downstream areas of the Amargosa River contain perennial waters that support greater species diversity and higher densities of both plants and wildlife. However, the xeric-adapted wildlife species present on the Project site are self-sufficient, remote from, and independent of the Amargosa River. They are unlikely to use or colonize habitats within or adjacent to perennial surface waters of the Amargosa River as suitable habitats in these areas are likely already occupied. The Project site does not support any of the aquatic-dependent plant or wildlife species found downstream in the Amargosa River. See also response to comment 22-07.

#### Response to Comment No. 37-08

The Conceptual Stormwater Control Plan in Appendix E of the DEIS and FEIS describes how stormwater control features will be incorporated into the project design. A conceptual level of evaluation is what is required by the BLM at this stage of planning. Due to the ephemeral nature of drainages that traverse the project site, and low amount of precipitation in the regional area (averaging 3.9 inches per year), it is highly unlikely that rechanneling of these washes will affect downstream flows. The Conceptual Stormwater Control Plan provides analysis for the project site as well as the entire contributing basin of the Forty Mile Wash (approximately 330 square miles) impacting the project site. Perimeter flood control facilities proposed for the project have been conceptually designed to intercept, convey and discharge the computed 100-year storm event flow rate of approximately 9,600 cfs generated by the Fortymile Wash watershed. The proposed stormwater facilities will be designed to stabilize releases of intercepted storm flows to historic locations in both quantity and manner. A complete functional assessment of these washes will be conducted as part of the USACE Section 404 permit process.

#### Response to Comment No. 37-09

The current fencing plan includes the perimeter flood control facilities inside a tortoise fence, security fence and wind fence. The fencing will be designed to allow for the passage of storm flows and minimization of debris capture.

#### Response to Comment No. 37-10

A coordinated regional flood plain approach for the area was pursued jointly with BLM, Nye County and adjacent solar company right-of-way applicants. All parties agreed to the positive pursuit of the approach, however coordinated funding, schedule variations and design responsibility for such a facility was determined to be an overwhelming challenge at this point in time. Therefore the alternative of providing a regional detention basin north of US 95 is an unlikely venture and the project is proposing independent flood protection.

#### Response to Comment No. 37-11

Based on review of the latest 303(d) list from NDEP (2006) there are no 303(d) waters in or near the Project area.

#### Response to Comment No. 37-12

As part of the water appropriation permit application review and authorization, the Nevada State Engineer has the authority to approve and control the amount of groundwater pumped from basins in Nevada. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin.

#### Response to Comment No. 37-13

Uncertainty in the DVRFS model is discussed in the DVRFS model report provided in Appendix B. Calibration standards are also discussed in the same report. The reader is referred to this report if they want more information on the DVRFS model. The summary and conclusions will be revised to reflect the model as a quantitative tool.

#### Response to Comment No. 37-14

See response to comment 34-21. Given the qualitative nature of the DVRFS model results and the uncertainty in the groundwater withdrawal amounts in the Amargosa Desert, the exact timing of when water levels at Devils Hole will fall below the Court mandated level will not be presented in the EIS. However, a sentence will be added in Appendix B stating “It is likely water levels at Devils Hole will fall below the U.S. District mandated level, but as stated in the last sentence the timing cannot be quantified at this time.” Similar language will be inserted in the Water Resources and Cumulative Impacts sections.

Yes, there is sufficient groundwater for the Project duration. There are several 100 feet of saturated thickness in the basin fill deposits available beneath the project site for use. See also responses to comments 05-01 and 24-02.

#### Response to Comment No. 37-15

The SAMM study being conducted by the USGS commenced this calendar year and will not be completed until 2013. The embedded model within the DVRFS model will have revised geology, be calibrated through at least 2003 instead of 1998, and finer horizontal grid spacing (500 m x 500 m) in the Amargosa Desert area instead of 1500m x 1500 m and unknown finer vertical grid discretization. The SAMM model will produce more accurate results, but it will still be a regional scale model. A horizontal grid spacing of 500m x 500m is still too coarse to accurately evaluate groundwater conditions at a location like Devils Hole with complex geology.

Given the limited duration of the Project (30 years) there will not be significant climatic change to consider. There could be drought years, but given the fact it takes 10-70 years for recharge to reach the water table at the Project site according to Stonestrom et al. (2003), there is enough groundwater to sustain the Project.

#### Response to Comment No. 37-16

An updated list of reasonably foreseeable projects has been provided in the FEIS.

#### Response to Comment No. 37-17

See responses to Comments 34-21 and 37-14. The 2003 pumping rates were used because that was the most recent information compiled by the USGS (Moreo and Justet, 2008). Given the fact that a large majority of wells in the Amargosa Valley are not metered, using more recent pumping data would introduce even more uncertainty.

It is beyond the scope of this EIS to identify all water rights holders within 25-miles of Devils Hole. This area is subject to Order 1197 which includes restrictions on water use within a 25-mile radius of Devils Hole. It is the responsibility of the Nevada State Engineer to approve and control the amount of groundwater pumped from basins in Nevada. The Nevada State Engineer will determine what measures would be taken should a basin become overextended due to additional growth, drought conditions, or uses by existing or pending water right holders in the basin.

To address uncertainties associated with groundwater use for project construction and operation, Solar Millennium has agreed to acquire and forego the use of no less than 236afy of existing water rights within the Amargosa Desert Hydrographic Basin (No. 230). This will result in a net reduction in water use in the Amargosa Desert Hydrographic Basin over the Project's expected 30-year lifetime (see responses to comments 05-01 and 24-02. Details regarding specific mitigation measures are provided in Appendix A of the FEIS.

#### Response to Comment No. 37-18

Future land use as a result of the construction and operation of this project is addressed in section 4.11.1.2 in both the DEIS and FEIS. Transmission of power from the proposed Project will be “wheeled” through Valley Electric Association (Valley Electric). Valley Electric Association is currently reviewing Solar Millennium’s application for interconnection. System studies are being conducted to identify what system improvements will be required as a result of this proposed interconnection. Valley Electric will make a separate right of way application and prepare the associated NEPA review as required to accommodate any facility improvements identified as a part of the interconnection study.

#### Response to Comment No. 37-19

The BLM is currently in Section 7 Consultation with the USFWS. A Biological Assessment has been submitted and will be made available with a Biological Opinion when the inter-agency consultation is complete.

#### Response to Comment No. 37-20

General statements about the expected changes in Great Basin due to climate change can be found in section 3.1.5, at this time extraordinarily large assumptions would have to be made to consider how climate change could affect the proposed project, or how the impacts of the proposed project could be exacerbated by climate change. It is outside the scope of this EIS to conduct such a study.

Monitoring climate change impacts of the surrounding area would not be associated with a project of this type, this EIS was developed to look specifically at the impacts associated with the development of a solar facility on the site, not to address climate change in the area. Quantifying and disclosing the anticipated climate change benefits of solar energy is outside the scope of this EIS.

#### Response to Comment No. 37-21

The level of detail provided in Chapter 2 regarding alternatives considered, but eliminated from further analysis is sufficient. Figure ES-2 and 1-2 shows lands originally requested in the ROW application but subsequently released from consideration. Reasons why alternative technologies were not considered is described in Section ES-1.4.4.2 and 2.2.1.2 (Alternative Solar Technology).

#### Response to Comment No. 37-22

Chapter 3 describes baseline conditions in the project area. The BLM must make a decision whether to approve, approve with modification, or deny issuance of the right-of-way grant requested in the application. The BLM’s purpose and need is to process the right-of-way application in accordance with FLPMA, BLM right-of-way regulations, and other applicable federal laws. The BLM

recognizes there are other BLM managed land that could produce renewable energy. However, for this EIS, BLM's purpose and need is to process a specific application. Should BLM decide to deny the right-of-way, the Proponent can pursue any other energy development methods, technology, and locations that the Proponent desires, including applying for a different BLM land parcel.

#### Response to Comment No. 37-23

The section has been revised to include more up-to-date references.

#### Response to Comment No. 37-24

The EIS provides a general discussion of the reason and need for renewable energy; however, it is beyond the scope of this EIS to provide in-depth discussion of RPSs, PPAs and capacity factors. In any event, the FEIS has been updated to provide more information about potential offtakers, including those in California, and the need for renewable energy.

#### Response to Comment No. 37-25

The EIS provides a full discussion of the reason and need for renewable energy and the characteristics of the proposed Project, including power output.

#### Response to Comment No. 37-26

According to a 2001 report published by Sandia National Laboratories, the principal reactions between nitrate salt and Therminol were between the vaporized hydrocarbons and the air above the salt bath and not with the salt itself. In section 2.3.3.2, a description of how the HTF vapors will be handled, and a description of leak detection protocols can be found. Also, according to the same report "The safety concerns in a plant that uses Therminol and nitrate salt in a heat exchanger are not anymore dangerous than using Therminol around other high temperature heat sources. Accidentally mixing the two components should not create combustion, but combining hot Therminol vapors with oxygen from the air is dangerous. The design of the thermal storage system should address the unlikely event of having hot oil vapors released into the ullage space of a nitrate salt tank where oxygen could be present."

The salt storage tanks will be designed and operated with a nitrogen blanket with a slight positive pressure at all times. There will not be an oxygen environment that might support a fire or explosion in the rare event that small amounts of HTF leak into the tank. An HTF vapor sniffing sensor will be incorporated in the equipment that can encounter a breach between HTF and molten salt. This detection system will trigger immediate isolation of the equipment in addition to nitrogen blanketing, followed by the HTF evacuation from equipment suspected of a breach.

Response to Comment No. 37-27

In response to comment, the text has been updated in the Final EIS.