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California Energy Commission DOCKETED 09-AFC-7C
TN 71695 JUL 22 2013

July 22, 2013

California Energy Commission
Dockets Unit
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Subject: SUPPLEMENTAL SOCIOECONOMIC INFORMATION REQUESTED BY STAFF IN PRELIMINARY STAFF ASSESSMENT PALEN SOLAR ELECTRIC GENERATING SYSTEM DOCKET NO. (09-AFC-7C)

Enclosed for filing with the California Energy Commission is the electronic version of **SUPPLEMENTAL SOCIOECONOMIC INFORMATION REQUESTED BY STAFF IN PRELIMINARY STAFF ASSESSMENT**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming

Construction

The project owner expects that construction of the proposed PSEGS would be similar to the approved PSPP. Construction of the PSEGS would last for 33 months, while construction of the approved PSPP was 39 months. The construction workforce would increase from an average of approximately 566 daily construction workers, peaking with a daily workforce of 1,145, to an average of approximately 998 workers, with a peak workforce of 2,311 workers (Palen 2012a). This peak employment number is used to analyze worst-case construction population and employment impacts. **Socioeconomics Table 6** shows Year 2010–2020 occupational employment projections for the Riverside/San Bernardino/Ontario MSA by construction labor skill. The number of construction workers by trade for the PSEGS peak month (month 22) is presented in **Socioeconomics Table 6** and compared with the construction workforce needed for the approved PSPP (Solar Millennium 2009a, p. 5.11-26; Palen 2012a). The peak number of construction workers by trade is reported in parenthesis where different from the PSEGS peak construction month.

A total of 608 construction workers (non-craft and off-site linear) needed during the PSEGS peak month have not been included in **Socioeconomics Table 6** because staff cannot determine from the generic list supplied by the project owner the number and type of specific craft workers needed for the project. Staff needs to identify the workers by craft to make sure the construction workforce can accurately be identified with the labor supply as shown in the Employment Development Department employment projections and labor by skill in the Riverside/San Bernardino/Ontario MSA. Staff will formally request that the project owner provide this information so staff can determine whether there would be a need to supply the PSEGS with workers by craft from outside the Riverside/San Bernardino/Ontario MSA.

6 **Socioeconomics Table 6**

Total Labor by Skill in Riverside/San Bernardino/Ontario MSA and Construction Worker by Craft, Peak Month

Trade	Total Workers for Construction by Craft (peak month)		Riverside/ San Bernardino/ Ontario MSA	
	Approved PSPP Project	PSEGS	2010	2020
Surveyor	12	4 (16*)	1,420,440	1,670,520
Operator ¹	90	402 101	4,790,251	5,460,303
Laborer ²	185	82 86	27,930,118	32,080,138
Truck Driver ⁷	35	26 (29*)	27,930,118	32,080,138
Oiler ³	4	5	27,930,118	32,080,138
Carpenter	100	75 (123*)	28,850,140	32,390,450
Boilermaker ³	11	264	4,630,160	5,330,357
Paving Crew	0	0 (8*)	630,400	720,490
Pipe Fitter	326	508 511	4,630,160	5,330,357
Electrician	150	359	6,740,000	7,600,452

Cement Finisher	100	9 (18*)	4,1102,420	4,6902,570
Ironworker ⁴	59	126	19,4601,000	20,800980
Millwright	25	141 (149*)	2,630140	2,960140
Tradesman ²	10	<u>Incl. w/ Laborer</u>	27,93011,870	32,08013,380
Project Manager ⁵	3	<u>19</u>	10,9904,540	32,0805,240
Construction Manager	3	<u>80</u>	4,3805,000	5,1105,490
PM Assistant ⁵	4	<u>44</u>	10,9904,540	12,3805,240
Support ⁶	4	<u>126</u>	120150	130170
Support Assistant ⁶	4	<u>180</u>	120150	130170
Engineer	10	<u>104</u>	1,3707,270	1,6008,120
Timekeeper ⁵	3	<u>10</u>	10,9904,540	12,3805,240
Administrator ⁵	6	<u>29</u>	10,9904,540	12,3805,240
Welder	1	<u>Incl. w/ Boilermaker & Pipefitter</u>	3,9602,650	4,6403,090
Teamster ⁷		<u>25 (28*)Incl. w/ Truck</u>	7,810	9,660
Instrument Tech ⁸		12	260	300

Notes:

- 1 - The "Operating Engineers and Other Construction Equipment Operators" category was used.
- 2 - The "Construction Laborers" category was used.
- 3 - The "Plumbers, Pipefitters, and Steamfitters" category was used.
- 4 - The "Reinforcing Iron and Rebar Workers" and "Structural Iron and Steel Workers" categories were used.
- 5 - The "Supervisors, Construction and Extraction Workers" category was used.
- 7 - The "Helpers: Construction Trades, all other" category was used.
- 8 - The "Industrial Truck and Tractor Operators" category was used.
- 8 - The "Electro-Mechanical Technicians" category was used.

*Largest number of workers by trade. Where no number is included in parenthesis, number reported is the largest number of workers for the trade and during the peak project month, month 22.

Sources: Solar Millennium 2009a, Tables 5.11-8 and 5.11-17; EDD 2012.

Trade	Total Workers for Project Operation		Riverside/ San Bernardino/ Ontario MSA	
	Approved PSPP	PSEGS	2010	2020
Plant and System Operators	—	—	1,770	1,910
Power Plant Operators	—	—	130	150
<i>Total</i>	<i>134</i>	<i>100</i>	<i>1,900</i>	<i>2,060</i>

Sources: Solar Millennium 2009a, Table 5.11-8; Palen 2012a; EDD 2012.

Construction Personnel Adjustments for PSA Socioeconomic Table 6

CLIENT: BrightSource Industries Israel
 PROJECT: Palen Solar Electric Generating System
 DOCUMENT: 459892-PSEGS-DOC-006.1

BY: CH2M HILL
 REV: 0
 DATE: 2 JUL 2013

Adjustments necessary to fit the data of the Construction Personnel and Traffic by Month Table (459892-PSEGS-DOC-006, Rev. 0) into PSA Socioeconomic Table 6, Total Labor by Skill in Riverside/San Bernardion/Ontario MSA and Construction Worker by Craft, Peak Month

Construction Personnel and Traffic by Month Table			PSA Socioeconomic Table 6	
<u>Craft</u>	<u>Shift or Work Area</u>	<u>Number</u>	<u>Craft</u>	<u>Number</u>
<u>Surveyor, Month 22 (Project Peak)</u>			See Non-Manual Labor, Month 22, Below	
<u>Surveyor, Month 3 (Craft Peak)</u>				
	Non-manual Subcontract		Surveyor	16
	Surveyor	16		
<u>Operator (Equipment Operator), Month 22 (Project & Craft Peak)</u>				
	Day Shift	71	Operator	101
	Swing Shift	31	Oiler	5
	Gas Line	4		106
		106		
<u>Laborer, Month 22 (Project Peak)</u>				
	Day Shift	59	Laborer	86
	Swing Shift	23	<i>Includes Tradesmen</i>	
	Gas Line	4		
		86		
<u>Laborer, Month 12 (Craft Peak)</u>				
	Day Shift	95	Laborer	123
	Swing Shift	27	<i>Includes Tradesmen</i>	
	Transmission Line	1		
		123		

Construction Personnel and Traffic by Month Table

<u>Craft</u>	<u>Shift or Work Area</u>	<u>Number</u>
<u>Truck Driver (Teamster), Month 22 (Project Peak)</u>		
	Day Shift	18
	Swing Shift	7
	Gas Line	1
		<hr/> 26
<u>Truck Driver (Teamster), Month 20 (Craft Peak)</u>		
	Day Shift	20
	Swing Shift	8
	Transmission Line	1
		<hr/> 29
<u>Carpenter, Month 22 (Project Peak)</u>		
	Day Shift	52
	Swing Shift	23
		<hr/> 75
<u>Carpenter, Month 14 (Craft Peak)</u>		
	Day Shift	90
	Swing Shift	33
		<hr/> 123
<u>Boilermaker, Month 22 (Project & Craft Peak)</u>		
	Day Shift	192
	Swing Shift	72
		<hr/> 264
<u>Paving Crew, Month 22 (Project Peak)</u>		
	Operator	-
	Laborer	-
		<hr/> -

PSA Socioeconomic Table 6

<u>Craft</u>	<u>Number</u>
Truck Driver	26
Truck Driver	29
Carpenter	75
Carpenter	123
Boilermaker	264
Paving Crew	-

Construction Personnel and Traffic by Month Table

<u>Craft</u>	<u>Shift or Work Area</u>	<u>Number</u>
<u>Paving Crew, Month 8 (Craft Peak)</u>		
	Operator	2
	Laborer	6
		<u>8</u>
<u>Pipefitter, Month 22 (Project & Craft Peak)</u>		
	Day Shift	368
	Swing Shift	140
	Gas Line	3
		<u>511</u>
<u>Electrician, Month 22 (Project & Craft Peak)</u>		
	Day Shift	255
	Swing Shift	104
		<u>359</u>
<u>Cement Finisher, Month 22 (Project Peak)</u>		
	Day Shift	7
	Swing Shift	2
		<u>9</u>
<u>Cement Finisher, Month 16 (Craft Peak)</u>		
	Day Shift	13
	Swing Shift	5
		<u>18</u>
<u>Ironworker, Month 22 (Project Peak)</u>		
	Day Shift	75
	Swing Shift	51
		<u>126</u>
<u>Ironworker, Month 16 (Craft Peak)</u>		
	Day Shift	82
	Swing Shift	51
		<u>133</u>

PSA Socioeconomic Table 6

<u>Craft</u>	<u>Number</u>
Paving Crew	8
Boilermaker	511
Electrician	359
Cement Finisher	9
Cement Finisher	18
Ironworker	126
Ironworker	133

Construction Personnel and Traffic by Month Table

<u>Craft</u>	<u>Shift or Work Area</u>	<u>Number</u>
<u>Millwright, Month 22 (Project Peak)</u>		
	Day Shift	95
	Swing Shift	46
		<hr/> 141
<u>Millwright, Month 23 (Craft Peak)</u>		
	Day Shift	101
	Swing Shift	48
		<hr/> 149
<u>Non-Manual Labor, Month 22 (Project & Craft Peak)</u>		
	Non-Craft Day Shift	
	Subcontractors	280
	Owner + Others (non-manual)	111
	Startup (non-manual) Labor	6
	Compliance Support	20
	Transmission Line	37
	Gas Line	30
	Linear Compliance Support	6
	Non-craft Swing Shift	
	Subcontractors	70
	Owner + Others (non-manual)	28
	Startup (non-manual) Labor	2
		6
		<hr/> 596
<u>Welder</u>		
<u>Teamster</u>		
<u>Instrument Tech, Month 22 (Project & Craft Peak)</u>		
	Day Shift	-
	Swing Shift	12
		<hr/> 12

PSA Socioeconomic Table 6

<u>Craft</u>	<u>Number</u>
Millwright	141
Millwright	149
Project Manager	19
Construction Manager	80
PM Assistant	44
Support	126
Support Assistant	180
Engineer	104
Time Keeper	10
Administrator	29
Surveyor	4
	<hr/> 596
Included with Boilermakers and Pipefitters Above	
Included with Truck Drivers Above	
Instrument Tech	12



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**PALEN SOLAR ELECTRIC
GENERATING SYSTEM AMENDMENT**

**Docket No. 09-AFC-07C
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(Revised 07/09/2013)**

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DECLARATION OF SERVICE

I, Marie Fleming declare that on July 22, 2013, I served and filed copies of the attached **SUPPLEMENTAL SOCIOECONOMIC INFORMATION REQUESTED BY STAFF IN PRELIMINARY STAFF ASSESSMENT**, dated July 22, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: <http://www.energy.ca.gov/sitingcases/palen/compliance/>.

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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am over the age of 18 years.

Dated: July 22, 2013



Marie Fleming