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File No.: 04.02.16.02
Project No. 357891

DOCKET
07-AFC-5

DATE	<u>JUN 09 2009</u>
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Mr. John Kessler, Project Manager
California Energy Commission
Systems Assessment and Facilities Siting Division
1516 9th Street, MS 15
Sacramento, CA 95814-5504

RE: Supplemental Data Response, Set 2G
Ivanpah Solar Electric Generating System (07-AFC-5)

Dear Mr. Kessler:

On behalf of Solar Partners I, LLC, Solar Partners II, LLC, Solar Partners IV, LLC, and Solar Partners VIII, LLC, please find attached one original and four hard copies and five CD copies of the Supplemental Data Response, Set 2G.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Program Manager

Enclosure
c: POS List
Project File

Ivanpah Solar Electric Generating System (ISEGS)

(07-AFC-5)

Supplemental Data Response, Set 2G

(Response to Data Request: Biological Resources)

Submitted to the
California Energy Commission

Submitted by
Solar Partners I, LLC; Solar Partners II, LLC; Solar Partners IV, LLC;
and Solar Partners VIII, LLC

June 9, 2009

With Assistance from

CH2MHILL
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Introduction

Attached is a supplemental response by Solar Partners I, LLC; Solar Partners II, LLC; Solar Partners IV, LLC; and Solar Partners VIII, LLC (Applicant) to the California Energy Commission (CEC) Staff's data request for the Ivanpah Solar Electric Generating System (Ivanpah SEGS) Project (07-AFC-5). This data request was the result of an email request received from John Kessler on June 3 and 4, 2009. As before, within each discipline area, the responses are presented in alphabetical order and are numbered for tracking and reference convenience. New graphics or tables are numbered in reference to the Supplemental Data Request number. For example, if a table were used in response to Data Request BR-8, it would be numbered Table BR8-1. The first figure used in response to Data Request BR-8 would be Figure BR8-1, and so on.

The Applicant looks forward to working cooperatively with the CEC and Bureau of Land Management (BLM) staff and the other resource agencies as the Ivanpah SEGS Project proceeds through the licensing process. We trust that these responses address the Staff's questions and we remain available to have any additional dialogue the Staff may require.

Biological Resources (BR-8 through BR-10)

Background

On June 3, 2009, CH2M HILL received an email request from John Kessler stating that the CEC staff “would appreciate some clarification of information provided in the Streambed Alteration Agreement application [Attachment DR19-2A, Data Response, Set 1L] with respect to effects to the drainages . . .”

Data Request

BR8. What is the extent of permanent impacts (length and acreage) to the following:

- a) Categories 1 through 5 ephemeral drainages from construction of roads and paths (including paved, gravel, and dirt roads, as well as dirt paths and heliostat maintenance paths)
- b) From construction of the admin. building, power block, heliostats, and other structures

Response: The extent of permanent impacts, by drainage category, for each of the facilities and type of road is provided in Table BR8-1 (at the end of the section). The length of the washes impacted by the feature is shown in Table BR8-1. The average width of each drainage category (shown in Table BR8-2) was then multiplied by the length and divided by 43,560 feet/acre to get the area impacted in acres. For this analysis, areas not revegetated within 1 year (e.g., the Construction Logistics Area) were considered permanent impacts.

TABLE BR8-2
Ephemeral Channel Width by Category (feet)

Wash	Minimum	Maximum	Average
Category 1	36	85	60.5
Category 2	21	35	28.0
Category 3	11	20	15.5
Category 4	5	10	7.5
Category 5	1	4	2.5

BR9. What is the extent of temporary impacts during construction for the same as in 1a and 1b?

Response: Temporary impacts (also shown in Table BR8-1) would occur from the construction of linear facilities that will be revegetated upon completion of

construction. These numbers assume that the entire construction corridor would be impacted. However, assuming that a 12-foot-wide access road would remain for each feature, the temporary impacts were reduced by that amount and the impacts from the 12-foot-wide dirt access roads were included as permanent impacts.

TABLE BR9-1
Permanent and Temporary Impact from Utility Corridors (feet)

	Construction Corridor Width	Permanent Impact	Temporary Impact
Natural Gas Line	75	12	63
Transmission Line	50	12	38
Water Line	50	12	38

BR10. What assumptions were made in developing these estimates?

- a) For example, how large of a work area is needed to install a heliostat pylon and heliostats within a drainage?
- b) How far upstream and downstream will temporary/permanent impacts occur when creating typical stabilized channel crossings for the various categories of drainages?

Response: Some of the assumptions are provided in the responses above. It should be remembered that the project is still in a preliminary design phase. The ABI vibratory pile driver shown in the POD Project Description (Attachment DR130-2B, Data Response Set 2I) is only conceptual at this time. However, for analysis purposes it is assumed that the ABI TM 8/10 vibratory pile driver shown below would be used. The transport dimensions are 9 feet wide by 18 feet long. The outriggers add another 2 feet to the width of the vehicle, but their surface area is small. Therefore, a 10-foot-wide impact area was assumed. It was also assumed that the pile driver and cranes used to install the mirrors would use the same 10-foot-wide maintenance path as the mirror washing machines.



The permanent impacts to the channel crossings were assumed to be the width of the road or path that crosses it. There may or may not be temporary impacts due to the construction but, to be conservative, we assumed a total of 20 feet of upstream and 20 feet of downstream impact for a maximum temporary construction area of 40 feet.

TABLE BR8-1

Permanent and Temporary Impacts to Washes from Project Features

Feature	Category 5		Category 4		Category 3		Category 2		Category 1		Total All Categories	
	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)
Permanent Impacts												
Ivanpah 1 Power Block	4,592	0.26	1,404	0.24	0	0.00	0	0.00	0	0.00	5,996	0.51
Ivanpah 2 Power Block	2,230	0.13	1,719	0.30	0	0.00	0	0.00	0	0.00	3,949	0.42
Ivanpah 3 Power Block	4,114	0.24	882	0.15	0	0.00	0	0.00	0	0.00	4,996	0.39
Substation	5,398	0.31	3,506	0.60	342	0.12	0	0.00	0	0.00	9,247	1.04
Admin/warehouse Building	1,877	0.11	888	0.15	208	0.07	0	0.00	0	0.00	2,974	0.33
Construction Logistics Area	85,068	4.88	25,207	4.34	8,180	2.91	0	0.00	0	0.00	118,455	12.13
12' Dirt Paths	3,096	0.18	1,536	0.26	456	0.16	144	0.09	72	0.10	5,304	0.80
12' Dirt Roads	2,472	0.14	1,020	0.18	228	0.08	24	0.02	24	0.03	3,768	0.45
24' Gravel Roads	144	0.01	24	0.00	24	0.01	0	0.00	0	0.00	192	0.02
24' Paved Roads	2,016	0.12	552	0.10	72	0.03	0	0.00	24	0.03	2,664	0.27
30' Paved Roads	1,560	0.09	930	0.16	300	0.11	60	0.04	30	0.04	2,880	0.44
Heliostat Maint. Paths (10' wide)	58,470	3.36	26,470	4.56	4,800	1.71	970	0.62	950	1.32	91,660	11.56
Natural Gas Line (12' wide)	1,692	0.10	816	0.14	204	0.07	48	0.03	24	0.03	2,784	0.37
Transmission Line (12' wide)	1,092	0.06	336	0.06	72	0.03	24	0.02	24	0.03	1,548	0.19
Water Line (12' wide)	996	0.06	444	0.08	120	0.04	24	0.02	24	0.03	1,608	0.23
Subtotal Permanent Impacts	174,818	10.03	65,734	11.32	15,006	5.34	1,294	0.83	1,172	1.63	258,025	29.15

TABLE BR8-1

Permanent and Temporary Impacts to Washes from Project Features

Feature	Category 5		Category 4		Category 3		Category 2		Category 1		Total All Categories	
	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)	Length (feet)	Area (Acres)
Temporary Impacts												
12' Dirt Paths	10320	0.59	5120	0.88	1520	0.54	480	0.31	240	0.33	17,680	2.66
12' Dirt Roads	8240	0.47	3400	0.59	760	0.27	80	0.05	80	0.11	12,560	1.49
24' Gravel Roads	240	0.01	40	0.01	40	0.01	0	0.00	0	0.00	320	0.03
24' Paved Roads	3360	0.19	920	0.16	120	0.04	0	0.00	40	0.06	4,440	0.45
30' Paved Roads	2080	0.12	1240	0.21	400	0.14	80	0.05	40	0.06	3,840	0.58
Natural Gas Line (63' wide)	8,883	0.51	4,284	0.74	1,071	0.38	252	0.16	126	0.18	14,616	1.97
Transmission Line (38' wide)	3,458	0.20	1,064	0.18	228	0.08	76	0.05	76	0.11	4,902	0.62
Water Line (38' wide)	3,154	0.18	1,406	0.24	380	0.14	76	0.05	76	0.11	5,092	0.71
Subtotal Temporary Impacts	39,735	2.28	17,474	3.01	4,519	1.61	1,044	0.67	678	0.94	63,450	8.51
TOTAL Permanent & Temp.	214,553	12.31	83,208	14.33	19,525	6.95	2,338	1.50	1,850	2.57	321,475	37.66



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
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APPLICATION FOR CERTIFICATION
FOR THE *IVANPAH SOLAR ELECTRIC
GENERATING SYSTEM*

DOCKET No. 07-AFC-5

PROOF OF SERVICE
(Revised 5/27/09)

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DECLARATION OF SERVICE

I, Mary Finn, declare that on June 9, 2009, I served and filed copies of the attached Supplemental Data Response, 2G, dated June 9, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/ivanpah]. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

sent electronically to all email addresses on the Proof of Service list;

by personal delivery or by depositing in the United States mail* at Sacramento, CA with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

OR

depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. _____
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.



Mary Finn

*or by other delivery service: Fed Ex, UPS or courier, etc.