### STATE OF CALIFORNIA

# 11-CAI-01 DATE Sept 27 2011 RECD. Sept 27 2011

DOCKET

### State Energy Resources Conservation and Development Commission

In the Matter of:

Calico Solar Project Complaint and Investigation Docket No. 11-CAI-01

PATRICK C. JACKSON'S HEARING STATEMENT FOR OCTOBER 3, 2011 HEARING ON BNSF RAILWAY COMPANY'S VERIFIED COMPLAINT TO REVOKE CERTIFICATION

September 27, 2011

Patrick C. Jackson 600 N. Darwood Avenue San Dimas, California 91773 Telephone: (909) 599-9914 Facsimile: (909) 599-9914

E-Mail: ochsjack@earthlink.net

### STATE OF CALIFORNIA

### State Energy Resources Conservation and Development Commission

In the Matter of:

Docket No. 11-CAI-01

Calico Solar Project Complaint and Investigation PATRICK C. JACKSON'S HEARING STATEMENT FOR OCTOBER 3, 2011 HEARING ON BNSF RAILWAY COMPANY'S VERIFIED COMPLAINT TO REVOKE CERTIFICATION

### I. NOTICE AND ORDER TO SERVE AND FILE HEARING STATEMENTS

On September 19, 2011, the Committee designated by the Energy Commission filed *Notice of Hearing on BNSF Railway Company's Verified Complaint to Revoke Certification* (Notice). The Notice ordered BNSF Railway Company (BNSF), K Road Calico, LLC (Calico) and Intervenor Patrick C. Jackson to file and serve Hearing Statements by 12:00 noon on Wednesday, September 28, 2011. Pursuant to the Notice, each Hearing Statement is to include:

- 1. A discussion, with reference to legal citations, of the applicable legal standard for determining materiality in siting proceedings before the Energy Commission;
- 2. The identity of each witness sponsored by the party; a brief summary of the testimony to be offered by each witness; qualifications of each witness; and the time required to present direct testimony by each witness;
- 3. An exhibit list identifying exhibits and declarations that each party intends to offer into evidence;

- 4. Proposals for briefing deadlines and other scheduling matters; and
- 5. Comments, if any, on the Committee's intention to use informal hearing procedures.

# II. DISCUSSION, WITH REFERENCE TO LEGAL CITATIONS, OF THE APPLICABLE LEGAL STANDARD FOR DETERMINING MATERIALITY IN SITING PROCEEDINGS BEFORE THE ENERGY COMMISSION

On or about July 12, 2011, BNSF Railway Company (BNSF) filed a *Verified Complaint to Revoke Certification* (BNSF's Complaint) with the Energy Commission Siting/Dockets Unit.

On or about July 14, 2011, the Siting/Dockets Unit submitted the Complaint to the Energy Commission Compliance Program Manager assigned to the Calico Solar Project (Docket No. 08-AFC-13). On or about July 20, 2011, BNSF filed the Complaint with the Energy Commission Chief Counsel. BNSF's Complaint states and alleges in part:

Pursuant to Section 25534(a)(1), BNSF hereby requests that the California Energy Commission (the "Commission") revoke the certification previously issued in its Final Decision, effective December 1, 2010, on the ground that the Applicant's application and supplemental documentation contained material false statements regarding the commercial viability and availability of SunCatchers for the Calico Solar Project, . . . . [Emphasis added]

(BNSF's Complaint, p. 2)

BNSF's allegation (Allegation) is predicated on Section 25534(a)(1) of the Public Resources Code which provides:

The commission may, after one or more hearings, amend the conditions of, or revoke the certification for, any facility for any of the following reasons:

(1) Any material false statement set forth in the application, presented in proceedings of the commission, or included in supplemental documentation provided by the applicant.

### III. SUFFICIENCY OF AND EXHIBITS CONTAINED IN BNSF'S COMPLAINT

The sufficiency of BNSF's Complaint is currently disputed. The exhibits contained in BNSF's Complaint however are undisputed and a matter of record. The exhibits contained in BNSF's Complaint are incorporated into this Hearing Statement by reference.

IV. THE RECORD SHOWS THE APPLICANT'S APPLICATION AND
SUPPLEMENTAL DOCUMENTATION CONTAINED MATERIAL FALSE
STATEMENTS REGARDING THE COMMERCIAL VIABILITY AND
AVAILABILITY OF SUNCATCHERS FOR THE CALICO SOLAR PROJECT

The record is voluminous and clear. The Applicant's Application and supplemental documentation contained material false statements regarding the commercial viability and availability of SunCatchers for the Calico Solar Project. The following documents and summaries are evidence the Applicant's Application and supplemental documentation represented and allude to the commercial viability and availability of SunCatchers for the Calico Solar Project.

- A. Exhibits A through J contained in BNSF's Complaint incorporated herein by reference.
- B. Exhibit 200, Calico Solar Power Project Licensing Case Documents Page, attached to this Hearing Statement.<sup>1</sup>
- C. Exhibit 201, Calico Solar Power Project Compliance Proceeding Documents

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Exhibit 200, "Calico Solar Power Project Licensing Case Documents Page," http://www.energy.ca.gov/sitingcases/calicosolar/, accessed September 23, 2011.

- Page, attached to this Hearing Statement.<sup>2</sup>
- D. Exhibit 202, Applicant's February 12, 2010, Construction Milestone Schedule and project Layout Figure for the Calico Solar Project, attached to this Hearing Statement.<sup>3</sup>

Numerous documents summarized in Exhibits 201 and 202 refer to the Applicant's Maricopa Power Plant as evidence of the commercial viability and availability of SunCatchers.

# V. THE CALIFORNIA ENERGY COMMISSION RELIED ON THE APPLICANT'S APPLICATION AND SUPPLEMENTAL DOCUMENTATION

The California Energy Commission relied on the "material statements" in the Applicant's Application and supplemental documentation and adopted and docketed its Commission Decision on December 1, 2010. The Commission would not have approved the Applicant's Application for Certification and licensed the Calico Solar Project if it was aware SunCatchers were not commercially viable and available - <u>issues material to the Commission Decision</u>. While the Applicant's Application and supplemental documentation do not specifically address the commercial viability and availability of SunCatchers, Applicant's Application and supplemental documentation lead the Commission to believe SunCatchers were commercially viable and available at the time of the Commission Decision based on representations in the documents and representations specifically relating to the Applicant's Maricopa Power Plant.

Exhibit 201, "Calico Solar Power Project Compliance Proceeding Documents Page," http://www.energy.ca.gov/sitingcases/calicosolar/, accessed September 24, 2011.

Exhibit 202, "Applicant's February 12, 2010, Construction Milestone Schedule and project Layout Figure for the Calico Solar Project," California Energy Commission, http://www.energy.ca.gov/sitingcases/calicosolar/.

VI. BNSF'S ALLEGATION THE APPLICANT'S APPLICATION AND
SUPPLEMENTAL DOCUMENTATION CONTAINED MATERIAL FALSE
STATEMENTS REGARDING THE COMMERCIAL VIABILITY AND
AVAILABILITY OF SUNCATCHERS FOR THE CALICO SOLAR PROJECT IS
SUPPORTED BY RELEVANT, MATERIAL AND SUFFICEINT EVIDENCE

BNSF's allegation Applicant's Application and supplemental documentation contained material false statements regarding the commercial viability and availability of SunCatchers for the Calico Solar Project is supported by the following evidence.

- A. The Applicant's Petition to Amend, docketed on March 22, 2011, states the SunCatchers were not commercial available. The Petition to Amend states in pertinent part on page 3-1:
  - On December 24, 2010, K Road Sun LLC (K Road) purchased Calico Solar, LLC from Tessera Solar North America. <u>Because the SunCatchers would not be commercially available in the near term, K Road determined that for the project to be viable, a portion of the technology would need to be replaced with a technology that was currently commercially available and able to attract financing. [Emphasis added]</u>
- B. Daniel J. O'Shea, now Managing Director of K Road Calico Solar, LLC, testified on May 17, 2011, in a proceeding before the California Public Utilities
   Commission, he was aware the Calico Solar Project was available for purchase in September 2010 and SunCatchers were not "commercially available" at that time.
   (BNSF's Complaint, Exhibit I) Mr. O'Shea testified under penalty of perjury:
  - Q All right. When you became involved in late September, did you become involved because you were told that there was an issue regarding whether or not SunCatchers were commercially viable?

- A. No. I understand that the project was available for purchase at that time, and I think there was a -- there was the reason for the sale was related to that, though.
- Q Okay. When you say, "related to that, though," one of the issues was whether or not it was commercially viable to utilize SunCatchers, right?
- A I think commercially available.
- Q Commercially available?
- A Yes. They weren't available on the schedule that Tessera Solar had thought they would be available.
- Q Okay. And you knew that sometime in September of 2010?
- A September or October.
- Q So when did K Road buy Calico Solar?
- A I believe the date on the purchase agreement is December  $24^{th}$ , 2010.
- C. Sean Gallagher, Vice President of Marketing and Regulatory Affairs, Tessera Solar, testified before the House Select Committee on Energy Independence and Global Warming on July 28, 2009:

Tessera Solar, headquartered in Houston, Texas, was formed to be the exclusive developer and operator of the SunCatcher<sup>TM</sup> Power System developed by our sister company, Stirling Energy Systems, headquartered in Scottsdale, Arizona. In May 2008, the NTR, an Irish renewable energy development company, invested \$100 million into Stirling Energy Systems, and created Tessera Solar as the project development arm of the business. <sup>4</sup>

The changes that have wracked the financial sector in the past year have created significant challenges for financing

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Exhibit 203, Testimony of Sean Gallagher, Vice President of Marketing and Regulatory Affairs, Tessera Solar Before the House Select Committee on Energy Independence and Global Warming, July 28, 2009, http://globalwarming.house.gov/files/HRG/072809NewTech/Gallagher.pdf

renewable power plants. Congress responded to these challenges by creating the Department of Energy's loan guarantee programs, and the Treasury grant in lieu of investment tax credits. These programs will be critical in the next two years for projects like ours – and others in the solar industry to obtain the financing necessary to construct projects. In order to take advantage of these incentives the Administration will need to take the following steps to allow companies like ours to move these projects forward, create jobs and generate carbon free *electricity:* 

- *Issue effective regulations for the Department of Energy* section 1703 and 1705 loan guarantee programs that are consistent with commercial banking practices and successful loan guarantee programs like the Export-Import Bank of the United States and the Overseas Private *Investment Corporation (OPIC), which have both been* successful from a risk management perspective. Absent loan guarantees, our projects and others like them face an impossible task finding financing due to the battered credit markets, and the unwillingness of private lenders to take <u>risks on new technologies</u>.<sup>5</sup> [Emphasis added]
- D. On November 12, 2010, between the dates the California Energy Commission Committee issued its first and final Notice of Decision, NTR plc, parent company of Stirling Energy Systems, Inc., and Tessera Solar North America, Inc., released its Annual Report & Financial Statements 2010 (NTR's 2010 Annual Report, Exhibit 204) which states in pertinent part:

In response to the general economic environment and in particular the challenging funding climate, it is now anticipated that the commercial roll-out of the SunCatcher will take place over a longer timeframe than previously envisaged. As a consequence, an impairment charge has arisen on the Group's intellectual property and contract based assets of €84,561,000. The net impact, after tax and

*Id.*, p. 6.

### minority interests, is a charge of $\in 33,292,000$ .

### E. NTR's 2010 Annual Report states in pertinent part:

Since the year end, the Group has undertaken a number of actions in response to the global economic challenges including the decision by SES to re-pace the utility scale roll-out of the SunCatcher technology until the current uncertainties in the funding markets are resolved.<sup>7</sup>

### F. NTR's 2010 Annual Report states in pertinent part:

The issue facing SES is the current state of capital markets, in particular the scale and risk tolerance of capital available in the private equity market. In my review of 2009 I noted, and I quote "notwithstanding the strength of the Group's balance sheet, the scale of the opportunity available to our businesses will mean that those businesses will require access to new sources of third party equity capital in order to ensure that they meet their full potential".

Despite the significant advances made by SES in the commercialisation of the SunCatcher, the likely timing within which a third party strategic investor and project capital is secured has been affected by prevailing capital market uncertainties. Accordingly, while continuing to seek a strategic partner, SES expects that commercialisation of the SunCatcher will require a longer timeframe than previously envisaged. The business will be restructured to take account of this longer timeframe for SunCatcher commercialisation.<sup>8</sup>

G. NTR's 2010 Annual Report states NTR's loss ("Segmental earnings from continuing operations before interest, tax, depreciation, amortization, share based payments and impairment charges") for its Solar Segment

Exhibit 204, NTR - *Annual Report & Financial Statements 2010*, Selected Pages, p. 79, http://www.ntrplc.com/Investor-Relations/Financial-Reporting/, accessed September 25, 2011. *Id.*, p. 108.

<sup>8</sup> *Id.*, Chairman's Statement, p. 6;

were (€31,183,000) for the <u>fiscal year ending March 31, 2009</u>, and (€64,219,000) for the <u>fiscal year ending March 31, 2010</u>. [Emphasis added]

- H. NTR plc Reports Financial Results for Year Ended 31 March 2011,Dublin, August 2, 2011 states in pertinent part:
  - i. NTR has decided to fully write down its solar investment, significantly contributing to Group attributable losses of €280.2 million. This follows the decision earlier in the year to limit funding to its solar business, Stirling Energy Systems (SES), as it has not yet succeeded in attracting third-party investment. [Emphasis added]
  - ii. NTR reports "Impairment and fair value charges of €195.7 million, of which €132.7 million is attributable to shareholders . . . [including] Solar write-downs [of] €42.4 million". 11

Items D through H are clear relevant, material and sufficient evidence the Applicant's application and supplemental documentation contained material statements professing the commercial viability and availability of SunCatchers when the Applicant's parent company had over €137.8 million in losses attributable to SunCatcher technology.

### I. As additional evidence:

 In December 2010, Applicant sold its Imperial Valley Solar Project (formerly SES Solar Two Project) in Imperial Valley, California,

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*Id.*, p. 63.

Exhibit 205, NTR plc Reports Financial Results for Year Ended 31 March 2011, Dublin, August 2, 2011, p 1, http://www.ntrplc.com/Investor-Relations/Financial-Reporting/, accessed September 25, 2011.

*Id.*, p. 2.

and the buyer is not going to develop the project with SunCatchers. 12 13 14 15 (See Exhibits 206 through 209)

- ii. The Applicant laid off between 50% to 80% of its employees at the time of the Commission Decision. (See Exhibit 210)
- iii. In September 2010, Applicant canceled its 27-megawatt, 900-acre
   Marfa, Texas, solar power project because it was unable to obtain financing.<sup>17</sup> (See Exhibit 211)
- iv. In September 2010, Applicant canceled its Phoenix, Arizona, 250-megawatt solar power plant because it could not obtain financing.<sup>18</sup>
   (See Exhibit 212)
- In July 2011, Applicant canceled its 200-megawatt Colorado Sun
   Luis Valley solar project. Brent Bailey, vice president and general

Exhibit 206, PVTECH, "AES Solar Buys Tessera Solar's Imperial Valley Project with Intent to Turn CSP into PV," http://pv-tech.org/news/7494/, accessed September 21, 2011.

Exhibit 207, Request by Imperial Valley that the Permit to Construct be Revoked Because of the Change to PV from Solar Thermal, California Energy Commission, Docket 08-AFC-5C, http://www.energy.ca.gov/sitingcases/solartwo/compliance/index.html.

Exhibit 208, Order Terminating Commission Decision and License, Docket 08-AFC-5C http://www.energy.ca.gov/sitingcases/solartwo/compliance/index.html.

Exhibit 209, Notice of Decision by the California Energy Commission, Docket 08-AFC-5C, http://www.energy.ca.gov/sitingcases/solartwo/compliance/index.html.

Exhibit 210, Greentech Media, "Are Stirling Energy, Tessera Solar in Trouble?," December 7, 2010, http://greentechmedia.com, accessed August 16, 2011.

Exhibit 211, Renewable Communities Alliance, "Tessera Solar Pulls Out of West Texas/DG Cheaper," http://slvrenewablecommunities.blogspot.com, accessed September 3, 2011.

Exhibit 212, Phoenix Business Journal, "Tessera Solar, Phoenix End Bid for Landfill Power Plant," http://www.bizjournals.com/phoenix/stories/2010/09/20/daily87.html, accessed August 16, 2011.

counsel for Tessera Solar, is quoted in Solar Energy News, "It wasn't going to be an economically project at the end of the day." (See Exhibit 213)

vi. "Maricopa Solar was awarded a \$7.04M grant in June 2010 for the 1.5 MW Maricopa Solar Plant in Peoria, Arizona USA. The CSP project was developed by Tessera Solar using sister company Stirling Energy Systems (SES) SunCatcher solar dish systems at an extrapolated installed cost of \$23.5M or an astronomical \$15.65 per watt." <sup>20</sup> [Emphasis added] "In 2010, the price to build a solar thermal park run by troughs, power towers or dish engines runs between \$5.00 and \$6.55 per watt. On the other hand, utility-scale PV projects can squeak through at less than \$3.50 per watt, as we noted in an article in October." (See Exhibits 210 & 214)

### VII. WITNESSES

Each Hearing Statement is to include the identity of each witness sponsored by the party; a brief summary of the testimony to be offered by each witness; qualifications of each witness; and the time required to present direct testimony by each witness. I will not present witnesses at the Hearing but reserve the right to present witnesses in future hearings.

 $^{21}$  Exhibit 210.

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Exhibit 213, Clean Energy Authority.com, "Tessera Pulls the Plug on Hugh Colorado Solar Plant," http://cleanenergyauthority.com/solar-energy-news, accessed August 16, 2011.

Exhibit 214, Gunther Portfolio, "Top 10 Solar 1603 Treasury Grant Awards,"

http://guntherportfolio.com, accessed September 21, 2011.

### VIII. EXHIBIT LIST

Each Hearing Statement is to include an exhibit list identifying exhibits and declarations that each party intends to offer into evidence. My exhibit list is attached. I respectfully request the exhibits on the attached exhibit list be introduced into evidence pursuant to California Code of Regulations, Title 20, Section 1211.

### IX. BRIEFING DEADLINES AND OTHER SCHEDULING MATTERS

Each Hearing Statement is to include briefing deadlines and other scheduling matters. I do not offer briefing deadlines or other scheduling matters at this time.

# X. COMMENTS REGARDING COMMITTEE'S INTENTION TO USE INFORMAL HEARING PROCEDURES

Each Hearing Statement is to include comments, if any, on the Committee's intention to use informal hearing procedures. I do not object to the Committee's intention to use informal hearing procedures.

### XI. BURDEN OF PROOF

BNSF's Complaint alleges the Applicant's application and supplemental documentation contained material false statements regarding the commercial viability and availability of SunCatchers for the Calico Solar Project. California Code of Regulations, Title 20, Sections 1723.5(a)(3) and (5) provide:

- (a) The applicant has the burden of proof and of producing evidence on each of the following:
  - (3) A reasonable likelihood that the facilities can be constructed and operated safely and reliably;
  - (5) The reasonableness of the likely financial impacts of constructing and operating the facilities; . . ..

The Applicant must therefore produce evidence proving the commercial viability and availability of SunCatchers at the time of the Commission Decision in order to disprove BNSF's allegation.

### XII. REQUEST TO REVOKE CERTIFICATION

If the Applicant cannot produce evidence disproving BNSF's allegation, then the record is clear. The exhibits in BNSF's Complaint and the accompanying exhibits are relevant, material and clear evidence showing the Applicant's application and supplemental documentation contained material false statements regarding the commercial viability and availability of SunCatchers for the Calico Solar Project. The "astronomical" per watt construction cost of the Applicant's Maricopa Power Plant known in June 2010 and the cancellation of the Applicant's Marfa, Texas, and Phoenix, Arizona, power plants in September 2010 are clear evidence SunCatchers were not commercially viable before the Commission Decision in December 2010 or likely foreseeable after the Commission Decision. Testimony given by Mr. Gallagher in July 2009 and NTR's financial statements for fiscal years ending 2009, 2010 and 2011 are clear evidence financing was not available in order for SunCatchers to be commercially available before the Commission Decision in December 2010 or likely foreseeable after the Commission

Decision. And, Mr. O'Shea's testimony is clear evidence the project was available for purchase in September or October 2010 before the Commission Decision with the reason for the sale relating to the commercial availability of SunCatchers.

In light of the overwhelming and convincing evidence and pursuant to Title 20,
California Code of Regulations, Sections 1231 and 1237, I request the California Energy
Commission (CEC) revoke the Applicant's certification the CEC licensed in its Final Decision,
effective December 1, 2010.

The Commission has the authority revoke the Applicant's certification pursuant to Public Resources Code, Sections 25218(e) and 25534(a)(1).

The Commission has the authority to conduct and act in this matter pursuant to Title 20, California Code of Regulations, Sections 1230, 1232, 1233.5 1234 and 1235.

### XIII. PARTIES AFFECTED BY REQUEST TO REVOKE CERTIFICATION

The Parties affected by the preceding request to revoke the Applicant's Certification are listed on the attached Proof of Service list for this proceeding.

The Applicant is K Road Calico Solar, LLC, (formerly Calico Solar, LLC) c/o Daniel J. O'Shea, Managing Director, 2600 10<sup>th</sup> Street, Suite 635, Berkeley, CA 94710. Telephone Number: (510) 981-1656. E-Mail address: dano@kroadpower.com.

### XIV. DECLARATION OF SERVICE AND PROOF OF SERVICE LIST

The Declaration of Service and the Proof of Service list located on the web page for this Proceeding are attached.

### XV. DECLARATION

I, Patrick C. Jackson, declare under penalty of perjury under the laws of the State of California all statements made in this document are true, correct and complete to the best of my knowledge and belief and this document was executed on September 27, 2011, at San Dimas, California.

Original Signed By

Patrick C. Jackson



### 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

Docket Number: 11-CAI-01 Date: September 27, 2011

Project Name: CALICO SOLAR PROJECT COMPLAINT AND INVESTIGATION

Exhibit	Docket Transaction Number	Brief Description	Offered	Admitted	Refused
INTERVE	NOR PATRICK C.	JACKSON'S EXHIBITS			
200		Calico Solar Power Project Licensing Case Documents Page	9/27/2011		
201		Calico Solar Power Project Compliance Proceeding Documents Page	9/27/2011		
202		Applicant's February 12, 2010 Construction Milestone Schedule and Project Layout Figure	9/27/2011		
203		Testimony of Sean Gallagher Before the House Select Committee on Energy Independence and Global Warming, July 28, 2009	9/27/2011		
204		NTR – Annual Report & Financial Statements 2010 (Pertinent Pages)	9/27/2011		
205		NTR plc Reports Financial Results for Year Ending 31 March 2011	9/27/2011		
206		PVTECH, "AES Solar buys Tessera Solar's Imperial Valley Project with Intent to turn CSP into PV"	9/27/2011		
207		AES Solar's June 30, 2011 Request to Revoke Permit to Construct IVS Project Because of Change to PV from Solar Thermal.	9/27/2011		
208		Order Terminating Commission Decision and License for the Imperial Valley Solar Project	9/27/2011		
209		Notice of Decision by the California Energy Commission to Terminate License for Imperial Valley Solar	9/27/2011		
210		Greentech Media, "Are Stirling Energy, Tessera Solar in Trouble?"	9/27/2011		
211		Renewable Communities Alliance, "Tessera Solar Pulls Out of West Texas/DG Cheaper"	9/27/2011		
212		Phoenix Business Journal, "Tessera Solar, Phoenix End Bid for Landfill Power Plant"	9/27/2011		
213		Solar Energy News, "Tessera Pulls the Plug on Hugh Colorado Solar Plant"	9/27/2011		
214		Gunther Portfolio, "Top 10 Solar 1603 Treasury Grant Awards"	9/27/2011		

### STATE OF CALIFORNIA

### State Energy Resources Conservation and Development Commission

In the Matter of:	Docket No. 11-CAI-01				
Calico Solar Project Complaint and Investigation	PATRICK C. JACKSON'S HEARING STATEMENT FOR OCTOBER 3, 2011 HEARING ON BNSF RAILWAY COMPANY'S VERIFIED COMPLAINT TO REVOKE CERTIFICATION				
I, Patrick C. Jackson, declare that on September attached Patrick C. Jackson's Hearing Statemer Railway Company's Verified Complaint to Refiled with the Docket Unit, is accompanied by a continuous page for this project at:	ent for October 3, 2011 Hearing on BNSF evoke Certification. The original document,				
http://www.energy.ca.gov/sitingcases/calicosolar/investigate/Calico_cai_pos.pdf					
The document has been sent to Michael J. Levy, all 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.					
FOR SERVICE TO THE APPLICANT AND ALL OTHER PARTIES:					
XX sent electronically to all e-mail addresses on the Proof of Service and					
XX by depositing in the United States mail at San Dimas, California, with first-class postage thereon fully prepaid and addressed as provided on the attached Proof of Service list to the mailing addresses shown on the Proof of Service list.					
FOR FILING WITH THE ENERGY COMMISSION AND CHIEF COUNSEL:					
sending the original signed document and one electronic copy, mailed and e-mailed respectively, to the addresses below:					
California Energy Commission - Docket Un Attn: Docket No. 11-CAI-01 1516 Ninth Street, MS-4 Sacramento, CA 95814-5512 docket@energy.state.ca.us	California Energy Commission Michael J. Levy, Chief Counsel 1516 Ninth Street, MS-14 Sacramento, CA 95814 mlevy@energy.state.ca.us				
I declare under penalty of perjury that the forego	ing is true and correct.				
September 27, 2011	Original Signed By				

Patrick C. Jackson

Date



## 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

## FOR THE CALICO SOLAR PROJECT COMPLAINT AND INVESTIGATION

Docket Nos. 11-CAI-01 (Revised 9/15/11)

### APPLICANT/RESPONDENT

\*K Road Calico Solar, LLC Daniel J. O'Shea Managing Director 2600 10th Street, Suite 635 Berkeley, CA 94710 dano@kroadpower.com

### APPLICANT'S CONSULTANT

URS Corporation
Angela Leiba
AFC Project Manager
4225 Executive Square, #1600
La Jolla, CA 92037
angela leiba@URSCorp.com

### APPLICANT'S COUNSEL

Allan J. Thompson Attorney at Law 21 C Orinda Way , #314 Orinda, CA 94563 allanori@comcast.net

Bingham McCutchen, LLP Ella Foley Gannon Three Embarcadero Center San Francisco, CA 94111 <u>e-mail service preferred</u> ella.gannon@bingham.com

### **INTERVENOR**

\*Patrick C. Jackson 600 Darwood Avenue San Dimas, CA 91773 e-mail service preferred ochsjack@earthlink.net

### COMPLAINANT

BNSF Railway Company Cynthia Lea Burch Katten Muchin Rosenman, LLP 2029 Century Park East, Suite 2700 Los Angeles, CA 90067-3012 cynthia.burch@kattenlaw.com

### **INTERESTED**

AGENCIES/ENTITIES/PERSONS
Society for the Conservation of
Bighorn Sheep
Bob Burke
Gary Thomas
1980 East Main Street, #50
Barstow, CA 92311

e-mail service preferred
cameracoordinator@sheepsociety.com

Basin and Range Watch
Laura Cunningham
Kevin Emmerich
P.O. Box 70
Beatty, NV 89003
<u>e-mail service preferred</u>
atomictoadranch@netzero.net

California Unions for Reliable
Energy (CURE)
c/o Tanya A. Gulesserian
Marc D. Joseph
Adams Broadwell Joseph
& Cardozo
601 Gateway Boulevard,
Suite 1000
South San Francisco, CA 94080
e-mail service preferred
tgulesserian@adamsbroadwell.com

Sierra Club
Gloria D. Smith
Travis Ritchie
85 Second Street, Second floor
San Francisco, CA 94105
e-mail service preferred
gloria.smith@sierraclub.org
travis.ritchie@sierraclub.org

Newberry Community
Service District
c/o Wayne W. Weierbach
P.O. Box 206
Newberry Springs, CA 92365
<u>e-mail service preferred</u>
newberryCSD@gmail.com

Defenders of Wildlife Kim Delfino 1303 J Street, Suite 270 Sacramento, California 95814 <u>e-mail service preferred</u> kdelfino@defenders.org

Defenders of Wildlife
Jeff Aardahl
46600 Old State Highway,
Unit 13
Gualala, California 95445
e-mail service preferred
jaardahl@defenders.org

# INTERESTED AGENCIES/ENTITIES/PERSONS (cont.)

County of San Bernardino
Jean-Rene Basle, County Counsel
Bart W. Brizzee, Principal Assistant
County Counsel
385 N. Arrowhead Avenue, 4th Fl.
San Bernardino, CA 92415-0140
bbrizzee@cc.sbcounty.gov

California ISO e-recipient@caiso.com

BLM – Nevada State Office Jim Stobaugh P.O. Box 12000 Reno, NV 89520 jim stobaugh@blm.gov

Bureau of Land Management Joan Patrovsky, Specialist/ Project Manager CDD-Barstow Field Office 2601 Barstow Road Barstow, CA 92311 jpatrovs@blm.gov

California Department of Fish & Game Becky Jones 36431 41st Street East Palmdale, CA 93552 dfgpalm@adelphia.net

California Energy Commission Kerry Willis Senior Staff Counsel Staff Attorney for Calico Amendment proceeding (08-AFC-13C) e-mail service preferred kwillis@energy.state.ca.us California Energy Commission Stephen Adams Senior Staff Counsel Staff Attorney for Calico Amendment proceeding (08-AFC-13C) e-mail service preferred sadams@energy.state.ca.us

California Energy Commission Craig Hoffman Project Manager for Calico Amendment proceeding (08-AFC-13C) e-mail service preferred choffman@energy.state.ca.us

California Energy Commission Caryn Holmes Staff Counsel IV <u>e-mail service preferred</u> cholmes@energy.state.ca.us ENERGY COMMISSION SITING COMMITTEE, COMMITTEE ADVISERS, HEARING OFFICER

KAREN DOUGLAS
Commissioner and Presiding Member
\*e-mail service preferred
kldougla@energy.state.ca.us

ROBERT B. WEISENMILLER Chair and Associate Member \*e-mail service preferred rweisenm@energy.state.ca.us

Kourtney Vaccaro
Hearing Officer
\*e-mail service preferred
kvaccaro@energy.state.ca.us

Galen Lemei, Adviser to Commissioner Douglas \*e-mail service preferred glemei@energy.state.ca.us

Eileen Allen, Adviser to Chair Weisenmiller \*e-mail service preferred eallen@energy.state.ca.us

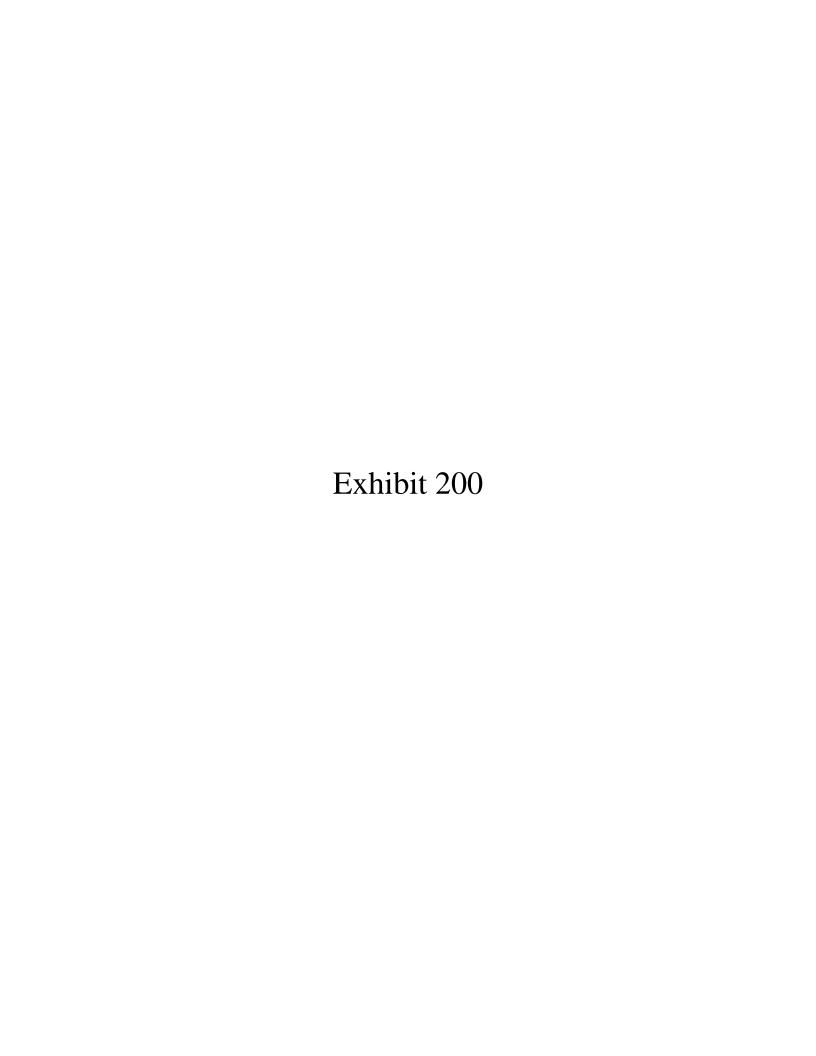
### **ENERGY COMMISSION STAFF**

Christine Stora
Project Manager
<u>e-mail service preferred</u>
cstora@energy.state.ca.us

Kevin W. Bell Senior Staff Counsel <u>e-mail service preferred</u> kwbell@energy.state.ca.us

PUBLIC ADVISER
Jennifer Jennings
Public Adviser

<u>e-mail service preferred</u> publicadviser@energy.state.us





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### Calico Solar Power Project Licensing Case Documents Page

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**Commission Documents** 

**Applicant's Documents** 

Intervenors' & Others' Documents

Figures & Maps

#### **Commission's Documents**

Staff Response to Committee Briefing Order. Dated May 23, 2011. Posted May 23, 2011. (PDF file, 15 pages, 128 kb)

Notice of Decision (Revised). Dated December 1, 2010. Posted December 2, 2010. (PDF file, 6 pages, 846 kb)

Withdrawal of Notice of Decision of 11/3/10 and Submittal of a New Notice of Decision. Dated December 1, 2010. Posted December 2, 2010. (PDF file, 7 pages, 614 kb)

Commission Adoption Order (Revised December 1, 2010). Posted December 1, 2010. (PDF file, 3 pages, 66 kb)

Commission Decision. Posted November 12, 2010. Adoption Order revised December 1, 2010. (PDF file, 736 pages, 14.7 megabytes)

<u>Transcript of the October 26, 2010, Continuation of the Committee Conference</u>. Posted November 1, 2010. (PDF file, 102 pages, 185 kb)

<u>Transcript of the October 22, 2010, Committee Conference on the Presiding Members Proposed Decision.</u> Posted October 27, 2010. (PDF file, 222 pages, 508 kb)

Additional Staff Comments on Fire Protection Analysis in the Presiding Member's Proposed Decision. Posted October 25, 2010. (PDF file, 6 pages, 221 kb)

Staffs Initial Comments on the Presiding Members Proposed Decision. Posted October 20, 2010. (PDF file, 40 pages, 785 kb)

Motion to Reopen the Record for Purpose of Receiving Bureau of Land Management (BLM) Memorandum on Use of Donated Lands. Posted October 18, 2010. (PDF file, 7 pages, 25 kb)

Presiding Member's Proposed Decision. Posted September 25, 2010. (PDF file, 712 pages, 14.5 megabytes)

Staff's Updated Soil & Water Conditions Of Certification. Posted September 22, 2010. (PDF file, 19 pages, 119 kb)

Transcript of the September 20, 2010, Evidentiary Hearing. Posted September 22, 2010. (PDF file, 577 pages, 1.21 mb)

Supplemental Staff Assessment Addendum. Dated September 17, 2010. Posted September 20, 2010. (PDF file, 153 pages, 3.4 megabytes)

Additional Staff Revision Regarding Biological Conditions. Posted August 30, 2010. (PDF file, 75 pages, 335 kb)

Transcript of the August 25, 2010, Evidentiary Hearing. Posted August 30, 2010. (PDF file, 359 pages, 652 kb)

Exhibit 313 - Staff Comments to Question Provided by Hearing Officer Regarding Desert Tortoise. Posted August 26, 2010. (PDF file, 4 pages, 130 kb)

Staff's Brief. Posted August 24, 2010. (PDF file, 25 pages, 264 kb)

Transcript of the August 18, 2010, Evidentiary Hearing. Posted August 22, 2010. (PDF file, 469 pages, 851 kb)

Transcript of the August 5, 2010, Evidentiary Hearing. Posted August 18, 2010. (PDF file, 418 pages, 836 kb)

California Energy Commission Staff's Second Errata to the Supplemental Staff Assessment. Posted August 17, 2010. (PDF file 142 pages, 729 kb)

**Evidentiary Hearing Briefs and Testimony**, (PDF files, See inside for date)

Transcript of the August 4, 2010, Evidentiary Hearing. Posted August 4, 2010. (PDF file, 316 pages, 616 kb)

Transcript of the August 6, 2010, Evidentiary Hearing. Posted August 6, 2010. (PDF file, 262 pages, 434 kb)

SUPPLEMENTAL Staff Assessment - Part 2. Posted August 9, 2010. (PDF file, 257 pages, 4.5 megabytes)

<u>California Energy Commission Staff's Errata to the Supplemental Staff Assessment</u>. Posted August 4, 2010. (PDF file, 93 pages, **7.77 megabytes**)

Transcript of the July 30, 2010, Prehearing Conference. Posted August 4, 2010. (PDF file, 138 pages, 305 kb)

California Energy Commission Staff's Rebuttal Testimony + Errata. Posted July 21, 2010. (PDF file, 20 pages, 247 kb)

California Energy Commission Staff's Prehearing Conference Statement. Posted July 29, 2010. (PDF file, 5 pages, 153 kb)

SUPPLEMENTAL Staff Assessment. Full Document Download.

Posted July 21, 2010. (PDF file, 1,316 pages, 74.7 megabytes - Please note size! Right-click the link to download instead of opening within your browser.)

Supplemental Staff Assessment Divided into 6 Parts. (For easier download) (PDF files)

Staff Assessment and Draft Environmental Impact Statement. Full Document Download. Posted March 30, 2010. (PDF file, 1454 pages, 35.5 megabytes)

(Please note the file size. Right click the link to download the document, [option-click on a Macintosh].)

Staff Assessment Divided into 10 Parts. (For easier download) (PDF files)

Staff Status Report #5. Posted March 10, 2010. (PDF file, 3 pages, 77.9 kb)

Staff Status Report #3. Posted December 29, 2009. (PDF file, 4 pages, 60 kb)

<u>Transcript of September 16, 2009, Data Request and Issues Resolution Workshop</u>, Posted December 3, 2009. (PDF file, 185 pages, 1.1 megabytes)

Transcript of the November 10, 2009, Committee Conference, Posted December 1, 2009. (PDF file, 54 pages, 96 kb)

Data Requests Set 2, Part 2 (142-174), Posted November 9, 2009. (PDF file, 9 pages, 56 kb)

Staff Comments on Schedule, Posted November 9, 2009. (PDF file, 4 pages, 262 kb)

Staff's Status Report #2, Posted October 27, 2009. (PDF file, 8 pages, 596 kb)

Data Requests Set 2, Part 1 (numbers 128-141), Posted October 23, 2009. (PDF file, 11 pages, 120 kb)

Staff's Status Report #1, Posted August 27, 2009. (PDF file, 6 pages, 342 kb)

Data Requests Set 1, Part 2 (numbers 92-127), Posted July 20, 2009. (PDF file, 29 pages, 447 kb)

<u>Transcript of June 22, 2009, Informational Hearing, Site Visit and Scoping Meeting</u> - Posted July 13, 2009. (PDF file, 84 pages, 596 kb)

Staff Presentation by Christopher Meyer, California Energy Commission, and Jim Stobaugh, BLM, at the June 22, 2009 Informational Hearing & Scoping Meeting. Posted June 24, 2009. (PDF file, 29 pages, 2.9 MB)

Data Requests Set 1, Part 1 (numbers 1-91), Posted June 17, 2009. (PDF file, 27 pages, 128 kb)

Issues Identification Report, dated June 12, 2009. Posted June 12, 2009. (PDF file, 16 pages, 108 kb)

Revised Data Adequacy Recommendation, dated April 27, 2009. Posted May 1, 2009. (PDF file, 82 pages, 400 kb)

Data Adequacy Recommendation, dated December 31, 2008. Posted December 31, 2008. (PDF file, 101 pages, 456 kb)

Notice of Receipt of AFC, dated December 22, 2008. Posted December 22, 2008. (PDF file, 7 pages, 48 kb)

#### **Public Adviser's Documents**

SES Solar One Power Project (08-AFC-13) Informational Hearing and Site Visit, presentation by Associate Public Adviser Loreen McMahon, June 22, 2009. (PDF file, 11 pages, 204 kb)

### **Bureau of Land Management**

<u>Bureau of Land Management's Record of decision - Appendicies 1 through 4 and 6</u>. Posted October 27, 2010. (PDF File, 405 pages, 11.7 mb)

Bureau of Land Management's October 14th Tortoise Translocation Plan. Posted October 27, 2010. (PDF File, 61 pages, 449 kb)

Bureau of Land Management's Record of Decision - Amendment to the California Desert Conservation Area Land Use Management Plan. Posted October 27, 2010. (PDF File, 73 pages, 1.05 mb)

Bureau of Land Management's Land Acquisition Data. Posted August 24, 2010. (PDF File, 6 pages, 94 kb)

Bureau of Land Management's Supplemental Biological Assessment. Posted August 3, 2010. (PDF File, 107 pages, 6.1 MB)

Bureau of Land Management's Biological Assessment. Posted April 12, 2010. (PDF File, 55 pages, 4.6 MB)

### **Applicant's Documents**

Applicant's Comments on the Soil & Water Conditions of Certification. Posted October 27, 2010. (PDF file, 12 pages, 154 kb)

Applicant's Submittal of Additional Comments on the PMPD. Posted October 27, 2010. (PDF file, 25 pages, 1.55 mb)

Applicant's Submittal of Testimony with Applicant's Exhibits for Scenarios 5.5 & 6. Posted September 15, 2010. (PDF file, 260 pages, 8.6 mb)

Applicant's Submittal of Information Requested by Chris Huntley at Calico Workshop, Sept. 9. Posted September 13, 2010. (PDF file, 5 pages, 98 kb)

Applicant's Updated Reduced Project Boundary Scenarios 5.5 & 6 Information. Posted September 13, 2010. (PDF file, 13 pages, 10 mb)

Applicant's Submittal of Detention Basin Removal Analysis from Dr. Chang and Applicant's Proposed Revisions to Soil and Water 8. Posted September 9, 2010. (PDF file, 9 pages, 162 kb)

Applicant's Submittal of Reduced Project Boundary Scenarios. Posted September 8, 2010. (PDF file, 19 pages, 6.1 mb)

Applicant's Motion Requesting Committee Member's Attendance at September 9, 2010 Workshop and Order Setting Evidentiary Hearing. Posted September 8, 2010. (PDF file, 7 pages, 426 kb)

Applicant's Submittal of Revised Conditions of Certification. Posted August 30, 2010. (PDF file, 233 pages, 1.0 mb)

Applicant's Submittal of Staff's Request for Phase 1A Fencing Information. Posted August 26, 2010. (PDF file, 4 pages, 618 kb)

Applicant's Submittal of Numbers of Employees and Numbers and Types of Equipment for October, November and December. Posted August 26, 2010. (PDF file, 6 pages, 819 kb)

Applicant's Submittal of Staff's Request for Road Information. Posted August 24, 2010. (PDF file, 9 pages, 1.6 MB)

Applicant's Response to Previous Data Request of 8/12/10. Posted August 24, 2010. (PDF file, 19 pages, 4.5 MB)

Applicant's Approximate Revegetation Acreage. Posted August 24, 2010. (PDF file, 8 pages, 532 kb)

Applicant's Phase 1A Information. Posted August 16, 2010. (PDF file, 7 pages, 1.86 MB)

Estimated Allocation of Fire Facility Costs to Proposed Solar Energy Installations. Posted August 16, 2010. (PDF file, 21 pages, 956 kh)

Applicant's Brief Regarding Access to Patrick Jackson's Property. Posted August 12, 2010. (PDF file, 7 pages, 590 kb)

Applicant's Submittal of Design of Project Hydrogen Compressor Groups. Posted August 12, 2010. (PDF file, 5 pages, 3.96 MB)

Applicant's Submittal of the Final Environmental Impact Statement. Posted August 11, 2010. (PDF file, 3 pages, 628 kb)

Applicant's Submittal of First Round of 2010 Spring Botany Surveys. Posted August 11, 2010. (PDF file, 106 pages, 1.75 MB)

Applicant's Updates to Centralized Hydrogen Systems Map. Posted August 9, 2010. (PDF file, 4 pages, 626 kb)

Applicant's Supplement to the Application for Certification. Received 5/14/2010, Posted July 12, 2010. (PDF file, 395 pages, )

Clarification to Applicant's Responses to CEC Email Dated June 4th, 2010. Posted June 21, 2010. (PDF file, 14 pages, 12.9 MB)

Applicant's Responses to CEC Email Dated June 4th, 2010. Posted June 16, 2010. (PDF file, 23 pages, 16.5 MB)

Applicant's Submittal of Alternative Site Layout #2 - Engineering Figure with SunCatcher Layout, and Revised Project Boundary with 4000' Desert Tortoise Corridor Figure. Dated June 2, 2010. Posted June 7, 2010. (PDF file, 7 pages, 2.30 MB)

Applicant's Submittal of Determination Regarding the Requirement for the Department of the Army Permit

Dated May 6, 2010. Posted May 24, 2010. (PDF file, 4 pages, 156 kb)

Applicant's Submittal of Additional Information

Dated May 4, 2010. Posted May 24, 2010. (PDF file, 8 pages, 2.8 MB)

Applicant's Submittal of Suggested Revised Biological Resources Conditions of Certification

Posted April 29, 2010. (PDF file, 61 pages, 416 kb)

Letter Regarding Applicant's Submittal of the Use of Rail to Deliver Cadiz Water

Posted March 26, 2010. (PDF file, 3 pages, 541 kb)

Applicant's Status Report #6

Posted March 15, 2010. (PDF file, 6 pages, 810 kb)

Applicant's Submittal of Existing Access Routes in the Project Vicinity & proposed Access Post Project Development

Posted March 10, 2010. (PDF file, 5 pages, 1.5 MB)

Applicant's Revised Submittal of the Calico Solar Project Layout Figure

Posted March 10, 2010. (PDF file, 4 pages, 1.5 MB)

Applicant's Submittal of the Calico Solar Drainage Layout Figure

Posted February 26, 2010. (PDF file, 4 pages, 824 kb)

Applicant's Construction Milestone Schedule and Project Layout Figure

Posted February 17, 2010. (PDF file, 5 pages, 428 kb)

Applicant's Drainage Layout figure

Posted February 17, 2010. (PDF file, 4 pages, 736 kb)

Applicant's Status Report No. 5

Posted February 17, 2010. (PDF file, 4 pages, 380 kb)

Applicant's Supplemental Analysis for the Application for Certification

Posted February 8, 2010. (PDF file, 268 pages, 5.8 MB)

Applicant's Responses to Actions Items from the January 5, 2010 Workshop Continuation

Posted February 8, 2010. (PDF file, 106 pages, 4.1 MB)

Applicant's Final Decision/Determination

Posted February 1, 2010. (PDF file, 29 pages, 2.9 MB)

Change of Project Name and Change in Applicant Name

Posted January 28, 2010. (PDF file, 3 pages, 596 kb)

Applicant's Submittal of the Geotechnical Engineering Report

Posted January 12, 2010. (PDF file, 145 pages, 11 MB)

Applicant's Submittal of the CAISO Reports

Posted January 11, 2010. (PDF file, 91 pages, 7.3 MB)

Applicant's Updated Project Map Posted December 16, 2009. (PDF file, 6 pages, 1.8 MB)

Applicant's responses to CURE Data Request Set 4; Data Requests 378-402

Posted December 16, 2009. (PDF file, 154 pages, 29.6 MB)

Applicant's Responses to Data Requests Set 1, Part 1 and Set 2, Part 1 Data Requests 71-73,76-79,85, and 128-141. Posted December 1, 2009. (PDF file, 78 pages, 14.5 MB)

Response to CURE Data Request Set 3, (276 - 380).

Posted November 16, 2009. (PDF file, 215 pages, 10.6 MB)

Response of Solar One and Solar Two to Joint Committee Request for Scheduling Information.

Posted November 10, 2009. (PDF file, 13 pages, 314 kb)

Applicant's Response to CEC & BLM Requests during the September 16th Workshop.

Posted October 19, 2009. (PDF file, 11 pages, 2 MB)

Applicant's Response to CEC and BLM, Data Request 81.

Posted September 3, 2009. (PDF file, 416 pages, 36 MB)

Applicant's Response to CEC and BLM, Data Requests, Set One, Parts 1 and 2: Data Requests 1-48, 81 and 109-112. Posted September 3, 2009. (PDF file, 240 pages, 18 MB)

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Applicants Response to CURE's Data Requests, Set 2 Data Requests 229-275.

Posted August 25, 2009. (PDF file, 71 pages, 6 MB)

Applicant's Response to CEC and BLM, Data Requests, Set One, Part 2: Data Requests 113-127.

Posted August 25, 2009. (PDF file, 60 pages, 24.4 MB)

Applicant's Response to California Union for Reliable Energy, Data Request, Set One, 1 - 228.

Posted July 28, 2009. (PDF file, 183 pages, 4.98 MB)

<u>Applicant's Response to Energy Commission and BLM Data Request 50</u> - Report to Map Federal and State Surface Waters. Posted July 21, 2009. (PDF file, 42 pages, **2.8 MB**)

Applicant's Response to Energy Commission and BLM Data Request 55 - Raven Monitoring and Control Plan. Posted July 21, 2009. (PDF file, 35 pages, 3 MB)

Applicant's Responses to Energy Commission and BLM Data Requests Set 1, Part 1 - Data Requests 49-70, 74-45, 80, 82-84, and 86-91. Posted July 21, 2009. (PDF file, 44 pages, 5.2 MB)

Applicant's Request for Extension on Data Responses. Posted July 13, 2009. (PDF file, 3 pages, 144 kb)

Applicant's Presentation at Informational Hearing/BLM Scoping Meeting. Posted June 25, 2009. (PDF file, 21 pages, 6 MB)

Supplemental Information In Response to CEC Data Adequacy Requests, dated April 2009. posted April 6, 2009. (PDF file, 379 pages, 16.3MB Note Large File Size)

Application for Certification, Volumes 1 and 2, filed December 2, 2008.

(Adobe Acrobat PDF files. Please note that some files are VERY large. Right click the link to download them [option-click on a Macintosh].)

### **Intervenors' and Others' Documents**

<u>California Union for Reliable Energy Comments on the Notice of Decision</u>. Dated November 11, 2010. Posted November 22, 2010. (PDF File, 35 pages, 1.43 mb)

<u>Burlington Northern Railway Company (BNSF) Comments on the Presiding Members Proposed Decision</u>. Dated October 25, 2010. Posted October 27, 2010. (PDF File, 414 pages, 19.5 mb)

Sierra Club Comments on the Presiding Members Proposed Decision. Dated October 20, 2010. Posted October 27, 2010. (PDF File, 37 pages, 291 kb)

<u>California Unions for Reliable Energy Initial Comments on the Presding Members Proposed Decision</u>. Dated October 19, 2010. Posted October 27, 2010. (PDF File, 28 pages, 685 kb)

Sierra Club Exhibits #1021 to 1023. Dated October 14, 2010. Posted October 27, 2010. (PDF File, 39 pages, 973 kb)

<u>Letter from The Sierra Club Regarding Tortoise Habitat on Project Site</u>. Dated September 14, 2010. Posted September 15, 2010. (PDF File, 8 pages, 120 kb)

Letter from Patrick Jackson Regarding Applicant's Scenarios 5.5 and 6. Dated September 12, 2010. Posted September 15, 2010. (PDF File, 4 pages, 282 kb)

<u>Letter from The Wildlands Conservancy to Commissioner Eggert.</u> Dated September 13, 2010. Posted September 15, 2010. (PDF File, 17 pages, **1.6 megabytes**)

Sierra Club Comments on the Final Environmental Impact Statement. Posted September 7, 2010. (PDF File, 20 pages, 227 kb)

Intervenor Patrick C. Jackson's Comments and Protests to the Final Environmental Impact Statement. Posted September 7, 2010. (PDF File, 20 pages, 227 kb)

BNSF Railway Comments on Final Environmental Impact Statement and Protests to Proposed Grant of Right-of Way. Posted September 7, 2010. (PDF File, 18 pages, 189 kb)

Intervenor Basin and Range Watch Exhibits 800 - 804. Posted September 1, 2010. (PDF File, 60 pages, 4.3 MB)

Exhibit 314 - Email Containing Comments of Tonya Moore of the Department of Fish and Game. Posted August 26, 2010. (PDF File, 2 pages, 73.8 kb)

Patrick Jackson Letter Requesting More Information. Posted August 24, 2010. (PDF File, 4 pages, 201 kb)

BNSF Data Request Letter. Posted August 24, 2010. (PDF File, 5 pages, 61 kb)

Fort Irwin Annual Report. Posted August 17, 2010. (PDF File, 14 pages, 460 kb)

Public Comment from Ira West Regarding Free Access to Private Land. Posted August 16, 2010. (PDF File, 1 pages, 37 kb)

Resolution for Calico Solar by Newberry Springs Chamber of Commerence. Posted August 11, 2010. (PDF File, 1 pages, 100 kb)

California Unions for Reliable Energy Exhibits 400 - 436, Revised Sequential Exhibit List + Revised topic Exhibit List. Posted August 2, 2010. (PDF File, 1074 pages, 46.6 mb, Please note that this complete file is VERY large. Right click the link to download, [option-click on a Macintosh] or use the smaller portions below)

Cover Sheet and Exhibit List. (PDF File, 10 pages, 502 kb)

Exhibits 400 - 403, Transmission, David Marcus. (PDF File, 23 pages, 413 kb)

Exhibits 405 - 412, Soil/Water, Boris Poff. (PDF File, 110 pages, 10.3 MB)

Exhibits 413 - 423, Biology, Vernon C. Bleich. (PDF File, 204 pages, 8.83 MB)

Exhibits 424 - 436, Biology, Scott Cashen. (PDF File, 645 pages, 27.6 MB)

Exhibits Appendix A - K, and Comment and Response. (PDF File, 83 pages, 2.36 MB)

California Unions for Reliable Energy Comments on SA/DEIS. Posted June 7, 2010. (PDF File, 44 pages, 744 kb)

San Barnardino County's Comments on SA/DEIS. Posted June 7, 2010. (PDF File, 3 pages, 110 kb)

Intervenor Patrick C. Jackson's Comments on SA/DEIS, Part 1. Posted June 8, 2010. (PDF File, 9 pages, 146 kb)

Intervenor Patrick C. Jackson's Comments on SA/DEIS, Part 2. Posted June 2, 2010. (PDF File, 10 pages, 132 kb)

Petition to Intervene by County of San Bernardino. Posted May 19, 2010. (PDF File, 6 pages, 216 kb)

<u>Defenders of Wildlife Status Report #2</u>. Posted March 26, 2010. (PDF File, 8 pages, 71 kb)

Patrick Jackson's Status Report #5. Posted March 15, 2010. (PDF File, 51 pages, 5.1 MB)

Letter from California Unions for Reliable Energy Regarding the Project Description of the Calico Solar Power Project. Posted March 15, 2010. (PDF File, 14 pages, 573 kb)

Joshua, Basofin, Defenders of Wildlife Proposal for Site Reconfiguration Alternative. Posted March 9, 2010. (PDF File, 7 pages, 226 kb)

Intervenor Defenders of Wildlife Status Report # 1. Posted March 8, 2010. (PDF File, 6 pages, 226 kb)

Intervenor Patrick C. Jackson Status Report # 4. Posted February 17, 2010. (PDF File, 4 pages, 80 kb)

CURE's Status Report No. 5. Posted February 17, 2010. (PDF File, 10 pages, 516 kb)

Intervenor Patrick C. Jackson Status Report # 3. Posted February 8, 2010. (PDF File, 3 pages, 80 kb)

Intervenor Patrick C. Jackson Status Report # 2. Dated December 19, 2009. Posted February 8, 2010. (PDF File, 3 pages, 56 kb)

San bernardino Comments on Traffic and Transportation. Posted January 28, 2010. (PDF File, 1 pages, 384 kb)

CURE's Status Report No. 4. Posted December 20, 2009. (PDF File, 8 pages, 480 kb)

<u>CURE letter re CEQA Requirements for Study of Stirling Solar One Transmission Upgrades and Pisgah Substation Expansion.</u>
Posted December 16, 2009. (PDF File, 10 pages, 184 kb)

Data Request By Basin and Range Watch. Dated November 25, 2009. Posted: December 1, 2009. (PDF File, 6 pages, 208 kb)

<u>CURE Combined Comments on Committee Scheduling and Integrating REAT Milestones for SES Solar One and Solar Two Projects.</u>
Posted: November 10, 2009. (PDF File, 11 pages, 127 kb)

CURE's Status Report No. 2. Posted: October 27, 2009. (PDF File, 5 pages, 80 kb)

Mojave Desert Air Quality Management District Preliminary Decision. Dated June 4, 2009. Posted September 10, 2009. (PDF File, 31 pages, 1.1 MB)

Comment from the Mojave Water Agency Regarding the SES Solar One's Water Usage. Posted: August 31, 2009. (PDF File, 3 pages, 188 kb)

<u>CURE's Data Requests Set 1</u>. Note: Data Requests 166-223 were not included in this filing. Posted: July 30, 2009. (PDF File, 44 pages, 404 kb)

U.S. Environmental Protection Agency Scoping Comments. Posted: July 21, 2009. (PDF File, 10 pages, 220 kb)

CURE's Scoping Comments on the SES Solar I Project. Posted: June 25, 2009. (PDF File, 12 pages, 2 MB)

Mojave Desert Air Quality Management District's Response to Request for Agency Participation. Dated: January 6, 2008. Online: January 12, 2008. (PDF File, 1 pg., 77.2 kb)

### **Figures and Maps**

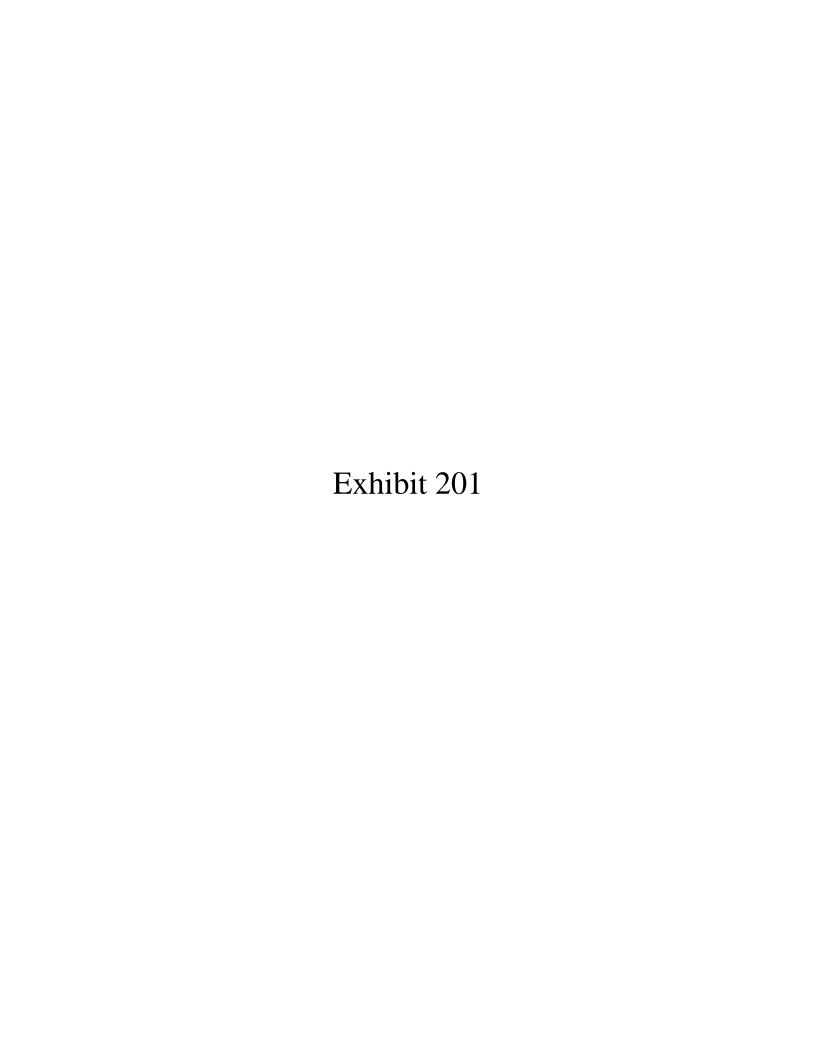
Overview Map, posted July 2, 2009 (PDF file, 1 pg, 348 kb).

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### Calico Solar Power Project Compliance Proceeding

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Commission Documents Applicant's Documents Intervenors' & Others' Documents

#### **Commission Documents**

Transcript of the August 24, 2011 Mandatory Status Conference. Posted September 1, 2011. (PDF file, 59 pages, 98 kb)

Staff's Status Report. Dated and posted August 17, 2011. (PDF file, 5 pages, 393 kb)

Transcript of July 19, 2011, Mandatory Status Conference. Posted July 25, 2011. (PDF file, 56 pages, 92.1 kb)

Transcript of June 23, 2011, Mandatory Status Conference. Posted June 27, 2011. (PDF file, 27 pages, 50 kb)

Commission Staff's Status Report. Posted June 20, 2011. (PDF file, 4 pages, 221 kb)

Transcript of the June 8, 2011, Committee Hearing of Oral Arguments. Posted June 13, 2011. (PDF file, 82 pages, 134 kb)

Staff's Reply Brief. Posted June 3, 2011. (PDF file, 10 pages, 79 kb)

E-mail from Calico Committee on Data Requests from Patrick Jackson. Posted May 27, 2011. (PDF file, 1 page, 20 kb)

Energy Commission Staff's Response to Committee Briefing Order. Posted May 24, 2011. (PDF file, 15 pages, 131 kb)

Transcript of the May 13, 2011, Mandatory Status Conference. Posted May 18, 2011. (PDF file, 40 pages, 63.7 kb)

Transcript of the April 20, 2011, Informational Hearing. Posted April 26, 2011. (PDF file, 88 pages, 139 kb)

California Energy Commission Data Requests Set 1 (1 - 37). Posted April 15, 2011. (PDF file, 14 pages, 47.1 kb)

Request for Committee Overview of the Calico Solar Project Amendment. Dated April 4, 2011. Posted April 5, 2011. (PDF file, 2 pages, 21.6 kb)

### **Applicant's Documents**

Applicant's Geomorphic and Hydraulic Analysis and Geomorphic and Biologic Analysis Report. Posted September 13, 2011. (PDF file, 69 pages, 6.37 MB)

Applicant's Infiltration Report. Posted September 7, 2011. (PDF file, 201 pages, 32.7 mb)

Applicant's Status Memorandum. Posted August 24, 2011. (PDF file, 61 pages, 708 kb)

Applicant's Geotechnical Engineering Report. Posted August 24, 2011. (PDF file, 153 pages, 5.80 mb)

Glint and Glare Analysis letter from Power Engineers to BNSF. Posted July 25, 2011. (PDF file, 2 pages, 160 kb)

California Unions for Reliable Energy and Calico Solar, LLC Joint Statement Regarding Settlement and Request for Commission Incorperation of Additional Conditions of Approval. Posted July 11, 2011. (PDF file, 9 page, 373 kb)

Applicant's Issues Statement in Response to Status Conference. Posted June 23, 2011. (PDF file, 6 page, 815 kb)

Calico Solar Response to Patrick Jackson's Data Request Set 1, No 1 - 13. Posted June 8, 2011. (PDF file, 7 page, 2.2 mb)

Calico Solar Reply Brief Regarding Jurisdiction of the Energy Resources Conservation and Development Commission and the Baseline of Environemental Analysis Required by the Petition to Amend. Posted June 8, 2011. (PDF file, 24 page, 371 kb)

Calico Letter Regarding Schedule for Additional Submissions. Posted May 31, 2011. (PDF file, 5 page, 352 kb)

Calico's Brief on the Baseline of Environmental Conditions and the Environmental Analysis Required by the Petition to Amend. Posted May 24, 2011. (PDF file, 12 pages, 516 kb)

<u>Calico Brief Regarding Jurisdiction of Energy Resources Conservation and Development Commission</u>. Posted May 24, 2011. (PDF file, 16 pages, 688 kb)

Calico Solar's Response to the the California Energy Commission's Data Requests Set 1, (1 - 37). Posted May 10, 2011. (PDF file, 98 pages, 7.27 mb)

Calico Solar's Letter Regarding the California Energy Commission's Data Requests Set 1, (1 - 37). Posted May 10, 2011. (PDF file, 5 pages, 118 kb)

Calico Solar's Motion to Strike Sierra Club's Motion To Dismiss. Posted May 6, 2011. (PDF file, 6 pages, 235 kb)

Calico Solar Project Amendment Issues Identification Report. Posted April 14, 2011. (PDF file, 14 pages, 45 kb)

Petition to Amend, This Amendment proposes a partial modification in the solar collector technology used on the Project site. Dated March 18, 2011. Posted March 25, 2011. (PDF file, 671 pages, 59 mb)

#### Intervenors' and Others' Documents

Sierra Club's Issues Statement for the Upcoming Calico Status Meeting. Dated August 23, 2011. Posted August 24, 2011. (PDF file, 3 page, 47.2 kb)

<u>Letter from the California Department of Fish and Game regarding California Environmental Quality Act Lead Agency Determination</u>. Dated August 2, 2011. Posted August 8, 2011. (PDF file, 3 page, 365 kb)

Email from Power Engineers to BNSF Regarding Glint and Glare Study. Dated August 4, 2011. Posted August 5, 2011. (PDF file, 1 page, 45 kb)

Email from BNSF to Power Engineers Regarding Glint and Glare Study. Dated August 3, 2011. Posted August 5, 2011. (PDF file, 1 page, 12 kb)

BNSF Railway Company's Petition to Revoke Certification and Stay Compliance Proceedingd Pending Adjudication of this Petition. Posted July 11, 2011. (PDF file, 11 pages, 373 kb)

BNSF Railway Issues Statement for June 23, 2011, Mandatory Status Conference. Posted June 23, 2011. (PDF file, 4 pages, 77.7 kb)

BNSF Railway Company's Reply Brief Regarding Jurisdiction and Baseline. Posted June 8, 2011. (PDF file, 20 pages, 51.2 kb)

<u>Defenders of Wildlife's Response in Support of Sierra Club's Motion to dismiss the Petition to Amend</u>. Posted June 8, 2011. (PDF file, 11 pages, 70.1 kb)

Sierra Club's Reply Brief Regarding Jurisidiction of the California Energy Commission. Posted June 8, 2011. (PDF file, 9 pages, 187 kb)

Patrick Jackson Letter regarding Calico Solar Project and Coccidioidomycosis (Valley Fever). Posted April 18, 2011. (PDF file, 5 pages, 365 kb)

Patrick Jackson Data Requests Set 1. Posted May 27, 2011. (PDF file, 9 pages, 157 kb)

BNSF Rail Way Company's Brief Regarding Jurisdiction and Baseline. Posted May 24, 2011. (PDF file, 85 pages, 2.5 mb)

<u>CURE's Opening Brief Regarding Jurisdiction and Baseline for Environmental Review.</u> Posted May 24, 2011. (PDF file, 20 pages, 901 kb)

Sierra Club's Notice of Protest. Posted May 6, 2011. (PDF file, 10 pages, 88.8 kb)

Sierra Club Motion to Dismiss the Petition to Amend. Posted April 22, 2011. (PDF file, 13 pages, 249 kb)

California Unions for Reliable Energy Petition to Intervene. Posted April 21, 2011. (PDF file, 7 pages, 132 kb)

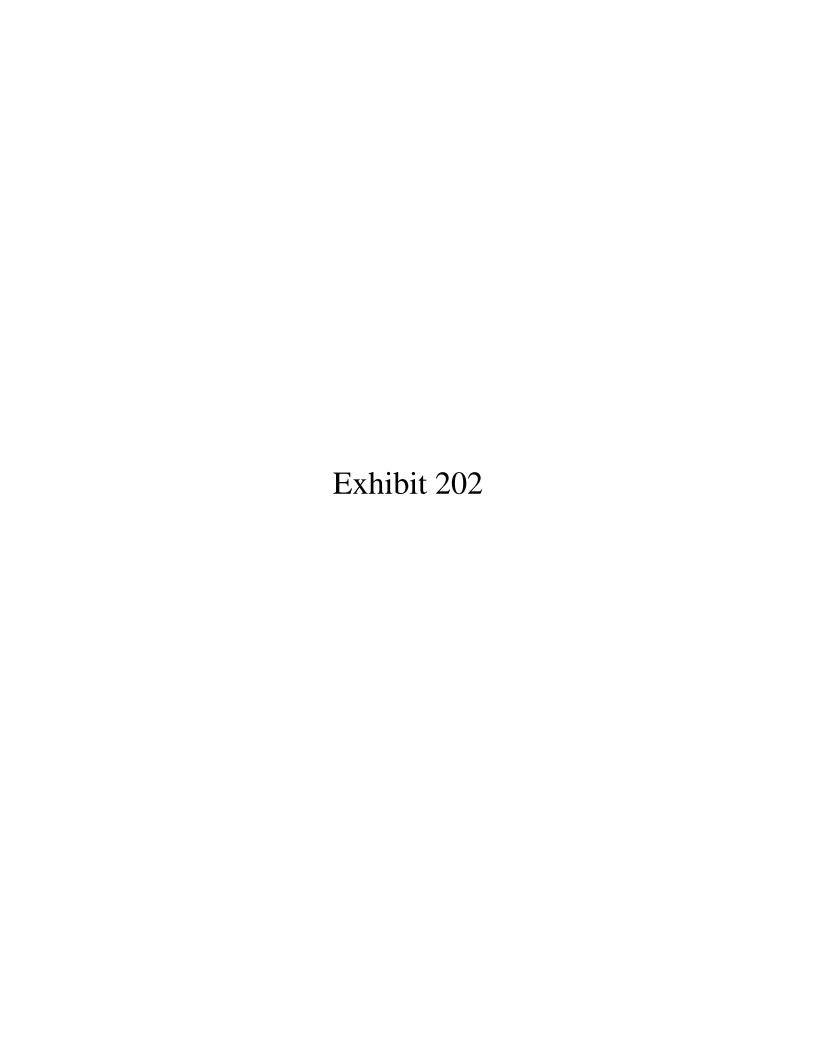
California Unions for Reliable Energy's Letter Regarding Proposed Modification at the Calico Solar Project. Posted April 21, 2011. (PDF file, 13 pages, 345 kb)

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Decisions Pending and Opportunities for Public Participation

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Last Modified: 09/13/11





Mr. Christopher Meyer CEC Project Manager Attn: Docket No. 08-AFC-13 California Energy Commission

1516 Ninth Street Sacramento, CA 95814-5512 Mr. Jim Stobaugh BLM Project Manager Attn: Docket No. 08-AFC-13 Bureau of Land Management P.O. Box 12000 Reno, NV 89520 **DOCKET 08-AFC-13**DATE FEB 12 2010

**RECD.** FEB 16 2010

RE: Calico Solar (Formerly Solar One) Project

Applicant's Submittal of the Calico Solar Construction Milestone Schedule and Project

Layout Figure

Dear Mr. Meyer and Mr. Stobaugh,

Tessera Solar hereby submits the Applicant's Construction Milestone Schedule and Project Layout Figure for the Calico Solar Project. I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.

Sincerely,

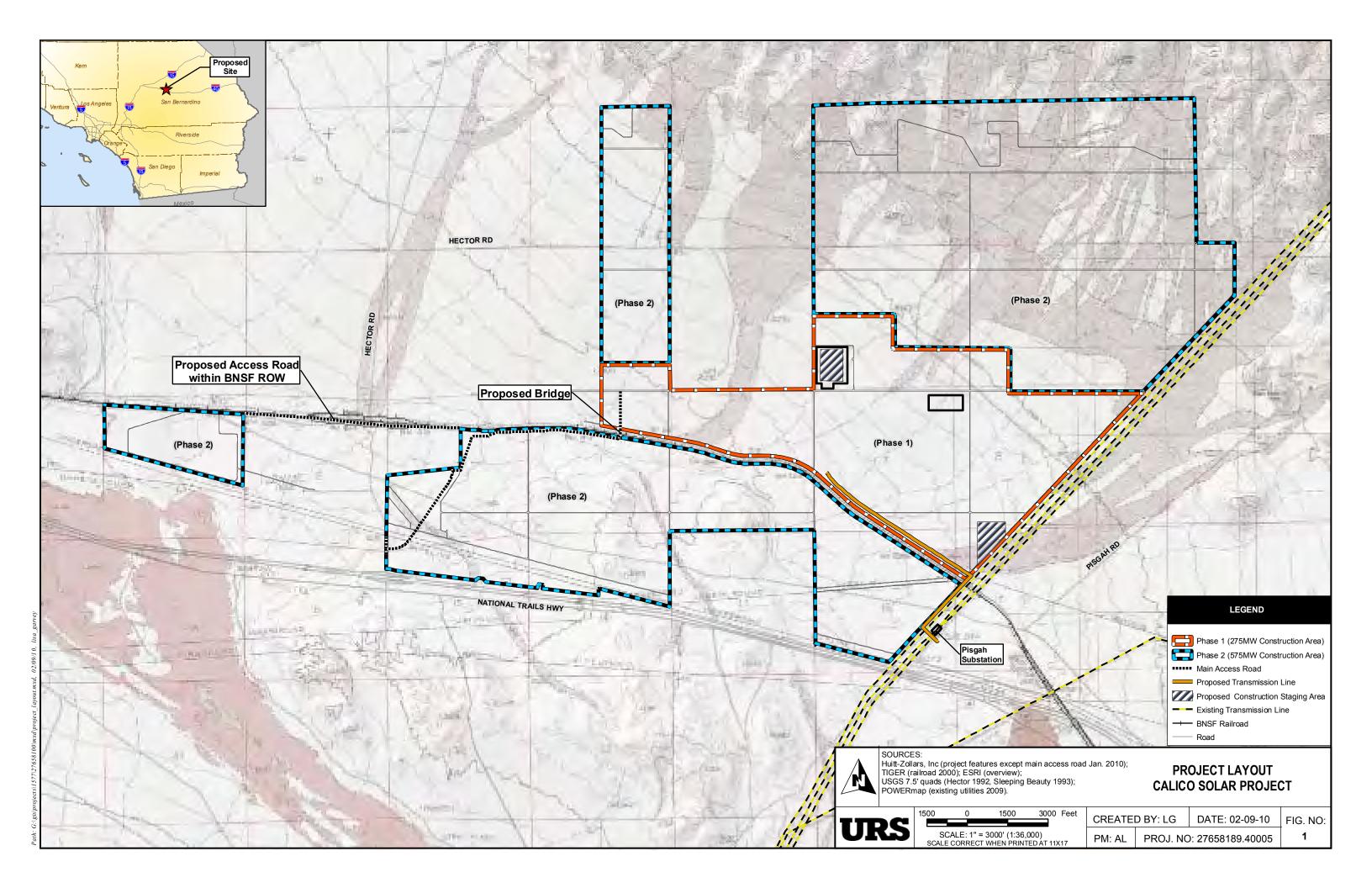
Felicia Bellows

Vice President of Development

### ${\bf Calico\ Solar\ Construction\ Schedule-Major\ Milestones}$

Activity	Time Frame				
Phase I					
Start Phase I Construction	October 2010				
Fence Installation	October 2010				
All tortoise within Phase I translocated <5 kM; potentially	October 2010				
complete clearance surveys and translocations for tortoises					
outside of Phase I					
Begin Road Preparation and Dust Control	November 2010				
Begin to bury electrical lines, hydrogen lines and start	November 2010				
Transmission Pole Placement					
Begin construction of the series of transformers for each	November 2010				
group of SunCatchers					
Complete Main Services Complex Construction – including	May 2011				
evaporation ponds, if needed					
Substation Infrastructure (first two-fifths)	June 2011				
Onsite Transmission Lines (first Circuit)	June 2011				
First Units Online	July 2011				
Waterline Construction Completed	June 2011				
Start debris basins North of Project	July 2011				
Complete Bridge Construction	October 2011				
SunCatcher Assembly Complete	August 2012				
Complete series of transformers for each group of 60	August 2012				
SunCatchers					
Final Road Preparation and Dust Control	June 2013				
Phase I Construction Complete	June 2013				
Phase II					
Begin desert tortoise clearance surveys and disease testing for	March 2011				
Phase II area, complete eligible translocations					
Continue desert tortoise clearance surveys and disease testing	September 2011				
for Phase II area, complete eligible translocations					
If necessary, complete all desert tortoise translocations	March 2012				
Start Phase II Construction	June 2013				
Begin Road Preparation and Dust Control	June 2013				
Begin to bury electrical lines, hydrogen lines and start	June 2013				
Transmission Pole Placement					
Begin construction of the series of transformers for each	June 2013				
group of SunCatchers					
Onsite Transmission (second circuit)	December 2013				
Remaining Substation Infrastructure	December 2013				
Complete series of transformers for each group of 60	August2015				
SunCatchers					
SunCatcher Assembly Complete	August 2015				
All Construction Complete	August 2015				

Please also see attached Project Layout figure showing Phase I and Phase II boundaries





# 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

# APPLICATION FOR CERTIFICATION For the SES SOLAR ONE PROJECT

Docket No. 08-AFC-13

#### PROOF OF SERVICE

(Revised 12/2/09)

#### **APPLICANT**

Felicia Bellows, Vice President of Development Tessera Solar 4800 North Scottsdale Road, Ste. 5500 Scottsdale, AZ 85251 felicia.bellows@tesserasolar.com

Camille Champion
Project Manager
Tessera Solar
4800 North Scottsdale Road,
Suite 5500
Scottsdale, AZ 85251
camille.champion@tesserasolar.com

#### **CONSULTANT**

\*Angela Leiba
AFC Project Manager
URS Corporation
1615 Murray Canyon Rd.,
Ste. 1000
San Diego, CA 92108
Angela Leiba@URSCorp.com

## **APPLICANT'S COUNSEL**

Allan J. Thompson Attorney at Law 21 C Orinda Way #314 Orinda, CA 94563 allanori@comcast.net

#### **INTERESTED AGENCIES**

California ISO e-recipient@caiso.com Jim Stobaugh
BLM – Nevada State Office
P.O. Box 12000
Reno, NV 89520
iim stobaugh@blm.gov

Rich Rotte, Project Manager Bureau of Land Management Barstow Field Office 2601 Barstow Road Barstow, CA 92311 Richard\_Rotte@blm.gov

Becky Jones California Department of Fish & Game 36431 41st Street East Palmdale, CA 93552 dfgpalm@adelphia.net

#### **INTERVENORS**

California Unions for Reliable
Energy (CURE)
Loulena A. Miles,
Marc D. Joseph
Adams Broadwell Joseph &
Cardozo
601 Gateway Boulevard,
Ste. 1000
South San Francisco, CA 94080
Imiles@adamsbroadwell.com

Defenders of Wildlife
Joshua Basofin
1303 J Street, Suite 270
Sacramento, California 95814
e-mail service preferred
ibasofin@defenders.org

Basin and Range Watch
Laura Cunningham
Kevin Emmerich
P.O. Box 70
Beatty, NV 89003
atomictoadranch@netzero.net

Patrick C. Jackson 600 N. Darwood Avenue San Dimas, CA 91773 e-mail service preferred ochsjack@earthlink.net

#### **ENERGY COMMISSION**

JAMES D. BOYD
Vice Chair and Presiding Member
jboyd@energy.state.ca.us

JEFFREY D. BYRON Commissioner and Associate Member <u>jbyron@energy.state.ca.us</u>

Paul Kramer Hearing Officer <u>pkramer@energy.state.ca.us</u>

Caryn Holmes, Staff Counsel 1516 9th Street, MS-14 Sacramento, California 95814 cholmes@energy.state.ca.us

Christopher Meyer
Project Manager
cmeyer@energy.state.ca.us

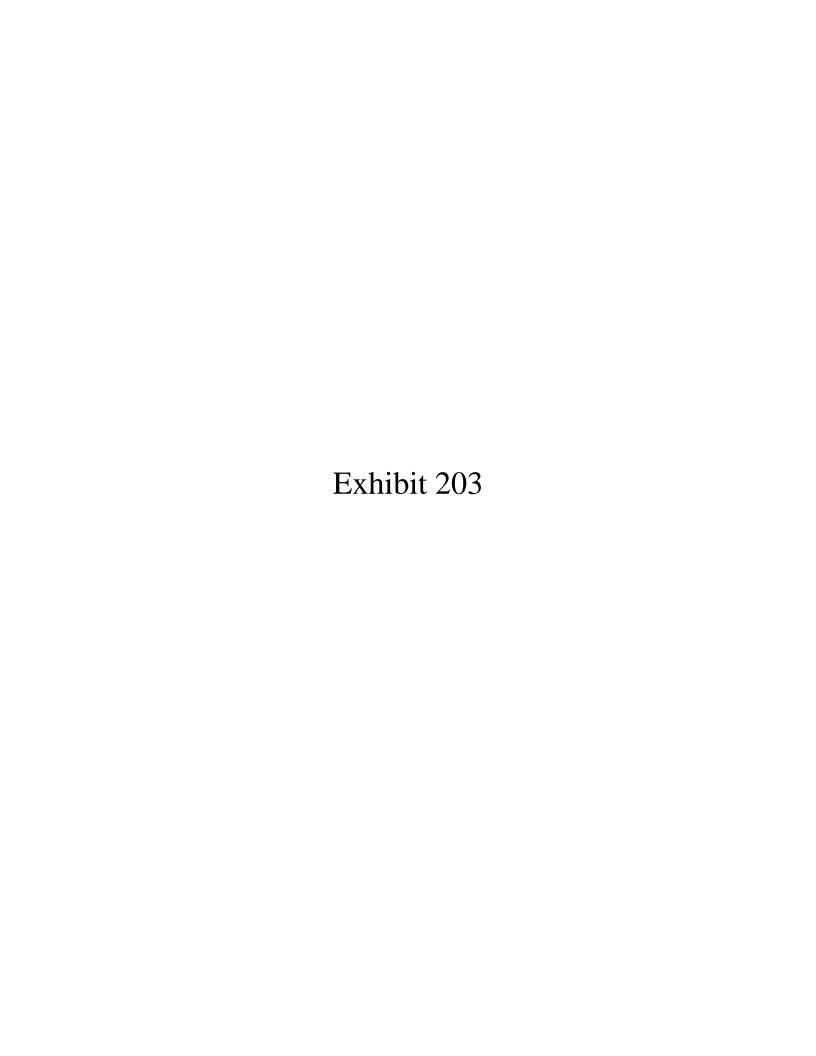
Public Adviser publicadviser@energy.state.ca.us

# **DECLARATION OF SERVICE**

I <u>Corinne Lytle</u> , declare that on <u>February 12</u> , 2010, I served and filed copies of the attache <u>d Applicant's Submittal of Construction Milestones and Project Layout. 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:</u>
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/solarone].
The documents have 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 with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses <b>NOT</b> 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 ( <i>preferred method</i> );
depositing in the mail an original and 12 paper copies, as follows:
CALIFORNIA ENERGY COMMISSION Attn: Docket No. 08-AFC-13 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.

Original signed by

Corinne Lytle



#### Testimony of Sean Gallagher

Vice President of Marketing and Regulatory Affairs, Tessera Solar

Before the House Select Committee on Energy Independence and Global Warming

July 28, 2009

#### **Introduction:**

Thank you, Chairman Markey, Ranking Member Sensenbrenner, Members of the Committee. I am Sean Gallagher, Vice President of Marketing and Regulatory Affairs for Tessera Solar. It is a pleasure to share some insights with the Committee about our technology and our quest to bring that technology to utility-scale commercial development.

Tessera Solar, headquartered in Houston, Texas, was formed to be the exclusive developer and operator of the SunCatcher<sup>TM</sup> Power System developed by our sister company, Stirling Energy Systems, headquartered in Scottsdale, Arizona. In May 2008, the NTR, an Irish renewable energy development company, invested \$100 million into Stirling Energy Systems, and created Tessera Solar as the project development arm of the business.

### **Technology:**

Concentrating Solar Power (CSP) is emerging as one of the most promising sources of zero greenhouse gas emission renewable energy for the 21<sup>st</sup> Century. Enough solar energy falls on the earth's surface in one hour to meet the world's energy needs for one year. However, the technological challenge is to harness that energy and deliver it to customers in a cost-effective manner.

Solar electric technologies come in two basic flavors: photovoltaic and solar thermal electric or CSP. Photovoltaic systems like those you find on residential and commercial rooftops use an electrochemical process to convert sunlight directly into electricity. CSP systems use heat from the sun to create mechanical energy, which is converted into electricity. Our system is a species of CSP.

Stirling Energy Systems developed the SunCatcher<sup>TM</sup> Power System in cooperation with the Sandia National Laboratories. The SunCatcher<sup>TM</sup> system is a 25kilowatt-electric (kWe) solar dish Stirling system that automatically tracks the sun in order to collect and focus solar energy on the power conversion unit, which generates grid quality electricity. The system consists of a parabolic dish structure that supports an array of curved glass mirrors, which concentrates the solar energy on to the power conversion unit. A power conversion unit is mounted on a boom at the focal point of the dish, where the sun's rays are concentrated. Power is generated by a closed-loop, highefficiency four-cylinder reciprocating Solar Stirling Engine. Heat from the sun is concentrated onto the front end of the engine, which reaches temperatures of 1300 degrees Fahrenheit. The heat causes the internal working fluid to expand and power the pistons in the four-cylinder Stirling Engine. The pistons are attached to a crankshaft, which turns a generator. Each dish-engine system produces 25 kW of power, enough to power approximately 15-20 average California households on a hot summer afternoon. No water is used for cooling.

#### **Technology Benefits & Advantages**

The system's design has some significant advantages and benefits that will help to make solar thermal technology a reliable, cost effective and environmentally sustainable option for utilities.

- First, the SunCatcher™ Power System has the highest solar-to-grid electric efficiency, 31.25%. This efficiency means that the SunCatcher system has lower raw material use than other solar power technologies
- Second, the modular design allows for minimal land disturbance, higher terrain flexibility, and highest on-sun availability since there is no single point of failure. The modular system can also be built to the scale required by a particular community.
- Third, the technology uses far less water than peer technologies. Water-cooled parabolic trough plants producing 500 megawatts of electricity require over 3,000 acre-feet of water per year, and even air-cooled solar tower systems require 125 acre-feet per year. The SunCatcher™ system requires only 22 acre-feet of water per year—and only uses water to wash the mirrors. For the arid Southwest, where solar resources are most abundant, this is a significant advantage.
- And finally, it is an environmentally friendly technology that produces no greenhouse gas emissions, or other combustion byproducts. The system also contains no hazardous heat transfer fluids.

These advantages enable Tessera Solar to offer peak power output at very competitive prices. The SunCatcher is among the lowest cost solar power options available.

The SunCatcher™ system is a result of over a decade of innovative engineering and validation testing with hundreds of thousands of hours of on-sun testing on each major subsystem, and over 50,000 hours of on-sun testing for the complete system.

Over the years, companies like Ford Motor Company, McDonnell-Douglas, Boeing, and Southern California Edison have all worked to improve the design of the Stirling Dish Engine. In 1996, Stirling Energy Systems bought the earlier designs and worked in collaboration with the Sandia National Laboratories to create a system that is now ready to be manufactured and deployed in world-scale power plants.

#### **Job Creation**

Our technology's past is in America and we believe its future should be here too. Because this technology uses steel, glass, and engines, the supply chain is automotive. We are partnering with Tier 1 automotive suppliers to manufacture SunCatcher<sup>TM</sup> components. The company that will make the engines manufactures engines for the U.S. carmakers. The company that will make the mirror facets makes windshields, doors, and car hoods. The American automotive industry has the skills and expertise to build this. The industry has existing manufacturing capacity that will be converted for manufacturing of solar power components. Deploying this technology on a commercial scale in the United States and across the world will create jobs in precisely those sectors and regions of the country in which America has been falling behind. As we get into

volume production in 2010 we will be putting autoworkers back to work, eventually creating up to 4,000 jobs across the supply chain.

# **Development:**

The next challenge for our company, and the United States is to begin developing breakthrough technologies like the SunCatcher<sup>TM</sup> on a commercial scale. Beginning in 2010, Tessera Solar plans to break ground on two of the world's largest solar farms in California with our partners San Diego Gas & Electric and Southern California Edison. Our Calico and the Imperial Valley projects in Southern California will create 300-700 construction and assembly jobs each. These projects will produce a combined 1,750MW of clean, renewable electricity using 64,000 SunCatcher<sup>TM</sup> units in all. We have also signed a power purchase agreement with CPS Energy to build another 27MW plant in West Texas to supply San Antonio with peak power. The Western Ranch project will be the first concentrating solar power plant in Texas.

Our California projects are in the BLM permitting process. The Imperial Valley project should have its permitting complete by next spring and will go into construction next year. The Calico project in the Southern California and the Western Ranch project on private land in Texas are also slated to begin construction next year pending the completion of all permit approvals.

Tessera Solar has two of the three projects that are farthest along in the BLM permitting process. We've established good working relationships with the BLM and appreciate their efforts to conduct a full, open, public process in a timely manner. We also recognize that BLM has been overwhelmed with renewable energy applications over the past two years. We support Congress' providing additional resources and additional

direction to BLM to process these applications. We have suggested process reforms to the BLM process. For instance, increased application fees and milestone requirements on developers would address the potential for land speculation. We do not support proposals that would apply the oil & gas competitive leasing model to renewable energy applications – among other things, competitive leasing would tend to skew the playing field to companies with large balance sheets rather than companies with good projects.

#### **Financing Challenges**

The changes that have wracked the financial sector in the past year have created significant challenges for financing renewable power plants. Congress responded to these challenges by creating the Department of Energy's loan guarantee programs, and the Treasury grant in lieu of investment tax credits. These programs will be critical in the next two years for projects like ours – and others in the solar industry to obtain the financing necessary to construct projects. In order to take advantage of these incentives the Administration will need to take the following steps to allow companies like ours to move these projects forward, create jobs and generate carbon free electricity:

• Issue effective regulations for the Department of Energy section 1703 and 1705 loan guarantee programs that are consistent with commercial banking practices and successful loan guarantee programs like the Export-Import Bank of the United States and the Overseas Private Investment Corporation (OPIC), which have both been successful from a risk management perspective. Absent loan guarantees, our projects and others like them face an impossible task finding financing due to the battered credit markets, and the unwillingness of private lenders to take risks on new technologies.

- Accelerate the National Environmental Policy Act (NEPA) review process that is triggered by the Loan Guarantee application. Based on previous reviews, we estimate that the NEPA review process will take 12-18 months. The length of this process delays the length of time it takes to commence construction, and may cause us to miss important start dates to take advantage of financial incentives provided by the Recovery Act. For projects that do not otherwise trigger NEPA, a more efficient process should be applied.
- In order to qualify for grants in lieu of the investment tax credit provided in the Recovery Act our projects must commence construction by December 31, 2010. The Treasury Department has issued initial guidance for these grants. The delay of the Department of Energy's Loan Guarantee Program for renewable energy projects makes it more difficult to meet the "commence construction" date. A one-year extension of the grant program to December 31, 2011 is clearly needed.

#### **Transmission**

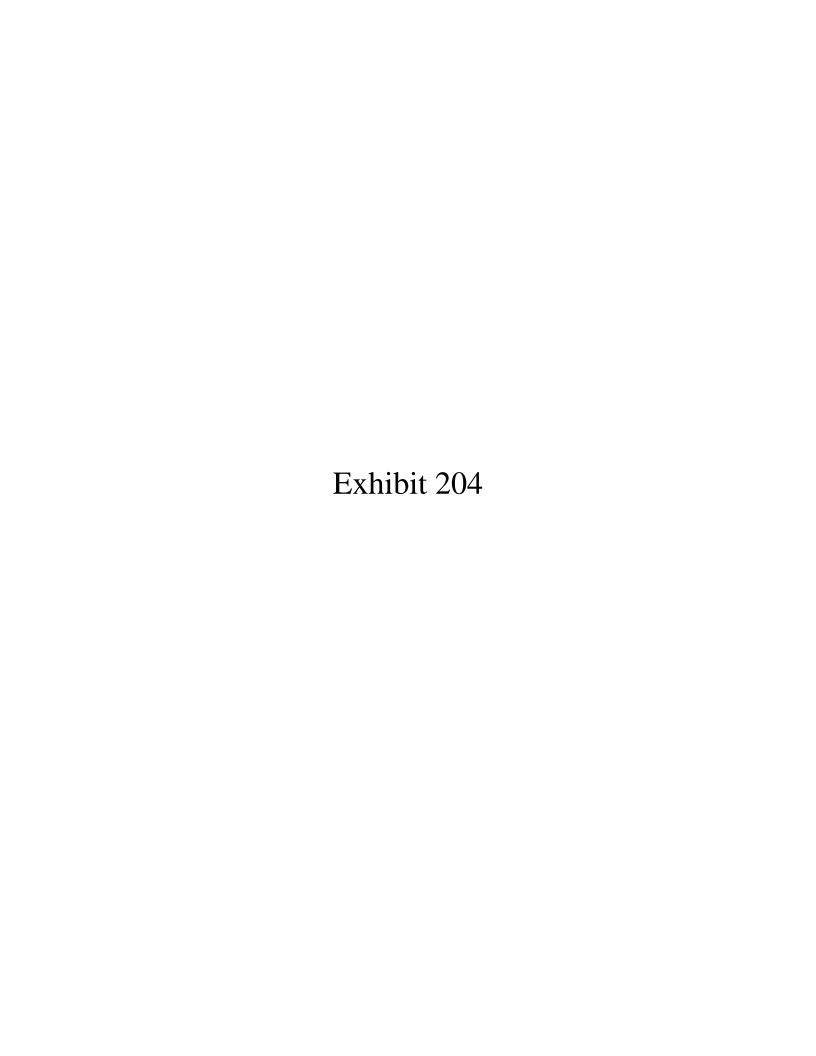
Transmission lines will also have to be sited and constructed to get this zero-carbon electricity to customers in Southern California's population centers, and to maximize the ability of the solar power resource in the Southwest to be delivered to customers across the west and the US. We support the transmission title in the American Clean Energy Leadership Act, which was passed out of the Senate Energy and Natural Resources Committee, and we are working through our trade association to strengthen it.

One obstacle to both renewable development and transmission development is current policy and practices that requires a renewable power developer to pay for the cost of any transmission network upgrades necessary to deliver the renewable energy to

customers. In the case of our Calico project in the Southern California, the network transmission costs that would be allocated to the project are close to \$400 million. Although the transmission owner pays such funds back to the developer over a five-year period, the obligation to fund the transmission upgrades in the first place puts an unreasonable burden on a renewable energy developer. The solution would require transmission owners to fund such network upgrades.

## Closing

Generations of entrepreneurs and engineers have been working towards the moment when this technology can be deployed, now we need to seize the opportunity and see that it is done. Thank you Mr. Chairman.





Annual Report & Financial Statements 2010

securing a greener future

NTR, the international renewable energy group, builds and runs green energy and resourcesustaining businesses.

Founded in 1978 to develop and operate toll roads in Ireland, NTR has since diversified into broader infrastructural development by building on its strong entrepreneurial and project development heritage.

Over the past five years, NTR has focused its attention on responding to the growth opportunities provided by the macro factors of Climate Change, Resource Depletion and Security of Energy Supply.

Chairman's Statement	
Chief Executive's Review	
Board of Directors	
Group Executive Management	
Business Reviews	
Corporate Social Responsibility	
Directors' Report	
Corporate Governance Statement	
Principal Risks and Uncertainties	
Statement of Directors' Responsibilities	
Independent Auditor's Report to the Members of NTR Plc	
Consolidated Income Statement	
Consolidated Statement of Comprehensive Income	
Consolidated Balance Sheet	
Consolidated Statement of Changes in Equity	
Consolidated Statement of Cash Flows	

# Chairman's Statement

The year ended 31 March 2010 and the period since, has seen considerable change and development across the NTR plc Group. Whilst we continue to evolve as a diversified renewable energy and sustainable waste management Group, we do so in the context of unprecedented macroeconomic and capital markets dislocation in our principal markets, most notably the United States.

These conditions have, to varying degrees, had significant implications for certain of our businesses. However, the Group and all of its businesses have responded rapidly and assertively to the particular circumstances that they collectively face.

Notwithstanding these challenges, the Group achieved several notable development milestones through the period:

- Wind Capital Group (WCG), our US wind development business, completed the financing, construction and commissioning of a 150 MW, US\$340 million wind farm at Lost Creek in North Western Missouri. This project was completed two months ahead of schedule and within budget. The wind farm has the capacity to provide power to 50,000 homes.
- Stirling Energy Systems Inc (SES) completed the
  construction and commissioning of its first utility scale solar
  park, utilising its proprietary "SunCatcher" power generating
  technology, at Maricopa, Arizona. This solar park, with
  1.5 MW of generating capacity and over 100,000 hours of
  quality power production at the time of writing, provides a
  reference plant for the future utility scale deployment of the
  SunCatcher.
- In parallel with the development and deployment of the SunCatcher, Tessera Solar America (TSA) continued to pursue the permitting process on its two keystone Californian development sites at Imperial Valley and Calico.

I am very pleased to report that both of these projects, with a combined capacity of 1.3 GW (1,300 MW), have received final permitting consent in recent weeks from the California Energy Commission and the US Government Department of the Interior.

- Green Plains Renewable Energy Inc. (NASDAQ: GPRE), an ethanol producer in which the Group, following GPRE's recent acquisition of Global Ethanol LLC., holds a 31% equity interest, has, as of 21 October last, reported seven consecutive quarters of revenue and earnings growth, reporting revenues of US\$1,813 million and earnings attributable to its shareholders of US\$55 million for the last four trailing quarters.
- GPRE has accessed the capital markets twice in 2010. In March 2010, it completed the sale of 6.3 million shares of common stock, at a price per share of US\$13.50, to institutional and retail shareholders, generating net cash proceeds of approximately US\$79 million, enabling it to look for opportunities to expand its diversified platform, including the recently announced increase of production capacity by over 30% through the acquisition of Global Ethanol LLC. In October 2010, GPRE completed the placement of US\$90 million in convertible notes, due 2015.

# Chairman's Statement (continued)





- In June 2009, Greenstar North America (GSNA), our US sustainable waste management business, opened the largest fully automated single stream waste recycling facility in the state of Texas, at San Antonio. Latterly, in May 2010, GSNA also opened a further single stream facility at Des Moines, Iowa. These facilities have combined processing capacity of 300,000 tonnes per annum, with significant growth in recycling rates in these cities since the introduction of single stream.
- Greenstar Ireland completed the acquisition of the commercial waste and recycling activities of Veolia Environmental Services in Ireland in April 2010, thereby expanding and consolidating its position in key regional markets, including Dublin and Cork.
- In August 2010, the Group completed the sale of its UK waste management business, Greenstar UK, for net proceeds of €96 million.

These positive developments were achieved in circumstances where conditions were, and indeed remain, extremely challenging.

Our core operating businesses, Greenstar Ireland and Greenstar North America, experienced very difficult trading conditions in their respective markets. Both businesses responded decisively to these challenges through a combination of significant cost reductions and a continuing drive for improved operational efficiencies. As a result, despite a revenue decline of €35.3 million to €228.6 million, net percentage EBITDA margins were maintained, a great achievement in what are essentially fixed cost businesses.

Market conditions for our renewable energy development businesses remain challenging. While our view on the medium term outlook for these businesses remains positive, the combination of current capital market conditions, uncertainty in the US utility sector with respect to near term power demand

and the short term loss of momentum on sectoral policy initiatives, means that these businesses face difficult yet different near term challenges.

In the case of Wind Capital Group, the immediate near term challenge is the lack of available utility contracts (Power Purchase Agreements) currently in the market. With a strong pipeline of high quality projects, and a proven management team, WCG is well placed to secure PPAs when the market reopens, while in the meantime continuing to maintain and improve its competitive offering. This has had the impact of deferring the need for major capital fundraising in WCG.

The issue facing SES is the current state of capital markets, in particular the scale and risk tolerance of capital available in the private equity market. In my review of 2009 I noted, and I quote "notwithstanding the strength of the Group's balance sheet, the scale of the opportunity available to our businesses will mean that those businesses will require access to new sources of third party equity capital in order to ensure that they meet their full potential".

Despite the significant advances made by SES in the commercialisation of the SunCatcher, the likely timing within which a third party strategic investor and project capital is secured has been affected by prevailing capital market uncertainties. Accordingly, while continuing to seek a strategic partner, SES expects that commercialisation of the SunCatcher will require a longer timeframe than previously envisaged. The business will be restructured to take account of this longer timeframe for SunCatcher commercialisation.

The NTR Board is fully supportive of this course of action by SES, which ensures that the impressive progress made in the commercialisation of the SunCatcher can be continued, in a manner mindful of the current challenging funding climate.

•

NTH - ANNOAL REPORT & FINANCIAL STATEMENTS 2010

#### **Financial results**

Group Revenue from continuing operations for the year ended 31 March 2010 was €244.7 million, compared to €309.5 million for the prior year.

Earnings before interest, tax, depreciation and amortisation ("EBITDA"), before impairments, in the Group's core operating businesses (Greenstar Ireland and Greenstar North America) was €30.8 million compared to €35.5 million in 2009. Development spend in our solar and wind energy businesses, together with central overhead, amounted to €106.5 million (2009: €75.6 million). The Group's share of EBITDA in our other businesses (GPRE, Roads, CAW) amounted to €10.8 million (2009: €15.5 million), resulting in an overall Group EBITDA loss from continuing operations, before impairments, of €64.9 million (2009: loss of €24.6 million).

In the context of the difficult trading and funding situations affecting our businesses, we undertook a prudent review of the carrying value of our investments. Accordingly, gross impairment charges of €147.9 million (net of tax and minority interests: €96.0 million) were recorded in respect of our Sustainable Waste Management and Solar businesses. Depreciation, amortisation and net finance costs from continuing operations amounted to €54.4 million, resulting in Group losses before tax from continuing operations of €267.2 million.

After taxation, the loss from discontinued operations and minority interests, the loss attributable to equity holders of NTR plc amounted to €210.6 million (2009: loss of €22.4 million).

Total assets of the Group at 31 March 2010 amounted to €1.38 billion, while total equity attributable to NTR shareholders was €604.6 million.

#### Liquidity

Group cash resources at 31 March 2010 amounted to €64.7 million. In addition, the Group had a further €23.1 million held in escrow and in subsidiaries held for sale.

Since the year end, the Group has announced the sale of Greenstar UK and certain assets within our Roads division, which will realise net proceeds of €125 million in aggregate.

Accordingly, I am pleased to report that through a combination of prudent management of the Group's cash and liquid resources, carefully selected and executed asset realisations and decisive responses to prevailing market circumstances, the Group's balance sheet and funding position remains robust.

#### **Board and secretary**

Eamon Bolger retired as Company Secretary on 5 July 2010. The Board wishes to express its gratitude to Eamon for his many years of service to the Group.

Caroline Bergin was appointed as Company Secretary on 5 July 2010.

Michael McNicholas, who joined the Group as Chief Operating Officer in April 2010, was appointed as an Executive Director on 9 September 2010.

The Board welcomes both Caroline and Michael to the Group and looks forward to working with them in the coming years.

#### **Dividend**

An interim dividend of 2.28 cent per share was paid on 29 January 2010. The Directors are recommending a final dividend of 4.94 cent per ordinary share. This final dividend, if approved by Shareholders at the Annual General Meeting on 8 December 2010, will be paid on 15 December 2010, to Shareholders on the Register on 26 November 2010.

#### Conclusion

The past two years have seen unprecedented turmoil in both the International economy and in capital markets. The impact of this turmoil on the Group has been extensive across all sectors.

Rapid and decisive management actions to address these challenges have clearly helped to mitigate their impact on the Group, and in particular to underpin the continuing financial strength and stability of NTR plc.

Managing through the type of challenging circumstances which we now face requires resilience and strength of purpose and on behalf of the Board, I would like to express my gratitude to management and staff at all levels in the Group for the work that they do in such difficult circumstances.

We remain committed to the continuing development of NTR plc as a diversified renewable energy and sustainable waste management Group, while at all times doing so in the context of ensuring the continued financial strength and stability of the Group.

#### **Tom Roche**

Chairman

## 1. Segmental Analysis (continued)

#### **Reportable Segment Information**

The information provided below deals only with the results, assets and liabilities of continuing operations. For information on discontinued operations, see note 4.

dis	SCC	ontini	ued (	ope	erat	ion	S,	see	e n	ote	4.														
TOTAL	2009	€,000		309,479		(2,013)						13,000		27,921		14,470		200		(10,877)	1,077,916	392,870			124,096
	2010	€,000		244,731	0	13,359						(32,682)		32,876		14,480		207		(9.376)	70,686 1,127,715 1,077,916	558,163			201,100
Other Operations	2009	€,000		31,206		2,118						22,611		375		1		09		1	70,686	109,988			270
Other	2010	€,000	,	15,480	(	က						(2,563)		279		٠		28		•	70,000	113,232			1,135
Corn Based Ethanol	2009	€,000		13,954	1	(4,131)						(7,193)		549		1		64		(2,592)	94,956	1			38,985
Corn Ba	2010	€,000		•	0	13,356						13,356		•		•		•		•	109,459	•			1
Solar	2009	€,000		1		1						(31,183)		115		1		357		(38)	200,583	52,932			774
v	2010	€,000	!	<del>0</del>		•						(64,219)		922		•		54		•	116,536	53,155			12,239
Wind	2009	€,000		412		1						(6,752)		268		553		136		6)	126,302	3,649			36,491
>	2010	€,000	,	286		•						(10,038)		498		642		49		(2,051)	294,877	140,357			165,557
Waste	2009	€,000		263,907		1						35,517		26,614		13,917		179		(8,238)	585,389	226,301			47,576
>	2010	€,000		228,647		•						30,782		31,144		13,838		106		(7,325)	536,843	251,419			22,169
			Segment revenue from	continuing operations	Share of profit/(loss) of equity	accounted investees	Segmental earnings from	continuing operations before	interest, tax, depreciation,	amortisation, share based	payments expenses and	impairment charges	Depreciation -	continuing operations	Amortisation -	continuing operations	Interest income -	continuing operations	Interest expense -	continuing operations	Reportable segment assets	Reportable segment liabilities	Acquisition of property,	plant & equipment and	intangible assets

#### 13. Intangible Assets (continued)

Intellectual property is comprised of technical knowhow, extensive research and development, engineering capabilities and supply chain development, all connected with the SunCatcher solar dish system.

The amortisation charge for the period has been charged to operating expenses in the income statement.

- Software assets are amortised over their useful lives of five years.
- Customer lists are amortised over their estimated useful lives of five to ten years.
- Supplier lists are amortised over their estimated useful lives of six years.
- Gas reserves are amortised in line with the rate of utilisation of the gas reserve.
- Contract based intangible assets are amortised over their useful lives of three to ten years.
- Intellectual property is amortised when development activities are substantially completed and the relevant assets commence operations.

#### Impairment Testing

Impairment testing was performed on all intangible asset categories above, in compliance with Group Accounting Policies.

In response to the general economic environment and in particular the challenging funding climate, it is now anticipated that the commercial roll-out of the SunCatcher will take place over a longer timeframe than previously envisaged. As a consequence, an impairment charge has arisen on the Group's intellectual property and contract based assets of €84,561,000. The net impact, after tax and minority interests, is a charge of €33,292,000.

The prior year impairment charge of €226,000 arose due to the write-off of development costs associated with discontinued acquisition projects in the Group's waste management division.

#### 14. Investment Properties

	31 March	31 March
	2010	2009
	€'000	€'000
At start of year	2,802	-
Transfer from assets held for resale	-	3,405
Fair value movement	(902)	(603)
At end of year	1,900	2,802

Investment properties is comprised of land and a building located in Ireland, held for capital appreciation.

The carrying amount of investment properties is the fair value of the property as determined by the Directors. In preparing the property valuation, the Directors consulted with a registered independent appraiser having an appropriate recognised professional qualification and recent experience in the location and category being valued. The Directors are of the opinion that the fair value which they have applied in their valuation is the amount at which the property should exchange between a willing buyer and seller in an arms' length transaction which is consistent with market values as defined, inter alia, by the Royal Institute of Chartered Surveyors. Attention is drawn to the risks associated with the valuation of investment properties, particularly at the current time. Notwithstanding the increased level of uncertainty in property markets generally at present, the Directors are satisfied with the basis upon which the valuation has been prepared.

The fair value movement recognised of €902,000 has been reflected in the income statement. A deferred tax asset of €151,000 was released during the year on investment properties.

# Notes to the Consolidated Financial Statements For the Year ended 31 March 2010 (continued)

#### 37. Subsequent Events

On 8 June 2010, an agreement was reached with Montagu Private Equity and Global Infrastructure Partners, the controlling shareholders of Biffa, for the sale of Greenstar UK. The sale was completed on 6 August 2010.

On 28 September 2010, GPRE announced that it has entered into a definitive agreement to acquire Global Ethanol, LLC, which owns two operating ethanol plants located in Lakota, lowa and Riga, Michigan which have a combined annual production capacity of approximately 157 million gallons ("mmgy"). The acquisition will increase Green Plains' capacity by 31% to approximately 657 mmgy.

In September 2010, an agreement was reached to sell a number of the Group's Irish road assets. East-Link Limited, a wholly owned subsidiary of National Toll Roads Limited, together with NTR plc's shareholding in CRG Dundalk, will be sold to DIF Infrastructure II, a Dutch based investment fund. National Toll Roads Limited's Operation and Maintenance division will be sold to Egis Road Operation S.A., a subsidiary of Egis Projects S.A., an international developer of infrastructure projects and services. The portfolio includes National Toll Roads Limited's shareholding in North-Link (Dundalk), South-Link (Waterford) and Mid-Link (Portlaoise). The transactions are subject to the necessary approvals.

On 22 April 2010, Wind Capital Ventures entered into an agreement with Lost Creek Wind HoldCo, LLC (the parent of Lost Creek Wind, LLC and a wholly owned subsidiary of Lost Creek Wind FinCo, who is wholly owned by WCV) for Lost Creek HoldCo to provide WCV with compensation in the amount of US\$40.0 million for development services that WCV has provided, and will continue to provide, to Lost Creek with respect to the wind farm project. This fee is contingent upon the Project Placed in Service Date occurring (defined as being the date when all turbine completion certifications have been received) and the Commercial Operation Date of 5 May 2010 (as defined in the PPA) occurring. These target deadlines were met and the compensation has been paid since the year end.

On 22 April 2010, Lost Creek Wind FinCo (created for financing purposes related to the Lost Creek wind farm) entered into an Equity Capital Contribution Agreement (ECCA) with Credit Suisse. Per the terms of this agreement, Credit Suisse, through their subsidiary Mehetia Inc., will be a 40% equity owner of Lost Creek HoldCo in exchange for a cash investment of US\$53 million.

In June 2010, Imagine agreed to acquire the European assets of Clearwire for €10 million in Imagine shares and Clearwire has agreed to subscribe €3 million for shares in Imagine, at the valuation which NTR plc last subscribed for shares.

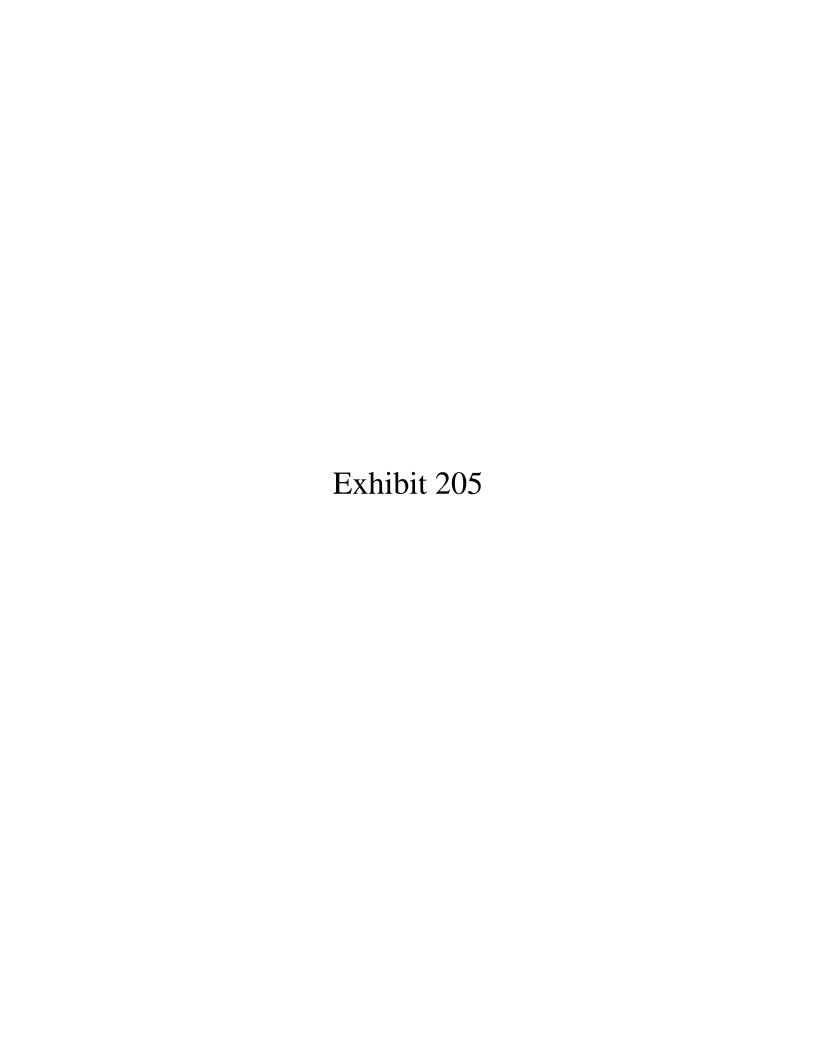
Lost Creek Wind, LLC applied for and received from the US Department of Treasury, a 30% investment tax credit, convertible into a cash grant. This grant of US\$107,685,000 was received in July 2010.

Since the year end, the Group has undertaken a number of actions in response to the global economic challenges including the decision by SES to re-pace the utility scale roll-out of the SunCatcher technology until the current uncertainties in the funding markets are resolved.

In October 2010, GPRE completed the placement of US\$90 million in convertible senior notes, due 2015. If fully converted, the Group's equity interest in GPRE would be reduced to 26%.

#### 38. Approval of Financial Statements

The Board of Directors approved the consolidated financial statements on 1 November 2010.





## NTR plc Reports Financial Results for Year Ended 31 March 2011

# Revenues from core businesses increase 35% to €329.4 million Decision taken to write down solar investments

**Dublin, 2 August 2011:** NTR plc, a leading investor in renewable energy and sustainable waste management businesses, today announces its financial results for the year ended 31 March 2011.

The Group's revenue increased 35% year on year to €329.4 million, driven by the waste and wind divisions. Group cash resources increased to €112.4 million and total assets, which include investment in wind farm, waste processing and other tangible fixed assets, stand at €996.1 million.

In the period under review, several of the Group's businesses made significant progress. The US-based wind, recycling and ethanol businesses performed well throughout the year, growing revenues and expanding their footprint. In contrast, the Irish waste business continues to be challenged by difficult trading conditions in an uncertain regulatory environment.

NTR has decided to fully write down its solar investment, significantly contributing to Group attributable losses of €280.2 million. This follows the decision earlier in the year to limit funding to its solar business, Stirling Energy Systems (SES), as it has not yet succeeded in attracting third-party investment. SES continues to seek third-party investors.

The Group's focus during the year was on taking decisive action to address the challenges facing its businesses, while driving operating performance in the portfolio overall. The financial results reflect management decisions to consolidate the portfolio and create a solid platform for future growth, reducing cash spend and redirecting capital into value-adding opportunities. While addressing short-term challenges, the Group's leadership continues to have an ambitious agenda for the company longer term and remains focused on delivering value from the current portfolio.

A number of important milestones were reached during the year, including:

- ➤ Wind Capital Group's 150 megawatt (MW) Lost Creek wind farm came on stream on time and within budget and has performed very strongly. Wind Capital Group was also successful in securing new power purchase agreements and expects to begin construction by the end of the year on two new wind farms that will bring a further 350 MW into operation by December 2012
- ➤ Greenstar Recycling (North America) continued its growth momentum, doubling its EBITDA during the year due to targeted investment and a focus on cost control. The company opened two single-stream facilities and a recycling centre in key cities. It invested in updating technologies, making Greenstar Recycling's core facilities amongst the largest and most automated in the US
- ➤ Greenstar (Ireland) faced a challenging operating environment with available waste volumes significantly reduced, margins eroded and reduced landfill prices. In response, Greenstar's management team undertook a significant cost reduction programme, commenced a series of margin-enhancing activities across its business lines, increased productivity and engaged with the relevant Government agencies to highlight the issue of below-cost selling. The business also realised synergies from its Veolia acquisition through increased revenue and market share



- ➤ NTR established a strategic relationship with BlackRock, Inc. to launch a new renewable power investment platform, which NTR anticipates will deliver value in the medium to long-term
- In its full-year results for the year ended 31 December 2010, **Green Plains Renewable Energy Inc**. (NASDAQ: GPRE) reported record revenues of US\$2.1 billion, a 64% increase from US\$1.3 billion in 2009, and a 143% increase in net profit. Green Plains increased its ethanol production by 31% through targeted acquisitions and upgrading existing plants
- ➤ **BioProcessAlgae**, a joint venture between NTR, Green Plains, Clarcor and BioProcessH2O to commercialise algae production technology, opened Phase II of its grower harvester bioreactors at the Green Plains ethanol plant in Shenandoah, Iowa
- ➤ Celtic Anglian Water commenced its operations contract at the new Waterford City waste water treatment plant and completed upgrading and plant optimisation at the Ringsend, Dublin waste water treatment works. The business has been consistently profitable and is well positioned for growth in the water sector
- ➤ National Toll Roads completed the sale of a number of toll businesses for a total consideration of €50 million
- > NTR completed a thorough review of the operations and cost base of its portfolio of businesses. It also reduced costs at head office.

Commenting on the year, **Michael McNicholas, Chief Executive of NTR plc**, said: "This was a challenging year for NTR. We have taken a hard look at all of our businesses and made the necessary decisions to strengthen the Group. We have reined in development spend and costs across the Group and are driving increased value from the core businesses. The sectors we invest in have significant potential for future growth and I believe we are well positioned to capitalise on this."

#### **Financial Overview**

- From €244.7 million in 2010), mainly due to an increase in the waste division of €68.6 million and an increase in the wind division of €19.6 million
- Cash of €112.4 million (up from €64.7 million in 2010)
- ➤ **Total assets** at 31 March 2011 amounted to €996.1 million, including investments in wind farm, waste processing and other tangible fixed assets of €435.2 million, €109.1 million in respect of Green Plains and €112.4 million cash
- ➤ Group **EBITDA** from continuing operations before impairments and fair value adjustments was €18.7 million, up from €4.9 million in the prior year
- Impairment and fair value charges of €195.7 million, of which €132.7 million is attributable to shareholders:

Solar write-downs	€ 42.4 million
Waste management	€ 62.2 million
Other	€ 28.1 million
Total	€132.7 million



**Losses** for the year (inclusive of impairments) were €381.0 million, of which €280.2 million were attributable to shareholders:

From continuing operations	€139.8 million
Discontinued operations	€140.4 million
Total attributable to NTR shareholders	€280.2 million

> The Board is not recommending a **dividend** and will continue to keep the policy under review.

Ends

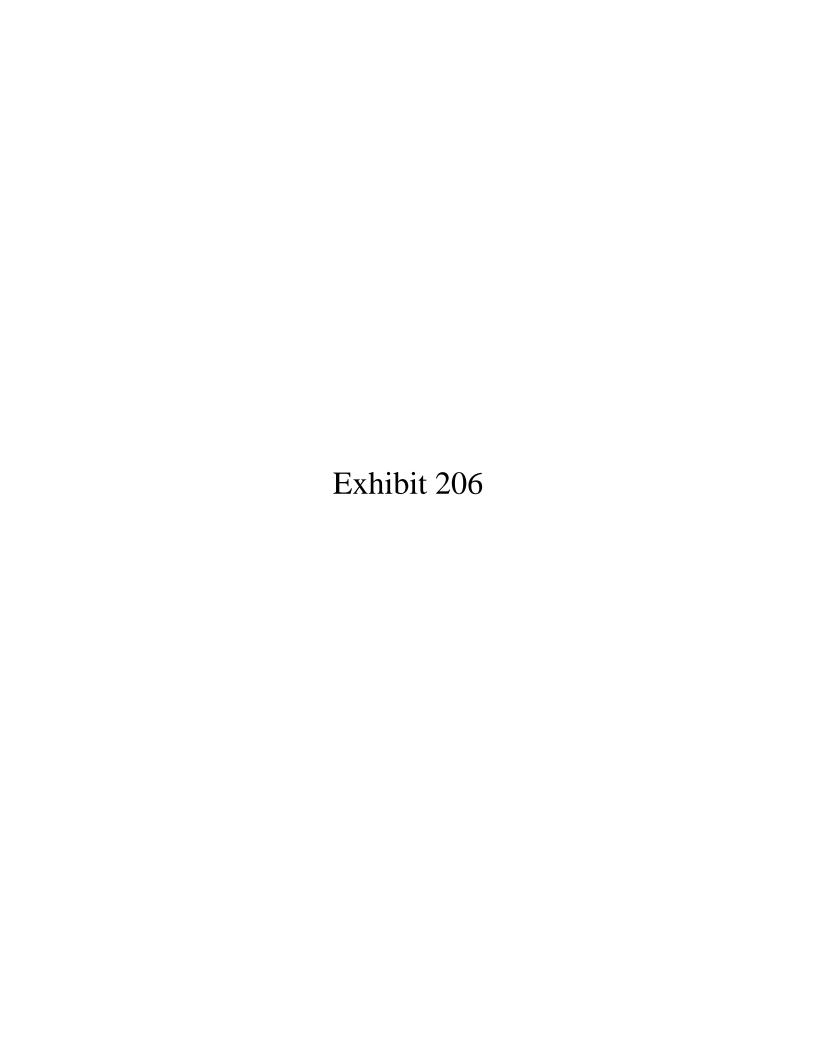
#### **Notes to Editors**

#### **About NTR plc**

NTR plc is a leading investor in renewable energy and sustainable waste management businesses. Founded in 1978, NTR has evolved from being a developer and operator of infrastructure in Ireland to an international developer and operator of renewable energy and sustainable waste management businesses in the USA and Ireland. <a href="https://www.ntrplc.com">www.ntrplc.com</a>

#### **Media Enquiries**

Heneghan PR, Nigel Heneghan / Rachel Watchorn: Tel + 353 1 660 7395





# AES Solar buys Tessera Solar's Imperial Valley project with intent to turn CSP into PV

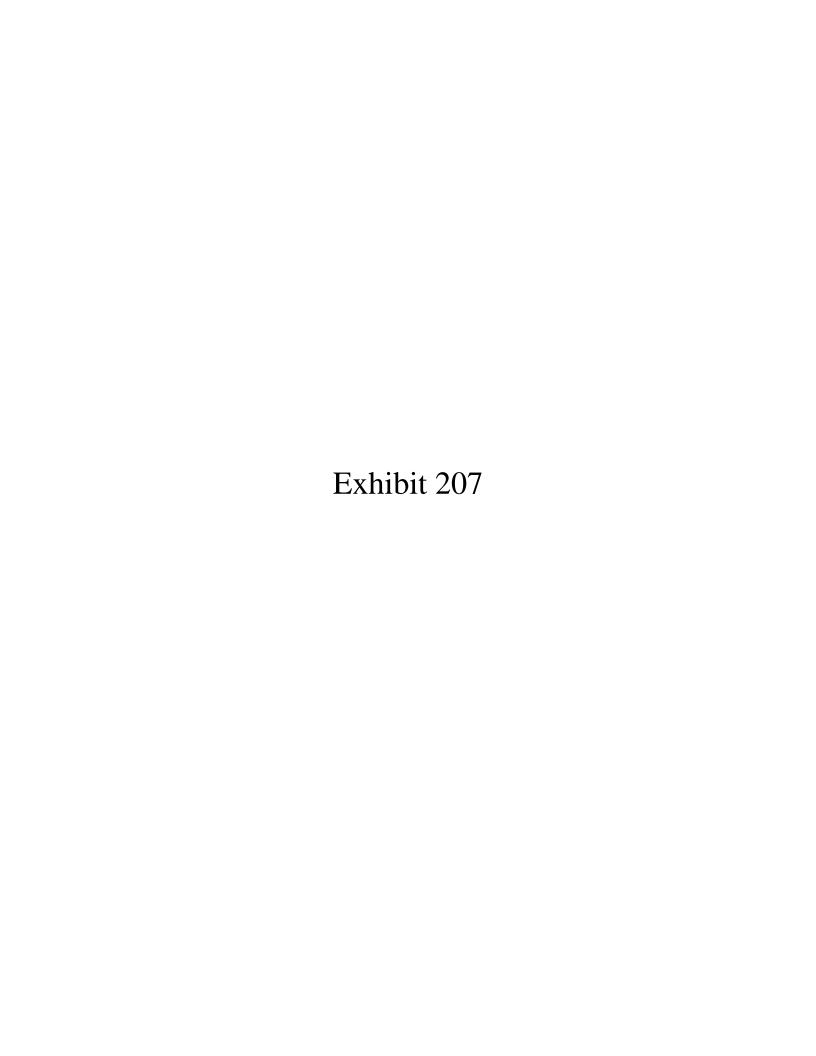
http://www.pv-tech.org/news/7494

By Syanne Olson - 18 February 2011

First, Tessera Solar sold its 850MW <u>Calico Solar</u> project to K Road Sun in late December and now the company has announced that its 709MW Imperial Valley solar project has been bought by AES Solar, who, like K Road, intends to convert the CSP project into a PV installation.

Although AES solar advised that it intends to work with San Diego Gas & Electric (SDG&E) on the power purchase agreement that was signed with Tessera for Imperial Valley, as <u>earth2tech</u> points out, Patty Rollin, a managing director at AES Solar, did not disclose extensive information, of financial details, about the company's purchase or development plans for Imperial Valley.

© 2011 Solar Media Limited



June 30, 2011

Imperial Valley Solar, LLC 4301 North Fairfax Drive Suite 360 Arlington, VA 22203 tel 1(703) 682 6603 fax 1 (703) 682 1157 www.aes-solar.com

Craig Hoffman **Project Manager** California Energy Commission Siting, Transmission and Environmental Protection Division 1516 Ninth Street, MS 15 Sacramento, CA 95814 phone: 916-654-4781

**DOCKET** 

08-AFC-5C

Jun 30 2011 DATE

RECD. Jun 30 2011

Dear Mr. Hoffman,

fax: 916-654-3882

On September 29, 2010, the California Energy Commission approved Application for Certification 08-AFC-5, originally filed by Stirling Energy Systems Solar Two, LLC ("SES Two"), for the Imperial Valley Solar (IVS) Project. The name of SES Two was changed to Imperial Valley Solar, LLC. AES Solar Power, LLC purchased Imperial Valley Solar, LLC in February 2011 and has determined that it will be changing IVS Project's technology from solar thermal to PV. As a result, we believe that the IVS Project no longer falls within the Commission's permitting jurisdiction on the site intended for the IVS Project. AES Solar therefore requests that the permit to construct the IVS Project be revoked because of the change to PV from solar thermal.

Please call Scott Taylor if you have any questions. As an authorized signer of Imperial Valley Solar, LLC, under penalty of perjury, responsible for overseeing the development of the project, I am signing this letter below approving the revocation of the permit.

Sincerely,

Patricia L. Rollin **Managing Director** 

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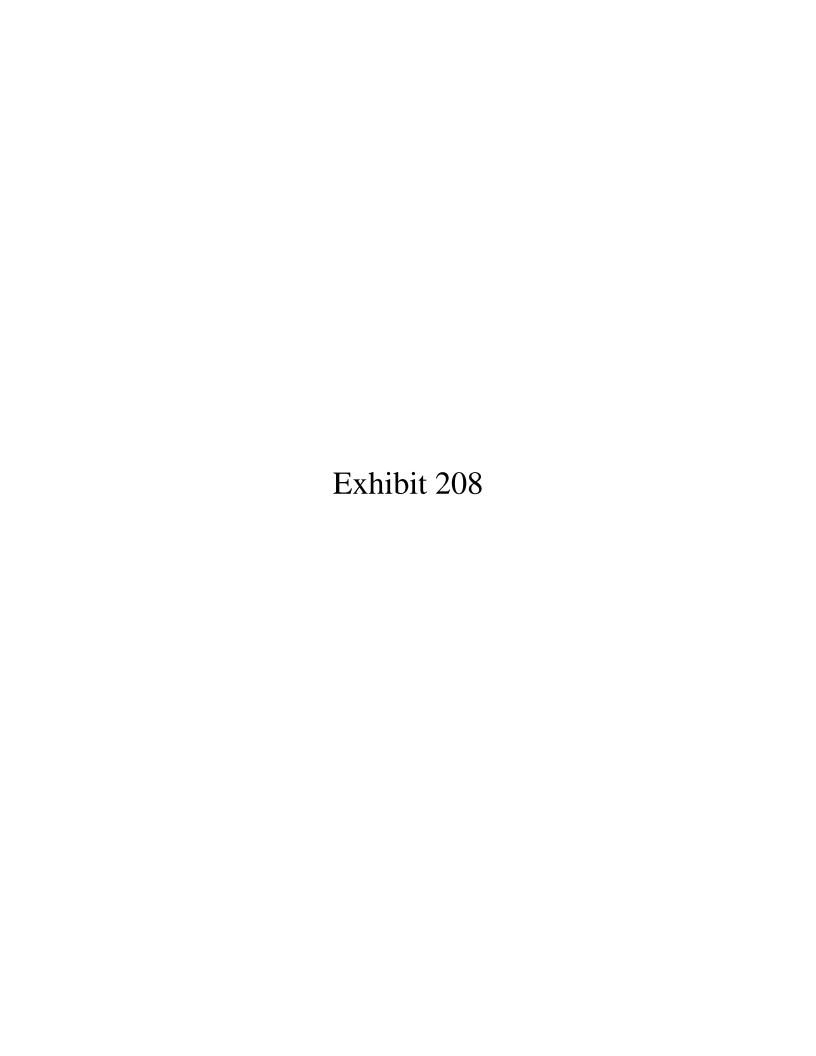
County/City of

Commonwealth/State of

I certify this to be a complete, full, true and exact reproduction of the original document Certified this 30day of 2011

Notary Public

My commission expires:



#### CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET SACRAMENTO, CA 95814-5112



# STATE OF CALIFORNIA **ENERGY RESOURCES CONSERVATION** AND DEVELOPMENT COMMISSION

AND DEVI	DOCKET					
In the Matter of:	08-AFC-5C					
IMPERIAL VALLEY SOLAR	) Docket No. 08-AFC-5C ) Order No. 1-0810-1b	DATE				
IVII ERIAL VALLET SOLAR	) Order 140. 1-0810-10	RECD.	Aug 17 2011			
AES Solar Imperial Valley Solar LLC.	) ) ORDER TERMINATING ) Commission Decision and ) for the Imperial Valley Sol	License				

The Imperial Valley Solar Project (originally called the Sterling Energy Systems Two Project), was certified by the Commission on September 29, 2010. The project as licensed is a 709 megawatt concentrated solar power facility located 100 miles east of San Diego, 14 miles west of El Centro, and 4 miles east of Ocotillo Wells.

On June 30, 2011, AES Solar submitted a letter to the Commission indicating that AES has no intention to construct the project as licensed by the Commission. AES will be changing the technology from solar thermal to photovoltaic, and AES acknowledges that the project is no longer under the jurisdiction of the Commission. AES Solar requests that the Commission Decision and license for this project be terminated.

#### **CONCLUSION AND ORDER**

There being no objection and good cause having been shown, the California Energy Commission hereby grants the request by AES Solar to terminate the Commission Decision and license effective June 30, 2011.

#### IT IS SO ORDERED.

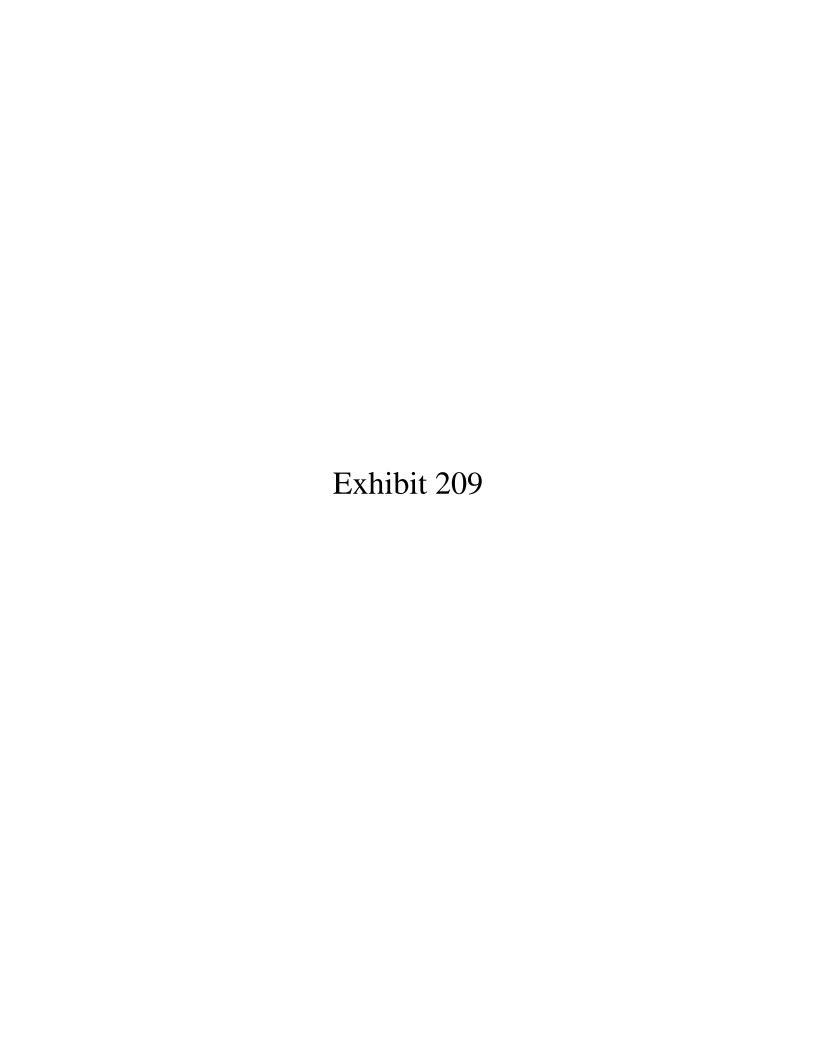
#### **CERTIFICATION**

The undersigned Secretary to the Commission does hereby certify that the foregoing is a full, true and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on August 10, 2011.

AYE: Weisenmiller, Boyd, Douglas, Peterman

NAY: None ABSENT: None ABSTAIN: None

> HARRIET KALLEMEYN Secretariat



#### NOTICE OF DECISION BY THE CALIFORNIA ENERGY COMMISSION

**To:** California Resources Agency 1416 9<sup>th</sup> Street, Room 1311

Sacramento, CA 95814

From: California Energy Commission

1516 9<sup>th</sup> Street, MS-2000 Sacramento, CA 95814

Subject:

Filing of Notice of Decision in compliance with Public Resources Code Section

21080.5 and Title 20, California Code of Regulations, Section 1768

**Project Name:** 

Imperial Valley Solar

**Energy Commission Docket Number:** 

08-AFC-5C

Energy Commission Contact Person: Christine Stora

Phone #: 916-645-4745

Project Location:

The project is located 100 miles east of San Diego, 14 miles west

of El Centro, and 4 miles east of Ocotillo Wells.

Project Description:

The project, as licensed, is a 709 megawatt concentrated solar

power facility.

**Modification Description:** 

AES will be changing the technology from solar thermal to photovoltaic, and AES acknowledges that the project is no longer under the jurisdiction of the Commission. The Energy Commission

license for this project is terminated.

On August 10, 2011, the California Energy Commission approved the above-described project change pursuant to a regulatory program certified by the California Secretary of Resources under Section 21080.5 of the California Public Resources Code.

- 1. The project will not have a significant effect on the environment.
- 2. Mitigation measures were made a condition of approval of the project.
- 3. A statement of Overriding Considerations was not adopted for the project.

The Commission's docket files containing the final Energy Commission Decision and other information regarding the project are available to the public at: California Energy Commission, 1516 9th Street, Sacramento, California, 95814. The final Decision and other information regarding the project are also available on the Energy Commission's web site--www.energy.ca.gov.

Christine Stora
Signature

Deta

Compliance Project Manager

Date

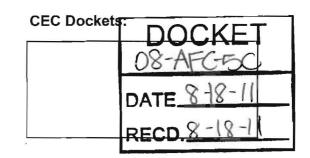
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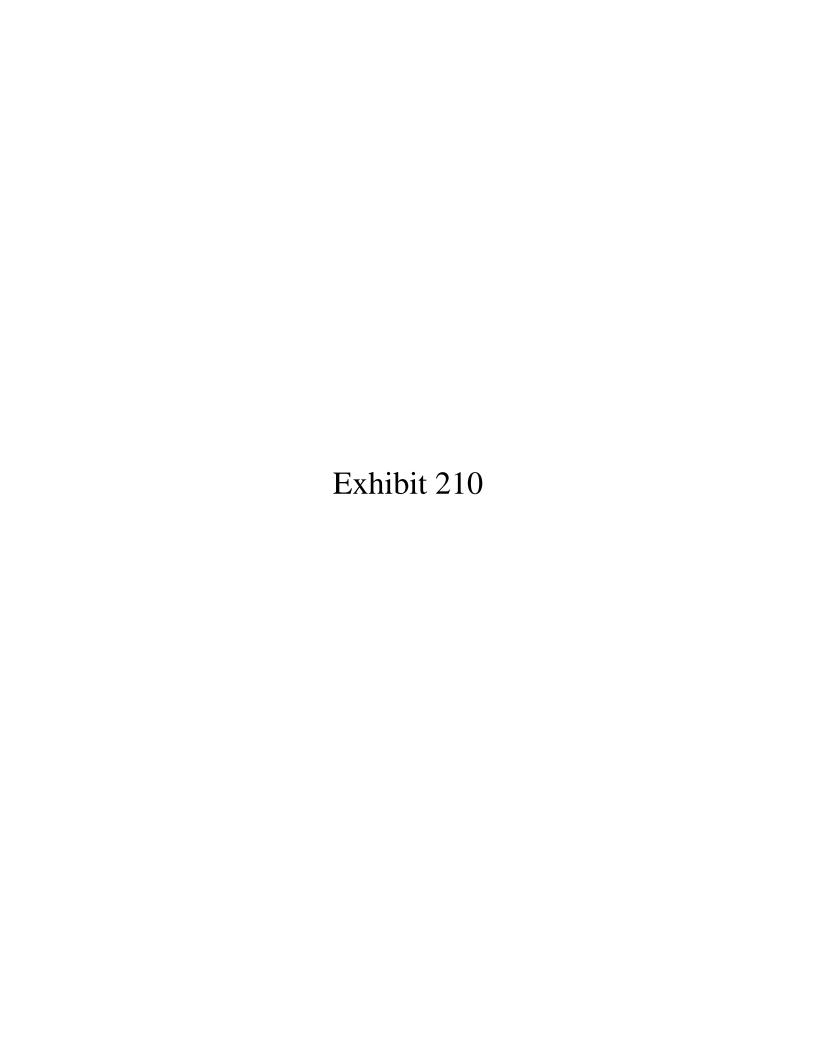
Date received for filing:

Resources CEIVED By
Office of the Secretary

AUG 1 8 2011

Natural Resources Agency California





Greentech Media Page 1 of 2

NEWS | PROJECTS

MICHAEL KANELLOS: DECEMBER 7, 2010

#### Are Stirling Energy, Tessera Solar in Trouble?

Executives scatter and layoffs occur at sister companies promoting Stirling engines to produce power.

Days after getting an administrative reprieve for a massive solar project, things aren't looking so hot for Stirling Energy Systems and its development partner, Tessera Solar.

Steve Cowman, who was the CEO at SES until recently, has left the company, as have a number of other executives. Meanwhile, Tessera laid off between 50% to 80% of its employees last month, according to sources. Rumors began percolating about problems at the companies, which work together and are part of an Irish conglomerate called NTR, last month. Sources close to the company have now confirmed Cowman's departure and the layoffs, but not the number of layoffs.

Tessera and SES want to build massive solar thermal parks in the Southwest based around the SunCatcher, a mirrored dish that directs hot air toward a Stirling engine to produce power. An individual SunCatcher can generate up to 25 kilowatts of power. In October, the Department of the Interior approved two projects proposed by SES and Tessera: the 709-megawatt Imperial Valley project and the 663-megawatt Calico project. California regulators approved Calico (after first rejecting it) on December 1.

Unfortunately, the companies also need money. Brett Prior at GTM Research estimated in October that the companies would need to raise \$200 million in equity and \$160 million in debt and qualify for federal conditional loan guarantees before the end of the year in order to qualify for U.S. Treasury grants that will cover a substantial part of the construction on Calico alone. The deadline for the grants is the end of the year and the equity, debt and loans will be needed to start construction or buy equipment for it, necessary preludes to the Treasury grants. In all, Calico might cost \$2 billion or more.

The layoffs and executive departures (Cowman was not the founding CEO, by the way: he got the job in 2008) could be a hint that the fundraising process is not going as planned.

"We don't discuss individual staff-related actions. I can confirm, however, that as we transition out of the active development stage now that the California projects have been approved, we've recently restructured the businesses to manage expenditures," said an official spokesperson for Tessera.

The bright side could be the projects themselves. Conceivably, SES and Tessera could sell their projects to other solar developers with different solar technologies and money in hand if SES and Tessera can't get loans and funding. Stay tuned.

Rival Brightsource Energy, which relies on a very different technology known as power tower, received administrative approvals around the same time, but it also has received a conditional loan guarantee on its Ivanpah project and started work. NRG Energy also agreed recently to invest \$300 million into Ivanpah.

Beyond the usual headaches surrounding raising millions of dollars in a short period of time, SES and Tessera face perhaps an even bigger hurdle. Solar thermal plants aren't as attractive as they were in 2007. Back then, solar thermal was the technology of choice for big solar parks. Declining prices of silicon and silicon solar panels, however, have caused developers and utilities to switch over to building these with PV panels.

In 2010, the price to build a solar thermal park run by troughs, power towers or dish engines runs between \$5.00 and \$6.55 per watt. On the other hand, utility-scale PV projects can squeak through at less than \$3.50 per watt, as we noted in an **article in October**. One of the big symbols of this shift came when First Solar, the big PV maker, took over a project from thermal specialist Ausra in 2009 and turned it into a PV project.

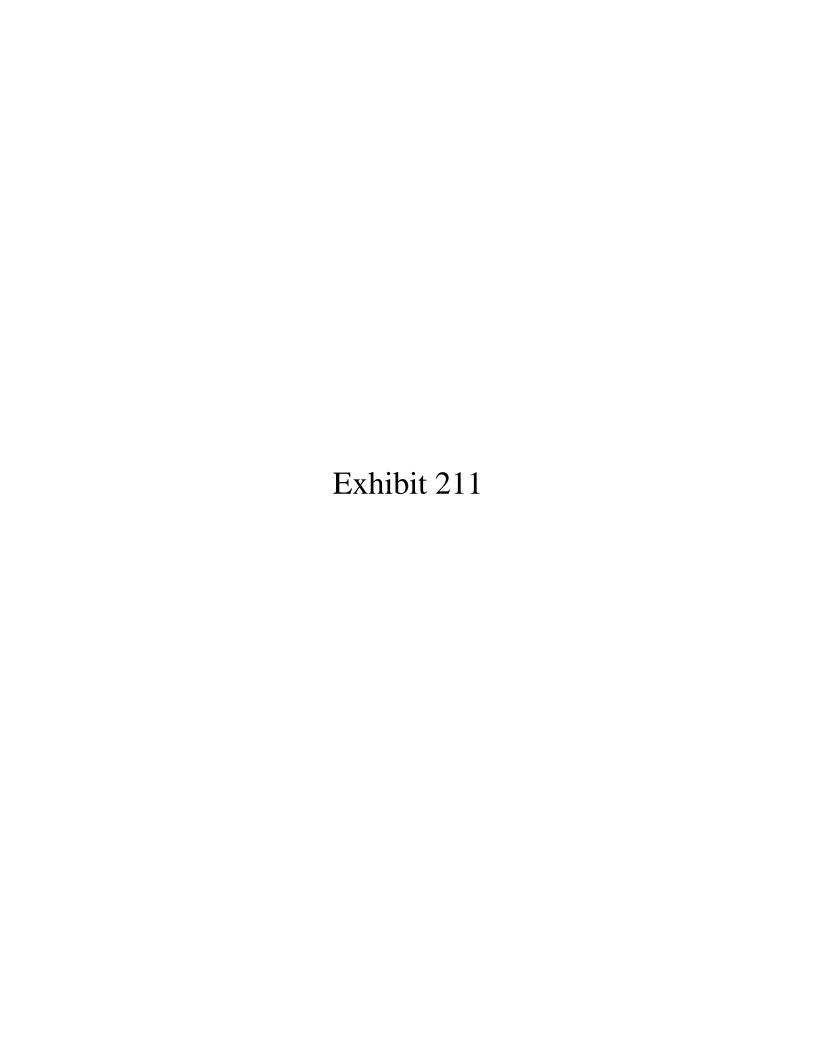
By 2020, the thermal solutions are expected to be in the \$2.40 to \$3.80 per watt range, but by that time, PV plants could be below \$2 a watt. Trough and tower plants could conceivably catch up and beat PV in price on large-scale projects, but it would be tough.

Solar PV parks are also modular: developers can build 10 megawatt parks, or scale them up to 250 megawatts. Solar thermal parks are larger, and thus come with more logistical headaches.

To top it off, unlike troughs or power towers, Stirling engines do not have inherent capabilities for storing heat to make power after the sun goes down. (The other technologies transfer heat via

Greentech Media Page 2 of 2

liquids; Stirlings use eir hydrogen.) While some utilities are opting not to put storage capabilities into their solar thermal parks at the moment, it remains one of the more attractive features of solar thermal. Stirling engines also have more fast-moving parts, which can break down more readily.



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MONDAY, SEPTEMBER 6, 2010

## Tessera Solar Pulls Out of West Texas/DG Cheaper



#### **UPDATE from Bill Powers:**

The public utility of San Antonio, CPS Energy, is substituting Tessera Solar's canceled 27 MW PPA with three 10 MW distributed PV arrays in/near San Antonio itself. The published contract price for the 30 MW of distributed PV: \$0.15/kWh, or \$150/MWh. None of the solar thermal technologies can meet this price, and it is just going to

get more favorable for PV as time goes on.

Oct. 7, 2010. SNL Financial LC, DAILY DOSE, Power edition (subscription only)

In the news

CPS Energy is partnering with MEMC Electronic Materials Inc. subsidiary SunEdison LLC to develop three 10-MW solar photovoltaic power projects in its service area, the San Antonio Express-News reported, citing unnamed sources. An official announcement is imminent, the newspaper reported.

CPS confirmed that it has agreed to purchase the output of the three separate ground-mounted projects for

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the next 25 years. Exact locations of the proposed projects have not been determined, the newspaper reported, adding that the projects are expected to enter operation by 2012.

Sources told the newspaper that CPS will pay 15 cents per kWh for the electricity from the projects. The price is less than what the utility has agreed to pay for the output of Duke Energy Corp.'s 14-MW Blue Wing Solar project in Bexar County, Texas.

The additional 30 MW of electricity from the proposed projects will replace the 27 MW of electricity CPS Energy had planned to buy from Tessera Solar North America Inc.'s planned Western Ranch Solar Project, the newspaper reported. Tessera Solar, a subsidiary of NTR plc, recently withdrew from the agreement due to lack of funding.

Tessera Solar has withdrawn its proposal for a 27 MW, 800-acre development in the rural community of Marfa in West Texas. According to reports, it was unable to obtain the financing needed for the project.

A London-based company with American headquarters in Houston, Tessera Solar is proposing to install 8,000 of the 40 foot high, mirrored Solar Dish Stirling SunCatcher's in a much larger 1,525-acre facility in the San Luis Valley, Colorado. The project is currently under review for a 1041 permit in Saguache County.

According to Malinda Beeman, artist and resident of the tiny West Texas town of Marfa, Tessera had trouble finding land for the project and when they finally did strike a lease deal, it was only 1/2 mile from the Antelope Hills Subdivision where Beeman and others lived. "At first we were excited about the solar project but as we learned more about the noise and visual impacts from the 40' high SunCatchers, and other problems with the technology, we began to have doubts", she said.

Beeman is one of hundreds of artists who settled in Marfa in the past 20 years, transforming the little town from a "boarded-up dot on the map" into a mecca for artists inspired by the desolate desert landscape.



8,000 of these 40' tall SunCatchers are proposed in Saguache County, CO.

"A lot of promises were made", said Beeman. When Tessera dropped a \$2,500 donation on the local Chamber of Commerce in exchange for a letter of endorsement of the project, property owners balked. In a letter to the Chamber, residents expressed concern about the "many questions left unanswered" about light pollution, noise from the engines, water use, road impacts, right of way access and the impacts of the 800-acre development on their property values.

Beeman told Texas Tribune reporter Brandi Grissom, "The placement of this right here essentially is killing the subdivision", "People are going to build their little houses, they were going to add to the tax base, but now they see their property being worthless. It's a horrible shock", she said.

McDonald Observatory, only 20 miles from the proposed project, was also concerned about the impacts of lighting, needed for cleaning the 40' disks at night.



Malinda Beeman displays a map of the area.
Photo by Brandi Grissom, Texas Tribune.

Massive remote industrial solar developments are coming under increasing scrutiny as the public

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The Power of Distributed Generation



California takes on 12K MW distributed generation challenge

#### PARTNERS AND RESOURCES

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- Quivira Coalition Carbon Ranch
- SoCo Transmission Links
- Smart Valley Energy
- Utility Consumers Action Network
- Fracking Action Center
- Nuclear Information and Resource Service
- CO Citizens Against ToxicWaste (CCAT)



2.3 MW solar parking lot

begins to understand that there are better alternatives. Point of use, distributed installations on already utilized or severely degraded lands (of which there are plenty) is rapidly gaining ground as a cheaper, faster and less destructive approach to solar generation.

Tessera Solar's Saguache County, Colorado proposal has also come under heavy criticism by the local ranching community and others who question the massive scale, reliability, noise, visual and watershed impacts from the project, seven times larger than the Texas facility

would have been.

According to Randy Etheridge, development director for the Texas Tessera project, they applied for both state and federal grants as well as local county property tax incentives. A report from the San Antonio Express News, said that Tessera Solar withdrew its power purchase agreement (PPA) with the West Texas utility CPS when it was unable to obtain financing for the project that was supposed to break ground this summer.

Although CPS never disclosed the cost of the solar contract, chief sustainability officer Cris Eugster said "replacing the megawatts with a different solar project could be cheaper".

The Tessera cancellation is "a setback, but not a huge loss," said Lanny Sinkin, executive director of Solar San Antonio, a nonprofit advocacy group. "Solar is an industry like any other, with ups and downs. We understand CPS will move on to other ventures."



### 4 comments:

Anonymous said...

Intersting article. Makes me hope that Tessera doesn't have all the financing it needs here!

Zana

September 10, 2010 2:41 PM

Anonymous said...

Zana,

Would you rather have the big oil and dirty energy companies win out with all there billions that destroy the environment and influence elected officials. Green energy will also reduce our dependence on foreign countries which sometimes lead to unnecessary wars. Lets move forward, this technology works. Its quiet and uses little water.

October 14, 2010 4:40 PM

Anonymous said...

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- **2011** (28)
- **2010** (57)
- ▶ December (5)
- November (4)
- ▶ October (5)
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Solar Vision Needed

Solar Done Right

Tessera Solar Pulls Out of West Texas/DG Cheaper

Bill Powers on Distributed Generation

- ► August (4)
- ▶ July (6)
- ▶ June (5)
- ► May (5)
- ► April (7)
- ► March (3)
- ► February (6)
- ▶ January (3)

#### Renewable Communities Alliance: Tessera Solar Pulls Out of West Texas/DG Cheaper

What are you basing your statement "the technology works" on? It's still an R&D technology. All Tessera has at this point is a 60-unit demonstration plant with hand built SunCatchers. With no federal backing the Texas project had to stand on its own two feet and it couldn't.

It also simply is not true that SunCatchers are "quiet". We've been down and stood next to the SunCatcher's ourselves. There is no way Tessera can stay within the counties noise limits of 10 decibels. Just because its being proposed and its a convenient site for industry doesn't make it a good idea. You need to research the alternatives and how solar can be done right.

October 14, 2010 8:09 PM

Anonymous said...

check out the story in the New York Times Wednesday Nov. 17th titled `Concerns as solar installations join a desert ecosystem'

November 17, 2010 6:53 AM

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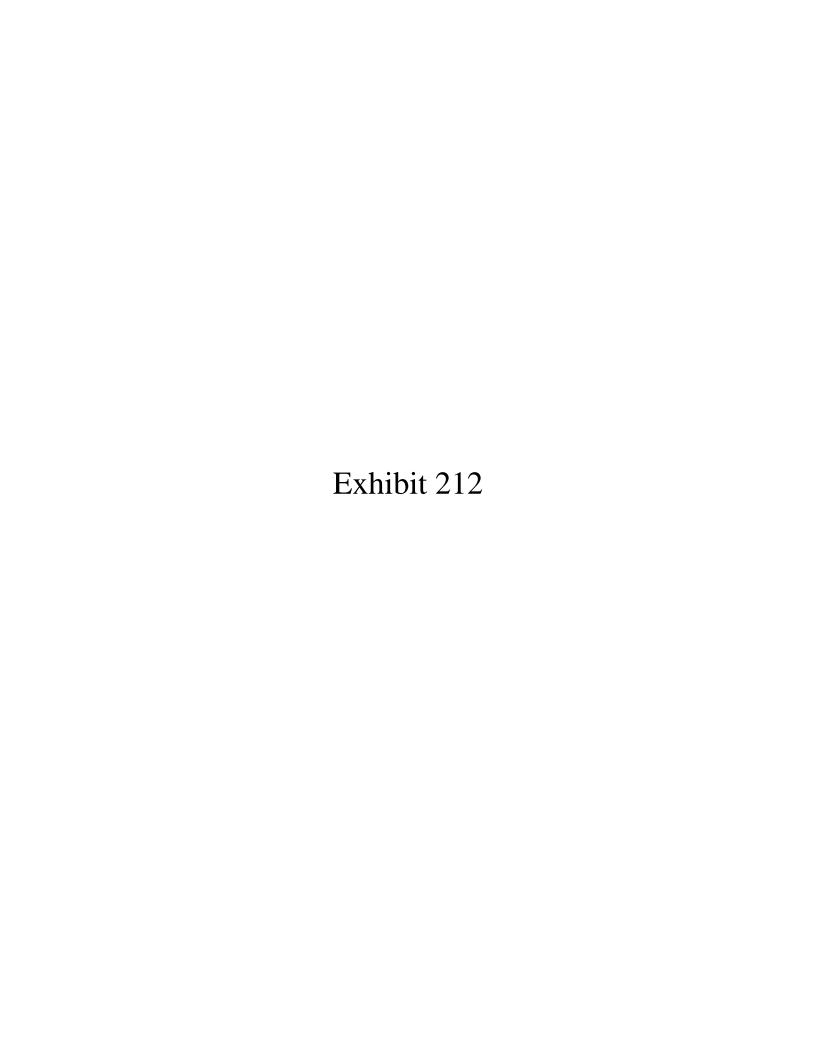
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#### **LABELS**

- Distributed Generation
- Tessera Solar
- Industrial Solar
- Community Power
- SoCo Transmission
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- Solar Done Right
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- Bill Powers
- Energy Democracy
- Feed-in Tariffs
- PACE
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- Resilience
- SolarReserve
- Sustainability
- Amendment 37
- · Barriers to clean energy
- Big Energy
- Clean Local Energy Accessible Now (CLEAN)
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From the Phoenix Business Journal: http://www.bizjournals.com/phoenix/stories/2010/09/20/daily87.html

# Tessera Solar, Phoenix end bid for landfill power plant

Phoenix Business Journal - by Patrick O'Grady

Date: Friday, September 24, 2010, 7:24pm MST

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Patrick O'Grady Reporter

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Tessera Solar North America and the city of Phoenix have ended their joint bid to pursue a 250-megawatt solar power plant.

Houston-based Tessera, the development arm of Scottsdale-based **Stirling Energy Systems Inc.**, was in the planning stages of developing a \$1 billion solar power plant at a Phoenix-owned landfill along State Route 85 in Buckeye.

The biggest problem for the project was that Tessera couldn't find a buyer among the Arizona utilities for the power the plant would produce, said Peter Wilt, Tessera's senior director of development.

"Quite frankly we're not getting a lot of traction in the market," he said. "The market is starting to coalesce around the smaller projects."

The three large Arizona utilities, **Arizona Public Service Co.**, Salt River Project and **Tucson Electric Power Co.**, have been focused in recent months on smaller projects, particularly ones based on photovoltaic systems. The Tessera development was based on the Stirling SunCatcher, a 40-foot mirrored dish that collects sunlight and concentrates it to drive an engine that produces the power.

Another problem with the project was financing. Large solar farms have been difficult to

start because the global financial meltdown hampered the market. Tessera could apply for a government loan guarantee from the U.S. Department of Energy, but the Phoenix project likely would have come after two others it is developing in California that already have utilities lined up to purchase power.

"Rather than keep this open, given the lack of a market right now and seeing the delays on the financing, we'd rather have them be able to move forward without us," Wilt said.

The project was part of Phoenix's effort to garner 15 percent of its power from renewable resources by 2025, and that plan will continue, said Rick Naimark, deputy city manager for Phoenix.

The city already has contacted Johnson Controls, which was the runner up in the process to select a solar developer at the landfill, and plans to evaluate the market before moving forward, Naimark said.

"We need to take some time to assess the landscape and talk to the utilities," he said.

In order to reach its goal of renewable power, however, the city likely would have to purchase power from a large-scale development like the Tessera plan, said Carolyn Bristo, assistant public works director.

"To reach that goal, we're going to need something a little bit larger," she said.

The city still is delving into other forms of renewable energy, including an array of rooftop and ground-mounted solar systems that will provide power to its facilities, Bristo said.

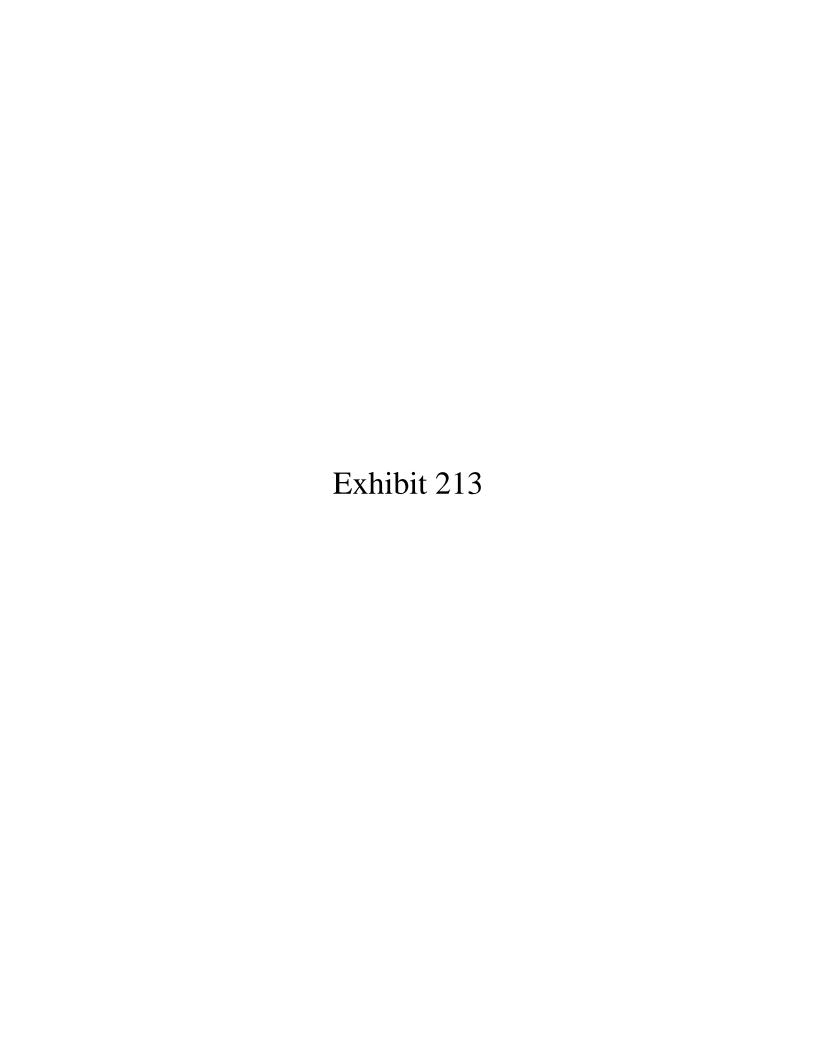
"The city has so many opportunities," she said. "We have so much available land and more than 650 rooftops."

The city does not have a timetable for when it would want a large-scale solar or renewable plant developed, but officials said they did not anticipate that it would hamper their ability to meet their target goals.

The project is the second utility-scale solar power plant that has hit roadblocks in the past 12 months. In September 2009, a proposed 290-megawatt power plant proposed by Starwood Energy Group Global LLC and Lockheed Martin ended because of supply chain issues and financing. The plant had signed a deal to sell its power to APS.

Only one large utility-scale project that will sell its power to an Arizona utility, the Solana Generating Station in Gila Bend and being built by Abengoa Solar Inc., is moving forward. APS has the contract to buy the power.

Patrick O'Grady reports on technology, solar energy, utilities, manufacturing, aerospace, defense, sustainability, telecommunications, the Arizona Corporation Commission and other related topics.



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<u>Home</u> > <u>Solar Energy News</u> > Tessera Solar abandons bid to develop 200 MW CSP farm in Colorado

## Tessera pulls the plug on huge Colorado solar plant



**Chris Meehan** 

Jul 19, 2011

Tessera Solar's ambitious bid to build a 200megawatt concentrating solar power plant in Colorado's Sun Luis Valley has come to an end. The project was unpopular with some local residents, and studies were still being conducted.

The project had previously scaled back from 200 megawatts to 145 megawatts in an effort by Tessera Solar to address local's concerns that the SunCatchers would be too loud and could be heard throughout the valley. SunCatchers are large, satellite-dish like structures with a reflective surface that focuses sunlight on a Stirling engine, which in turn powers an electricity-producing generator.

"There were a lot of different studies over two years. The county was satisfied with some of the studies but wanted others," said Brent Bailey, vice president and general counsel for Tessera Solar.

With the <u>ongoing hearings and studies</u>, restraints on the project and no power-purchase agreement, it didn't make economic sense.

"It wasn't going to be an economically viable project at the end of the day," he said.

This was the last active development for Tessera Solar, according to Bailey.

The company has one completed project in Peoria, Ariz., that went commercial in March 2010, he said, which the company will continue to manage and operate.

The San Luis Renewable Communities Alliance, an advocacy organization that opposed the project, was pleased with Tessera's decision.

"Now we can focus on what we do want, rather than fighting ill-borne projects generated by those who care nothing for rural places" said rancher Julie Sullivan, in an email to alliance members.

The group is advocating for solar gardens and smaller installations rather than the huge projects slated for the sun-rich valley.

"Tessera is the first industrial solar proposal to get this far in Colorado, and even though this particular technology and company failed, it won't be the last," said alliance founder Ceal Smith. "If the utilities and 'Big Solar' industrialists have their way, all of Colorado's solar energy will be generated here."

What's not yet determined is what will happen with the land slated for the project.

"We have had some interest by other developers," Bailey said. "But we don't have any plans yet."

In the last year, Tessera and NTR PLC., of Ireland, which has a majority share in the company, have taken advantage of at least two other interested developers.

The company sold its interest in the 850-megawatt Calico solar plant to K Road Power Holdings, LLC after Southern California Edison terminated its <u>power-purchase agreement with Tessera</u>. And it sold the 709-megawatt Imperial Valley project to <u>AES Solar</u>.

Image courtesy of Tessera.

There are no comments yet. Please let us know what you think and fill out the comment form below!

#### **Leave a Comment**

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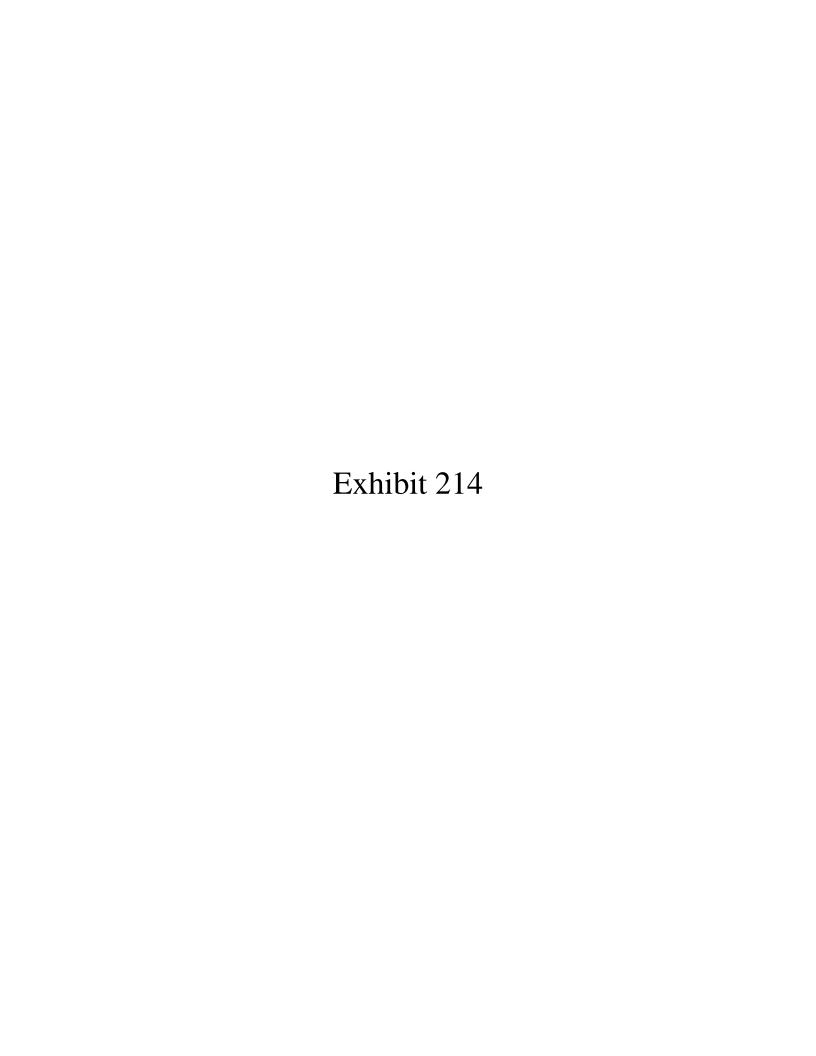
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December 10, 2010 2:44 am | Edgar A. Gunther

### **Top 10 Solar 1603 Treasury Grant Awards**

FPL tops the list of Solar Treasury Grant program (TGP) Awards since inception. Solar Leasing and PPA programs surprise in the Top 10.

3 tweets

DeSolo Next Generation Solar Energy Center

While blogging Extend the Treasury Grant Program for Solar and Renewables through 2016, I stumbled on the list of 1603 Treasury Grant program (TGP) awards totaling \$5.53 billion for 1465 projects compiled by the US Department of the Treasury (downloaded on December 3, 2010). Wind dominates the top 70 TGP awards with amounts ranging from \$218M (million) to \$21.2M. Utility Solar Photovoltaic (PV) projects and a Concentrating Solar Power (CSP) project rank 32nd and 71st on the list respectively.

In all cases, the Treasury Grant award is assumed to be 30% of total project installation costs although it is possible additional costs were incurred.

#### 1. Florida Power & Light Company \$62,371,777.00 6/2/10 (32)

Florida Power & Light (FPL), a subsidiary of NextEra Energy, Inc. (NYSE:NEE), was awarded two grants totaling almost \$62.4M, \$43.9M for the DeSoto solar plant in

January 2010 and \$18.4M for the <u>Space Coast solar plant</u> in June 2010. SunPower Corporation (<u>NASDAQ:SPWRA</u>) touts completing the DeSoto PV system <u>\$22 Million under budget</u>. The 25 MWac (MegaWatt alternating current) DeSoto Solar Energy Center has an extrapolated installed project cost of \$146.3M or \$5.85 per AC Watt. By similar calculations, the 10 MWac Space Coast Solar Center has an installed project cost of \$61.3M or \$6.13 per AC Watt.

#### 2. eSolar, Inc. \$19,543,649.00 2/5/10 (71)

eSolar was awarded a \$19.5M grant in February 2010 for the <u>5 MW Sierra SunTower</u>. The two Concentrating Solar Power towers have an extrapolated installed project cost of \$65.1M or \$13.03 per Watt! Responding to my questions about the high project installation cost, eSolar said:

Sierra was intended to prove not only that eSolar's technology works at a commercial scale, but also to gain insight into plant construction, operations and maintenance. As the first plant of its kind, Sierra provides invaluable learning experience that will be applied to drive down costs and improve operations at larger facilities. However, since it was the first plant of its kind, eSolar was not able to achieve the same economies of scale that will be achieved with future facilities. Additionally, certain cost sacrifices were made to hit a tight construction deadline.

#### 3. NRG Solar Blythe LLC \$18,093,939.00 6/15/10 (73)

NRG Solar LLC, a wholly owned subsidiary of NRG Energy, Inc. (NYSE:NRG), was awarded an \$18.1M grant for the 21 MWac Blythe Solar Plant acquired from First Solar, Inc. (NASDAQ:FSLR) in 2009. The Blythe Solar Plant has an extrapolated installed project cost of \$60.3M or \$2.87 per Watt. I suspect this is the lowest installed cost on a capacity basis for any US solar PV installation. That is unless Sempra Generation, a subsidiary of Sempra Energy (NYSE: SRE), applies for a Treasury Grant for the just completed 48 MWac Copper Mountain Solar facility in Boulder City, Nevada USA.

#### 4. USB SolarCity Master tenant 2010, LLC \$14,429,866.00 11/8/10 (75)

A special purpose entity formed by <u>SolarCity</u> aggregating multiple California Residential and Non-Residential solar PV installations was awarded a \$14.4M grant in November 2010. Driven by SolarLease and Power Purchase Agreement (PPA) financing, the Treasury Grant enabled \$48.1M of solar PV installations. SolarCity did not provide any details on the MegaWatts or number of installations completed with help from the award. Also, the USB SolarCity Master Tenant 2010, LLC, was awarded a \$5.30M grant for solar PV installations in Arizona.

#### 5. Areva Solar, Inc. \$13,931,962.00 2/26/10 (76)

AREVA Solar was awarded a \$13.9M grant in February 2010 for the <u>5 MW Kimberlina Solar Thermal Energy Plant</u> in Bakersfield, California USA, <u>acquired along with Ausra</u>. The Kimberlina CSP plant has an extrapolated installed project cost of \$46.4M or a piggish \$9.29 per Watt. Don't let the <u>AREVA Next Energy Blog</u> or social media strategy fool you. AREVA did not even acknowledge my inquiries about the grant or the Kimberlina project.

#### 6. National Bank of Arizona \$8,735,530.00 11/2/10 (84)

The National Bank of Arizona, a subsidiary of Zions Bancorporation (NASDAQ:ZION), was awarded an \$8.74M grant in November 2010 extrapolating to \$29.1M of installed solar PV projects in Arizona. The National Bank of Arizona has been slow to respond, so it is unclear if

the grant is only related to the <u>Solar Phoenix</u> and Soaring Heights Communities programs or also includes National Bank of Arizona <u>office</u> solar installations.

#### 7. CT Solar Leasing, LLC \$8,135,406.00 11/8/10 (87)

CT Solar Leasing, LLC, "a specialty leasing company", was awarded an \$8.14M grant in November 2010 enabling \$27.1M of solar PV installations in Connecticut through the CT Solar Lease Program. "The CT Solar Lease Program is offered by CT Solar Leasing, LLC in cooperation with the Connecticut Clean Energy Fund, AFC First Financial Corporation, and Gemstone Lease Management, LLC. CT Solar Leasing, LLC is a non-bank subsidiary of US Bancorp (NYSE: USB)."

#### 8. Maricopa Solar, LLC \$7,044,683.00 6/2/10 (90)

Maricopa Solar was awarded a \$7.04M grant in June 2010 for the 1.5 MW Maricopa Solar Project in Peoria, Arizona USA. The CSP project was developed by Tessera Solar using sister company Stirling Energy Systems (SES) SunCatcher solar dish systems at an extrapolated installed cost of \$23.5M or an astronomical \$15.65 per Watt. "Are Stirling Energy, Tessera Solar in Trouble?" by Michael Kanellos at Greentech Media raises questions about the viability of both NTR plc portfolio companies. And "Tessera Solar LLC — Constrained by Noisy Technology?" at the Mojave Desert Blog demonstrates SunCatchers are louder than buzzsaws.

#### 9. SunRun Solar Tenant I, LLC \$6,726,215.00 10/4/10 (92)

A special purpose entity formed this time by <u>SunRun</u> aggregating multiple California Residential solar PV installations was awarded a \$6.73M grant in October 2010. The Treasury Grant enabled around \$22.4M of solar PV installations leveraging SunRun Solar Plans. SunRun also declined to provide any color on the MegaWatts or number of installations completed via the award.

#### 10. Master Tenant 2008-C, LLC \$5,867,136.00 7/23/10 (96)

A special purpose entity with a generic name, the Master Tenant 2008-C, LLC, was awarded a \$5.87M grant and appears to have enabled \$19.6M of solar PV installations in California. The Master Tenant 2008-C, LLC, may relate to a Solar Power, Inc. disclosure of a loan agreement with Umpqua Bank, but I have not been able to confirm this.

I am sure there are many more special purpose entities to discover for solar lease and PPA specialists such as SolarCity, SunRun, Sungevity, and their peers or competitors. Meanwhile, all of the CSP projects were expensive, small scale prototypes and provide insight into why these projects are considered unbankable without a loan guarantee.

Please don't forget to vote in the new sidebar PV POLL: What will the average solar polysilicon spot price be in 2011?

(Full disclosure: I own some shares of FSLR stock.)

Tagged with: eSolar | First Solar | Solar Grant | SunPower | TGP

#### Related Posts:

- eSolar Sierra SunTower offline Again
- Photovoltaics: 8 Trends to Watch in 2011
- 1603 Treasury Grant Program for Solar and Renewables Extended One Year
- Extend the Treasury Grant Program for Solar and Renewables through 2016
- A Tale of Two Utility Scale Photovoltaic Pipelines

#### 7 Responses to "Top 10 Solar 1603 Treasury Grant Awards"

1. Peter Le Lievre Says:
December 10th, 2010 at 19:01

Whilst I am not associated with Areva, I was the CEO of Ausra. In terms of the "piggish \$9.29/watt" quoted in your (excellent) it would seem that, as with eSolar's Sierra project, Kimberlina was a 'first of kind' plant involving R&D costs that would not be present in later and larger commercial projects. It's also important to note that solar thermal plants have higher capacity factors (annual output per peak watt) than PV because they utilize their inherent thermal mass and in this case, storage. As a result, \$/kWh are proportionally lower than the simple \$/W would suggest.

2. admin Says:
December 10th, 2010 at 20:48

Update: Craig Robb, managing director of Zions Energy Link, a new division of National Bank of Arizona said:

"We've been able to use this program as intended, which is to spur economic development. Already to-date we have committed over \$100 million in transactions, which NBAZ will be the direct or indirect recipient of the grant. Roughly two thirds of the \$9 million is from Soaring Heights in Tucson."