



# **Solar Millennium's Proposed Solar Power Plant Projects in California**

**Renewable Energy Policy Group  
Sacramento, California**

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# Structure of Presentation

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# Company Overview

## Structure

- Solar Trust of America (STA) – joint venture of Solar Millennium AG and MAN Ferrostaal.
- 75 years of EPC market experience; 25 years of solar thermal experience.
- Solar Millennium, LLC is wholly owned subsidiary of Solar Trust of America.

## Development Projects

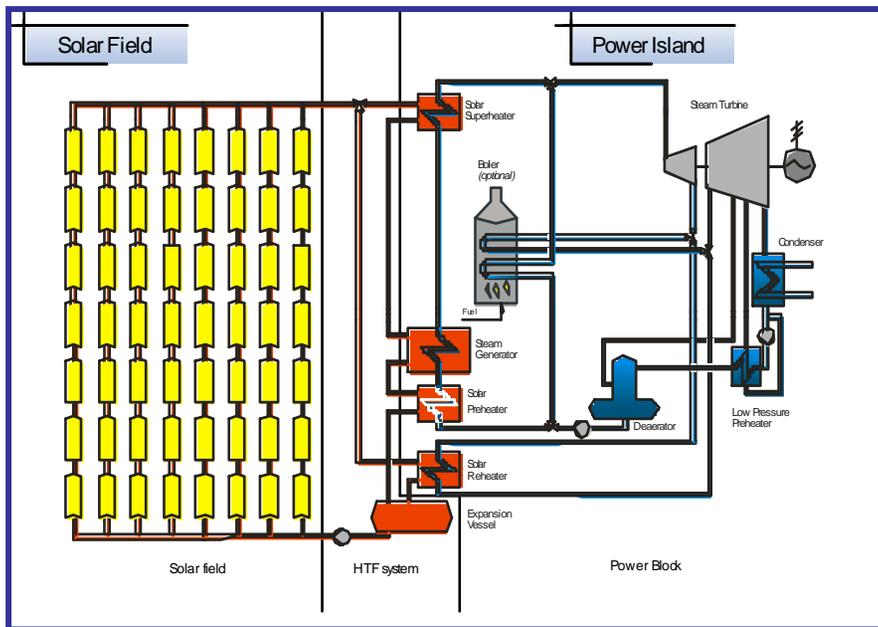
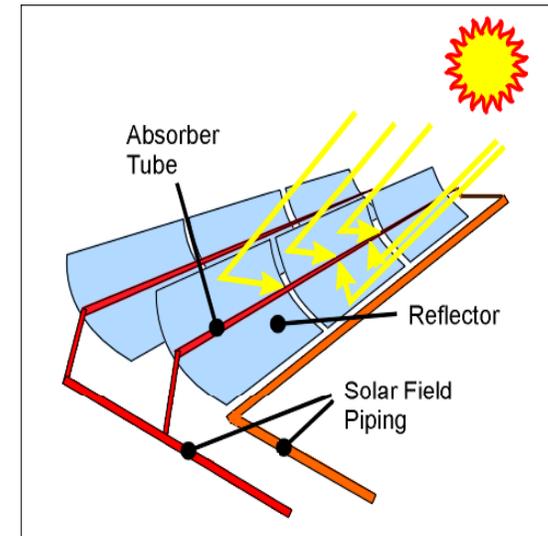
- Developed and built first parabolic trough plants in Spain (Andasol) 1–3 plants, total 150 MWs, with 7.5 hours of molten salt storage.
- 30 MW Solar field integrated into 150 MW CCGT plant in Egypt (under construction).
- More than 2,000 MWs currently in development in the U.S. Southwest.



# Technology: Solar Parabolic Troughs

**How troughs work:** Solar radiation is concentrated 80 times onto an absorber tube situated on the focal line of the trough. The trough is rotated east-west to track the sun. The concentrated solar heat is used to convert water to steam, thus driving a steam turbine to generate electricity.

The world's first commercial scale plants (354 MWs) have been operating in Southern California since 1984.



# Blythe Solar Power Project

## Location

Riverside County  
 8 miles W of Blythe  
 1.5 miles N of I-10

## Acreage

ROW: 9,400 acres  
 Disturbance Area: 7,250 acres  
 Footprint: 5,950 acres

## Capacity

1,000 megawatts  
 (4 x 250 MW plants)

## Energy

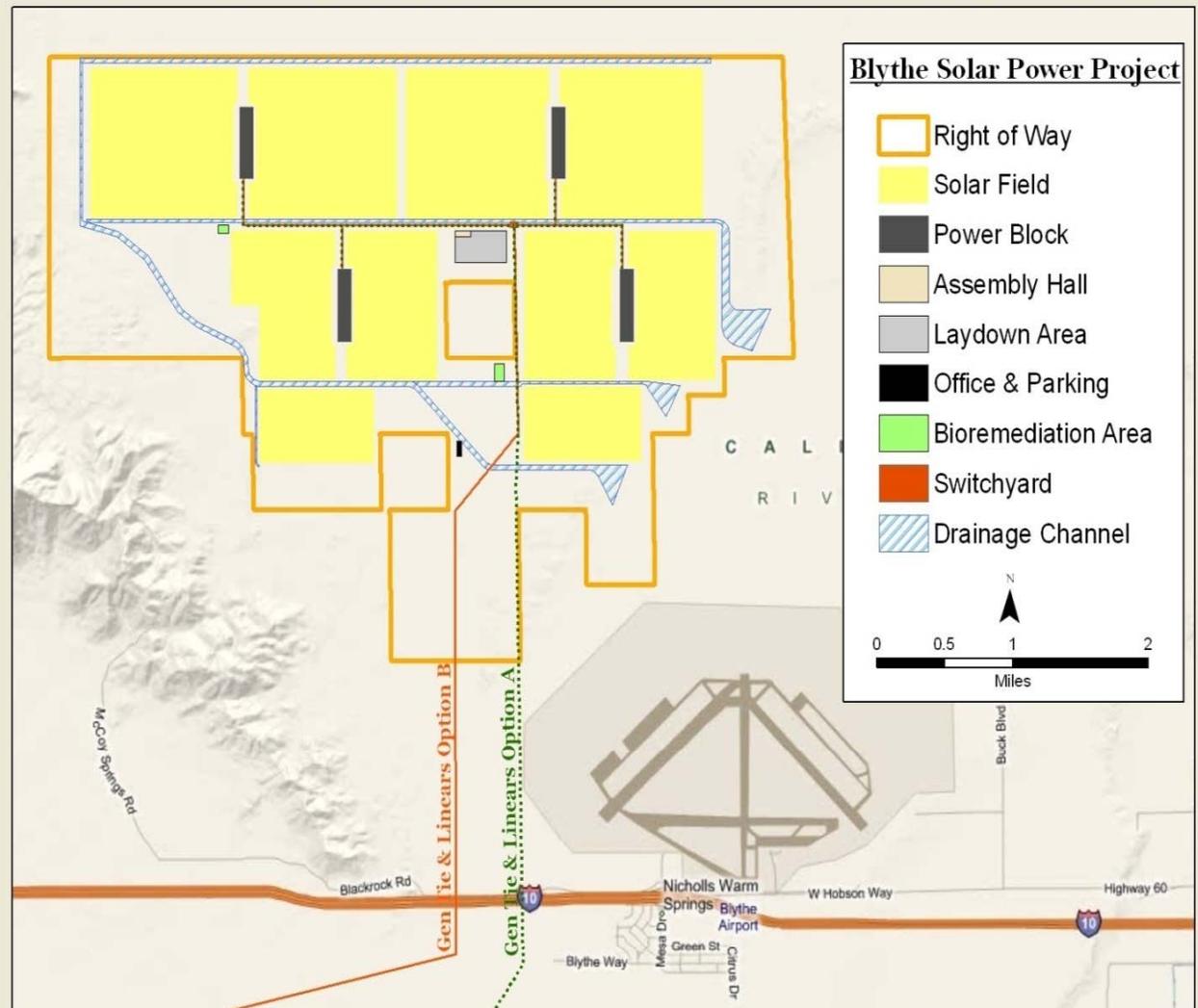
2.2 million MW hours  
 (550,000 MWh/plant)

## Jurisdiction

California Energy  
 Commission & Bureau of  
 Land Management

## Transmission System

Southern CA Edison



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# Blythe – Where are we in the process?

TO DATE		GOING FORWARD	
<b>ROW Application</b>	September 2006	<b>CEC Site Visit and Scoping Hearing</b>	January 25, 2010 (with Palen Project)
<b>AFC Submitted</b>	August 24, 2009	<b>BLM ROD &amp; CEC Final Decision</b>	September 2010
<b>Data Adequacy</b>	November 18, 2009	<b>Notice to Proceed</b>	November 2010
<b>NOI Published</b>	November 23, 2009	<b>Begin Construction</b>	December 2010
<b>BLM Scoping</b>	December 11, 2009	<b>Begin Operations</b>	July 2013
<b>Data Requests</b>	Received: 12/7/09		
	Submitted: 1/6/10		
	Workshops: 3 to date		
<b>2081 Permit</b>	January 13, 2010		

## Blythe – Current Obstacles

Obstacle/Issue	Jurisdiction
1) Interim Mitigation Requirements Uncertain	DFG, FWS, BLM
2) High Level of Detail Required of Applicant	CEC, BLM
3) Timing of Compliance – REAT Combined Schedule Problematic	CEC, BLM
4) Expanded Definition of Jurisdictional Waters	DFG
5) Alternatives Analysis Overly Prescriptive	CEC, BLM
6) CAISO Renewable Transmission Planning Process Overlay To LGIP Process Potentially Problematic for ARRA Projects and DPV2	CAISO
7) Permitting Status and Process for Network Upgrades Identified for Renewables Undefined	CEC, CPUC, BLM

# Ridgecrest Solar Power Project – Overview

## Location

Kern County  
 5 miles SW of Ridgecrest  
 SW of Hwy 395

## Acreage

ROW: 3,995 acres  
 Disturbance Area: 1,944 acres  
 Footprint: 1,448 acres

## Capacity

250 megawatts

## Energy

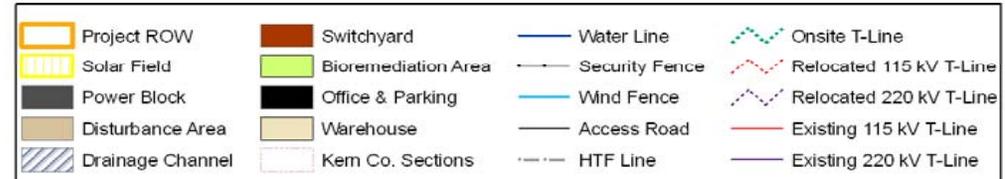
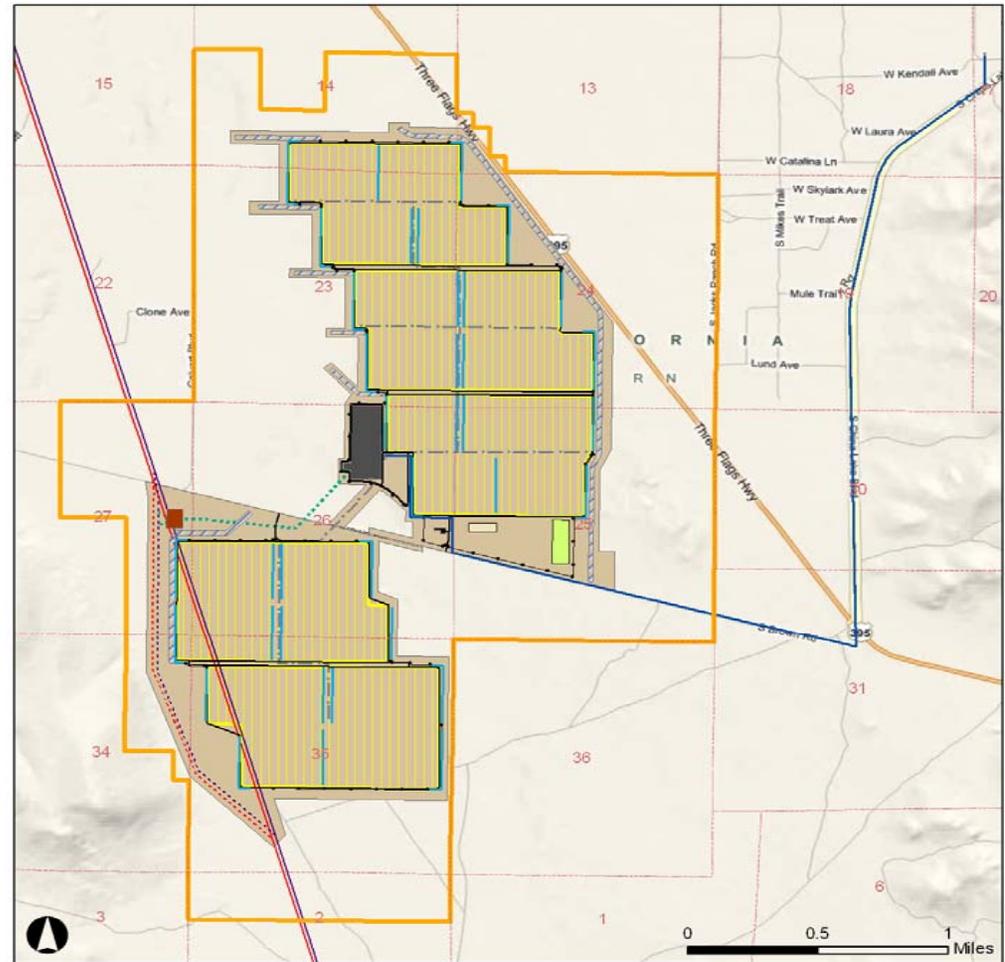
550,000 MW-hours/year

## Jurisdiction

California Energy  
 Commission & Bureau of  
 Land Management

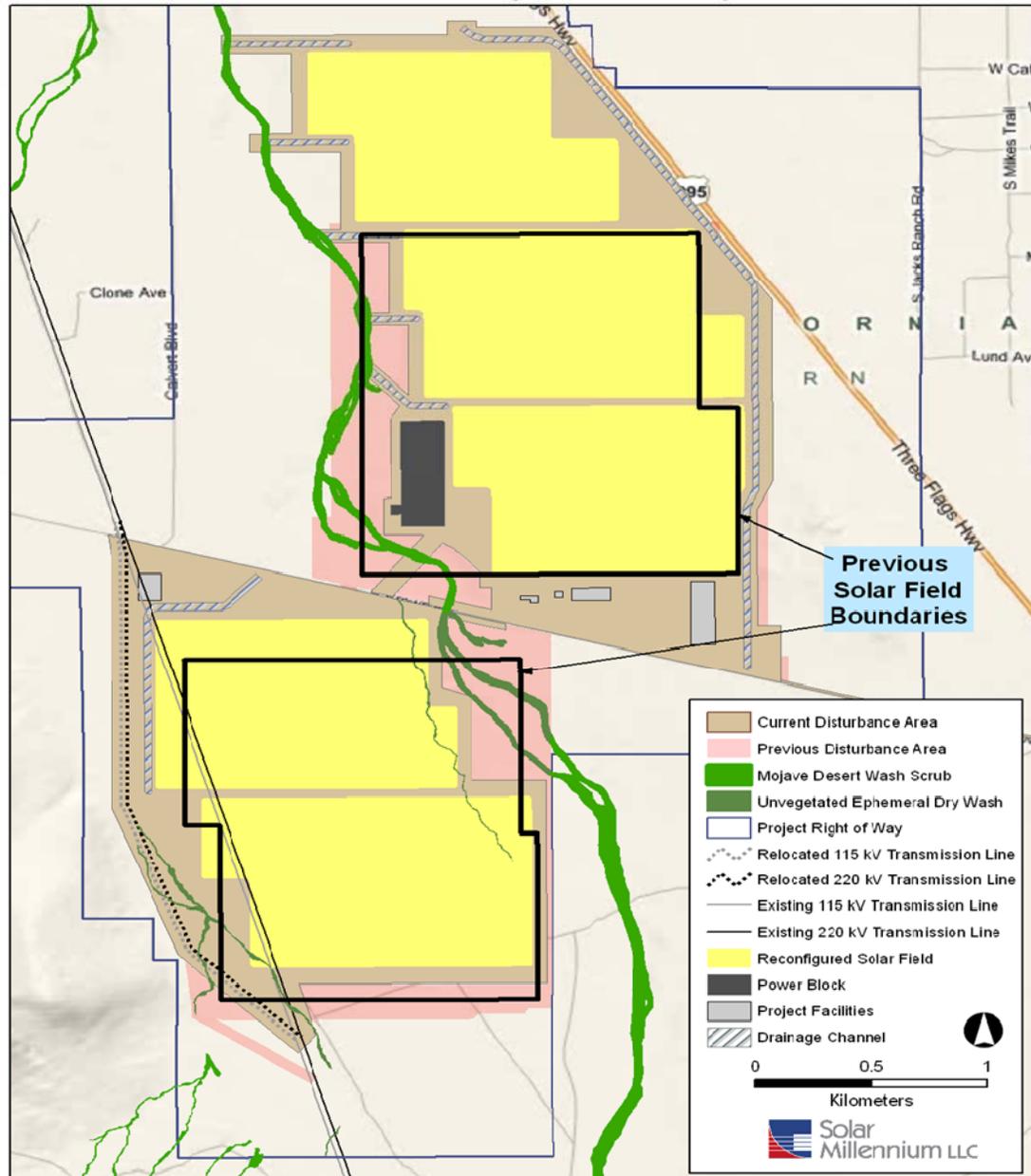
## Transmission System

Southern CA Edison



# Ridgecrest Solar Power Project Redesign

RSPP Reconfiguration Design



# Ridgecrest – Where are we in the process?

TO DATE		GOING FORWARD	
<b>ROW Application</b>	March 2007	<b>Data Request Submittal</b>	January 25, 2010
<b>AFC Submitted</b>	September 1, 2009	<b>2081 Permit</b>	February 2010
<b>Data Adequacy</b>	November 18, 2009	<b>BLM ROD CEC Final Decision</b>	September 2010
<b>NOI Published</b>	November 23, 2009	<b>Notice to Proceed</b>	November 2010
<b>BLM/CEC Joint Public Workshop</b>	December 15, 2009	<b>Begin Construction</b>	December 2010
<b>BLM/CEC Joint Scoping Hearing and Site Visit</b>	January 5 & 6, 2010	<b>Begin Operations</b>	July 2013
<b>Data Requests</b>	Received: 12/22/09 & 1/19/10		

## Ridgecrest – Current Obstacles

Obstacle/Issue	Jurisdiction
1) Lack of Direction Regarding Allocation of Development Threshold in West Mojave Plan	BLM
2) Interim Mitigation Requirements Uncertain	DFG, FWS, BLM
3) High Level of Detail Required of Applicant	CEC, BLM
4) Timing of Compliance – REAT Combined Schedule Problematic	CEC, BLM
5) Alternatives Analysis Overly Prescriptive	CEC, BLM
6) CAISO Renewable Transmission Planning Process Overlay To LGIP Process Potentially Problematic for ARRA Projects	CAISO
7) Permitting Status and Process for Network Upgrades Identified for Renewables	CEC, CPUC, BLM

# Palen Solar Power Project

## Location

Riverside County  
 10 miles E of Desert Center  
 1 mile N of I-10

## Acreage

ROW: 5,200 acres  
 Disturbance Area: 3,950 acres  
 Footprint: 2,970 acres

## Capacity

500 megawatts  
 (2 x 250 MW plants)

## Energy

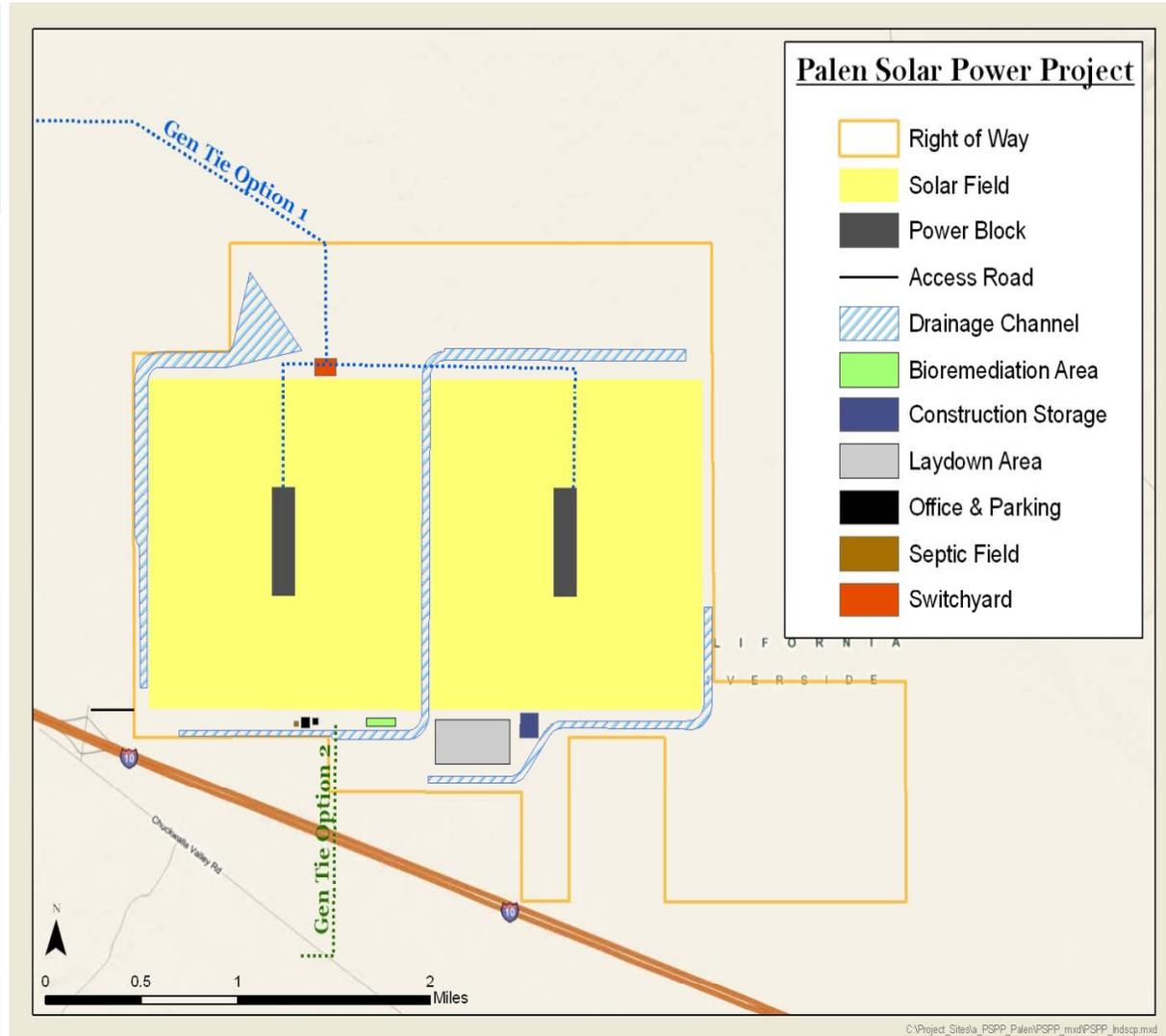
1.1 million MW hours  
 (550,000 MWh/plant)

## Jurisdiction

California Energy  
 Commission & Bureau of  
 Land Management

## Transmission

SCE Transmission System



# Palen – Where are we in the process?

TO DATE		GOING FORWARD	
<b>ROW Application</b>	September 2006	<b>CEC Site Visit and Scoping Hearing</b>	January 25, 2010 (with Blythe Project)
<b>AFC Submitted</b>	August 24, 2009	<b>BLM ROD CEC Final Decision</b>	September 2010
<b>Data Adequacy</b>	November 18, 2009	<b>Notice to Proceed</b>	November 2010
<b>NOI Published</b>	November 23, 2009	<b>Begin Construction</b>	December 2010
<b>BLM Scoping Hearing</b>	December 11, 2009 (with Blythe Project)	<b>Begin Operations</b>	July 2013
<b>Data Requests</b>	Received: 12/7/09		
	Submitted: 1/6/10		
	Workshops: 3 to date		
<b>2081 Permit</b>	January 13, 2010		

## Palen – Current Obstacles

Obstacle/Issue	Jurisdiction
1) Interim Mitigation Requirements Uncertain	DFG, FWS, BLM
2) High Level of Detail Required of Applicant	CEC, BLM
3) Expanded Definition of Jurisdictional Waters	DFG
4) Alternatives Analysis Overly Prescriptive	CEC, BLM
5) Timing of Compliance – REAT Combined Schedule Problematic	CEC, BLM
6) SCAQMD Emission Reduction Credits not Available to Project Due to Ongoing Lawsuit	SCAQMD, USEPA
7) CAISO Renewable Transmission Planning Process Overlay To LGIP Process Potentially Problematic for ARRA Projects and DPV2	CAISO
8) Permitting Status and Process for Network Upgrades Identified for Renewables Undefined	CEC, CPUC, BLM

## Recommendations to Alleviate Obstacles

Recommendation	Jurisdiction
1) Allow ARRA Projects to Move Forward on Expedited Schedule and Decouple from RETPP	CAISO
2) Performance Standards	CEC, BLM
3) Timing of Compliance	CEC, BLM
4) Mitigation <ul style="list-style-type: none"> <li>* Avoidance, minimization, and ratios</li> <li>* Interim Mitigation Strategy (fee/acre)</li> <li>* Timing</li> </ul>	CEC, BLM, DFG, FWS
5) Alternatives (NEPA and CEQA) <ul style="list-style-type: none"> <li>* Number and type</li> <li>* Data requirements to support</li> </ul>	BLM, CEC
6) Identify Opportunities to Expedite Permitting for Transmission Lines Necessary to Access Renewable Resources	CEC, BLM, CPUC

## Contact Information

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