



455 Capitol Mall Suite 350  
Sacramento CA 95814  
Tel • 916.441.6575  
Fax • 916.441.6553

California Energy Commission <b>DOCKETED</b> <b>09-AFC-7C</b>
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July 19, 2013

California Energy Commission  
Dockets Unit  
1516 Ninth Street  
Sacramento, CA 95814-5512

**Subject: SUPPLEMENTAL RESPONSE TO DATA REQUEST 14;  
TRAFFIC STUDY UPDATE  
PALEN SOLAR ELECTRIC GENERATING SYSTEM  
DOCKET NO. (09-AFC-7C)**

Enclosed for filing with the California Energy Commission is the electronic version of **SUPPLEMENTAL RESPONSE TO DATA REQUEST 14; TRAFFIC STUDY UPDATE**, for the Palen Solar Electric Generating System (09-AFC-7C).

Sincerely,

Marie Fleming



**MEMORANDUM**

Date: July 3, 2013  
To: Scott Galati, Centerline  
From: Rafael Cobian, PE, LEED GA, Fehr & Peers  
Chris Gray, AICP, Fehr & Peers

**Subject: Palen Solar Power Project: Traffic Study Update**

OC13-0255

This memorandum documents our update of transportation related information associated with the construction and operation of the Palen Solar Power Project (PSPP). This update relates to an increase in construction workers associated with the site. This memorandum provides the following information:

- Updated existing roadway segment peak hour Level of Service (LOS) based on 2013 data
- Updated existing intersection peak hour LOS based on new traffic counts collected
- Updated peak hour roadway segment impacts for construction activity
- Updated intersection LOS during construction activity
- Updated peak hour roadway segment impacts for facility operation
- Update intersection LOS during facility operation

**Existing Roadway Segment Operations**

Table 1 below corresponds with Table 5.13-5 as provided in your August 2009 Environmental Impact Report. As shown in this table, the existing roadway segments within the study area including I-10 and Corn Springs Road operate at LOS A. Data for this table was taken from the PeMS database, which is maintained by Caltrans and also a recent traffic count which was provided by National Data Services.

<b>Table 1</b>					
<b>Existing Peak Hour Volumes and LOS on Study Roadways During Project Operation</b>					
<b>Roadway Segment</b>	<b>Number of Lanes</b>	<b>2013 Traffic Counts</b>	<b>Capacity</b>	<b>V/C Ratio</b>	<b>LOS</b>
<b>I-10: West of the Project Site</b>	4	1,611	8,000	0.20	A
<b>I-10: East of the Project Site</b>	4	1,600	8,000	0.20	A
<b>Corn Springs Road</b>	2	2	2,000	0.00	A

Source: PeMS, NDS

### Existing Intersection LOS

Table 2 below documents the existing delay and LOS for the study intersections based on traffic counts which were collected in 2013. This table corresponds to Table 5.13-6 in the August 2009 EIR.

<b>Table 2 Existing Peak Hour Delay and LOS at Study Intersections</b>				
<b>Study Intersection</b>	<b>Existing (2013) Delay and LOS</b>			
	<b>AM Peak</b>		<b>PM Peak</b>	
	<b>Delay</b>	<b>LOS</b>	<b>Delay</b>	<b>LOS</b>
<b>I-10 Westbound Ramps/Corn Springs Road</b>	5.8	A	7.7	A
<b>I-10 Eastbound Ramps/Corn Springs Road</b>	6.3	A	2.9	A
Notes: LOS and delay calculated based on methodologies provided in the 2010 Highway Capacity Manual.				

### Roadway Segment Operations during Construction

Table 3 documents the peak hour roadway traffic associated with construction activity at the site. This table generally corresponds to Table 5.13-7 in the August 2009 EIR. As shown in the table below, the segment of Corn Springs Road will exceed capacity if all of the construction workers arrive and depart within one hour. During both the morning and evening peak hours, this roadway will operate at LOS F.

<b>Table 3 Peak Hour Volumes and LOS on Study Roadways During Peak Construction</b>				
<b>Roadway Segment</b>	<b>Cosntruction Year (2015) Volume Without PSPP</b>	<b>LOS</b>	<b>Construction Year (2015) Volume With PSPP</b>	<b>LOS</b>
<b>I-10: West of the Project Site</b>	1,643	A	2,799	A
<b>I-10: East of the Project Site</b>	1,632	A	2,788	A
<b>Corn Springs Road</b>	2	A	2,311	F
Notes: Volume is peak hour volume Caltrans Year 2013 traffic volumes were expanded to year 2015 using the rate of expansion (1%/year) seen between 2012 and 2013.				

### Intersection LOS during Construction

As shown in Table 4 below, the addition of construction trips causes both intersections to operate at LOS F during the AM Peak Hour. The LOS is C or better during the PM Peak Hour because much of the traffic leaving the site is able to enter the freeway while operating as a free or uncontrolled movement. This table partially corresponds to Table 5.13-8 as shown in the August 2009 EIR.

Table 4 Peak Hour Delay and LOS on Study Intersections During Peak Construction								
Study Intersection	Construction Year (2015) Conditions without PSPP				Construction Year (2015) Conditions with PSPP			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
I-10 Westbound Ramps/Corn Springs Road	6.3	A	7.7	A	>50	F	0.5	A
I-10 Eastbound Ramps/Corn Springs Road	5.8	A	2.9	A	>50	F	19.7	C

Notes:  
Caltrans Year 2013 traffic volumes were expanded to year 2015 using the rate of expansion (1%/year) seen between 2012 and 2013.

### Roadway Segment Operations during Operations of the Facility

Table 5, which partially corresponds to Table 5.13-7 of the August 2009 EIR, addresses any roadway segment impacts associated with the operation of the site. Our estimate of operational traffic assumes that 134 employee trips occur at the site during the peak hours. As shown in the table, all of the study intersections operate at an acceptable LOS.

Table 5 Daily Volumes and LOS on Study Roadways During Project Operation		
Roadway Segment	Standard Operations Year (2016) Volume with PSPP	LOS
I-10: West of the Project Site	1,726	A
I-10: East of the Project Site	1,715	A
Corn Springs Road	136	A

Notes:  
Caltrans Year 2013 traffic volumes were expanded to year 2016 using the rate of expansion (1%/year) seen between 2012 and 2013.

**Intersection LOS during Operations of the Facility**

Table 6 documents the intersection LOS after the 134 employee trips associated with the operation of the PSPP travel to and from the site during the peak hours of operation. All of the intersections are projected to operate at LOS A. This table provides updated information for Table 5.13-8 from the August 2009 EIR.

Table 6 Peak Hour Delay and LOS on Study Intersections During Opening Year								
Study Intersection	Opening Year (2016) Conditions without PSPP				Opening Year (2016) Conditions with PSPP			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
I-10 Westbound Ramps/Corn Springs Road	6.3	A	7.7	A	4.6	A	1.2	A
I-10 Eastbound Ramps/Corn Springs Road	5.8	A	2.9	A	8.5	A	6.2	A
Notes: Caltrans Year 2013 traffic volumes were expanded to year 2016 using the rate of expansion (1%/year) seen between 2012 and 2013.								

**Conclusions**

As shown in the tables above, the only traffic impacts associated with the PSPP occur during construction. The impacts include the two study intersections and also Corn Springs Road, which exceeds its capacity.

The August 2009 EIR noted an intersection impact at the I-10 Westbound Ramps/Corn Springs Road intersection, consistent with our findings. This document recommended limiting the number of employees which would arrive within a peak hour by staggering hours of construction, carpooling, park and ride, and other similar techniques. These same strategies would also address the impact at the other intersection, I-10 Eastbound Ramps/Corn Springs Road intersection. The project will apply the same previously accepted mitigation identified in the previous analysis which required preparation of a Traffic Control Plan with the condition that the traffic management techniques would ensure no stacking on I-10 at the Corn Springs Road on-ramp and off-ramps. Specifically, the project must meet a performance standard of no more than 10 cars in a three minute periods. With the proposed performance standard, the impacted locations will operate at acceptable levels.

A new impact noted in our analysis is a roadway segment impact for Corn Springs Road, which will exceed the peak hour capacity. This impact occurs along the section of Corn Springs Road north of I-10, which must accommodate all project vehicles. Limiting the number of construction vehicles which arrive during the peak hour, as noted above, would also mitigate this impact.

To facilitate your review, we have also prepared tables following the exact format as provided in the 2009 EIR. These tables are shown on the attached page.

We hope you find the above information helpful. If you require additional information or have any questions, please contact Rafael Cobian at 714-941-8800 or by email at [r.cobian@fehrandpeers.com](mailto:r.cobian@fehrandpeers.com).

**Table 5.13-5 Baseline Peak hour Roadway Traffic Volumes, Design Capacities, and Levels of Service (Without the Project)**

Roadway Segment	Number of Lanes	Volume	Capacity	LOS
I-10: West of the Project Site	4	1,611	8,000	A
I-10: East of the Project Site	4	1,600	8,000	A
Corn Springs Road	2	2	2,000	A

Source: PeMS, NDS

**Table 5.13-6 Baseline Peak hour Intersection Levels of Service (Without the Project)**

Study Intersection	Existing (2013) Delay and LOS			
	AM Peak		PM Peak	
	Delay (sec)	LOS	Delay	LOS
I-10 Westbound Ramps/Corn Springs Road	5.8	A	7.7	A
I-10 Eastbound Ramps/Corn Springs Road	6.3	A	2.9	A

Notes:  
LOS and delay calculated based on methodologies provided in the 2010 Highway Capacity Manual.

**Table 5.13-7 Peak hour Roadway Traffic Volumes, Design Capacities, and Levels of Service (With Project Related Traffic)**

Roadway Segment	Year 2015 Conditions with Project Construction Traffic				Year 2016 Conditions with Project Operations Traffic			
	Travel Lanes	Volume	Capacity	LOS	Travel Lanes	Volume	Capacity	LOS
I-10: West of the Project Site	4	2,799	8,000	A	4	1,726	8,000	A
I-10: East of the Project Site	4	2,788	8,000	A	4	1,715	8,000	A
Corn Springs Road	2	2,311	2,000	F	2	136	2,000	A

Notes:  
Assumes 2,311 daily worker trips for construction  
Assumes 134 daily worker trips for operations. Also assumes that all workers arrive and depart during the peak hour of operations.  
Volume is peak hour volume  
Caltrans Year 2013 traffic volumes were expanded to year 2015 and 2016 using the rate of expansion (1%/year) seen between 2012 and 2013.

Table 5.13-8 Project Construction and Operation Peak Hour Intersection Levels of Service

Study Intersection	Year 2015 Conditions with Project Construction Traffic				Year 2016 Conditions with Project Operations Traffic			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (sec)	LOS	Delay	LOS	Delay (sec)	LOS	Delay	LOS
I-10 Westbound Ramps/Corn Springs Road	>50	F	0.5	A	4.6	A	1.2	A
I-10 Eastbound Ramps/Corn Springs Road	>50	F	19.7	C	8.5	A	6.2	A

Notes:  
LOS and delay calculated based on methodologies provided in the 2010 Highway Capacity Manual.





**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 – WWW.ENERGY.CA.GOV**

***PALEN SOLAR ELECTRIC  
GENERATING SYSTEM AMENDMENT***

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

**SERVICE LIST:**

**APPLICANT**

Palen Solar Holdings, LLC  
Clay Jensen  
Charlie Turlinski  
Amanda McCoy  
1999 Harrison Street, Suite 2150  
Oakland, CA 94612  
cjensen@brightsourceenergy.com  
cturlinski@brightsourceenergy.com  
amccoy@brightsourceenergy.com

**APPLICANT'S CONSULTANT**

Centerline  
Andrea Grenier  
1420 E. Roseville Parkway  
Suite 140-377  
Roseville, CA 95661  
andrea@agrenier.com

**APPLICANT'S COUNSEL**

Scott Galati, Esq.  
Marie Fleming  
Galati/Blek, LLP  
455 Capitol Mall, Suite 350  
Sacramento, CA 95814  
sgalati@gb-llp.com  
mfleming@gb-llp.com

**INTERESTED AGENCY**

California ISO  
e-recipient@caiso.com  
  
County of Riverside  
Office of Riverside County Counsel  
Tiffany North  
3960 Orange Street, Suite 500  
Riverside, CA 92501  
tnorth@co.riverside.ca.us

South Coast Air Quality  
Management District  
Mohsen Nazemi  
21865 Copley Drive  
Diamond Bar, CA 91765-4178  
mnazemi1@aqmd.gov

**INTERVENORS**

Center for Biological Diversity  
Lisa T. Belenky, Senior Attorney  
351 California St., Suite 600  
San Francisco, CA 94104  
lbelenky@biologicaldiversity.org  
  
Center for Biological Diversity  
Ileene Anderson  
Public Lands Desert Director  
PMB 447, 8033 Sunset Boulevard  
Los Angeles, CA 90046  
ianderson@biologicaldiversity.org

Basin and Range Watch  
Kevin Emmerich  
Laura Cunningham  
P.O. Box 153  
Baker, CA 92309  
atomictoadranch@netzero.net  
bluerockiguana@hughes.net

Californians for Renewable Energy  
Alfredo Acosta Figueroa  
424 North Carlton Avenue  
Blythe, CA 92225  
lacunadeaztlan@aol.com

California Unions for Reliable Energy  
Tanya A. Gulesserian  
Elizabeth Klebaner  
Adams Broadwell Joseph & Cardoza  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080  
tgulesserian@adamsbroadwell.com  
eklebaner@adamsbroadwell.com

Hildeberto Sanchez, Eddie Simmons,  
and Laborers' International Union of  
North America, Local Union No. 1184  
c/o Richard T. Drury  
Christina M. Caro  
Lozeau|Drury LLP  
410 12th Street, Suite 250  
Oakland, CA 94607  
richard@lozeaudrury.com  
christina@lozeaudrury.com

**ENERGY COMMISSION STAFF**

Christine Stora  
Project Manager  
Siting, Transmission and  
Environmental Protection Division  
1516 Ninth Street, MS-2000  
Sacramento, CA 95814-5512  
christine.stora@energy.ca.gov  
  
Jennifer Martin-Gallardo  
Staff Counsel  
Office of the Chief Counsel  
1516 Ninth Street, MS-14  
Sacramento, CA 95814-5512  
jennifer.martin-gallardo@energy.ca.gov

\*Indicates change

**ENERGY COMMISSION –  
PUBLIC ADVISER**

\*Alana Mathews  
Public Adviser  
1516 Ninth Street, MS-12  
Sacramento, CA 95814-5512  
publicadviser@energy.ca.gov

**COMMISSION DOCKET UNIT**

California Energy Commission  
Docket Unit  
Attn: Docket No. 09-AFC-07C  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
docket@energy.ca.gov

**OTHER ENERGY COMMISSION  
PARTICIPANTS (LISTED FOR  
CONVENIENCE ONLY):**

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Commissioners' Technical  
Adviser for Facility Siting

**DECLARATION OF SERVICE**

I, Marie Fleming declare that on July 19, 2013, I served and filed copies of the attached **SUPPLEMENTAL RESPONSE TO DATA REQUEST 14; TRAFFIC STUDY UPDATE**, dated July 3, 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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Dated: July 19, 2013

  
\_\_\_\_\_  
Marie Fleming