



FPL Energy.

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Beacon Solar Energy Project

CEC Informational Hearing

June 11, 2008

FPL Group is a Premier U.S. Energy Company

FPL Group

- \$26.7 B market capitalization
- 37,678 MW in operation
- \$15.3 B operating revenue
- \$40.1 B in total assets

Florida Power & Light

- One of the largest U.S. electric utilities
- Vertically integrated, retail rate-regulated
- 4.5 MM customer accounts
- 22,135 MW in operation
- \$11.6 B in operating revenues
- \$24.0 B in assets

FPL Energy

- Successful wholesale generator
- U.S. leader in renewable generation
- Assets in 26 states
- 15,543 MW in operation
- \$3.5 B in operating revenues
- \$14.5 B in assets

A Growing, Diversified Company

Market Capitalization as of May 23, 2008;
All other data as of December 31, 2007

FPL Energy, LLC

- **A leading clean energy provider with natural gas, wind, solar, hydroelectric and nuclear power plants in operation in 25 states**
- **The largest generator of solar energy in the country through operations in California's Mojave Desert (currently operates seven solar facilities)**
- **Solar Energy is a valuable part of FPL Energy's clean and renewable energy mix and the company will continue to evaluate solar energy for additional opportunities as feasible**

Beacon Project Objectives

- **To construct, operate and maintain an efficient, economic, reliable, safe and environmentally-sound solar powered generating facility**
- **To meet the State of California objectives mandated by SB 1078 (California Renewable Portfolio Standard Program)**
- **To meet the State of California objectives of AB 32 (California Global Warming Solutions Act of 2006)**

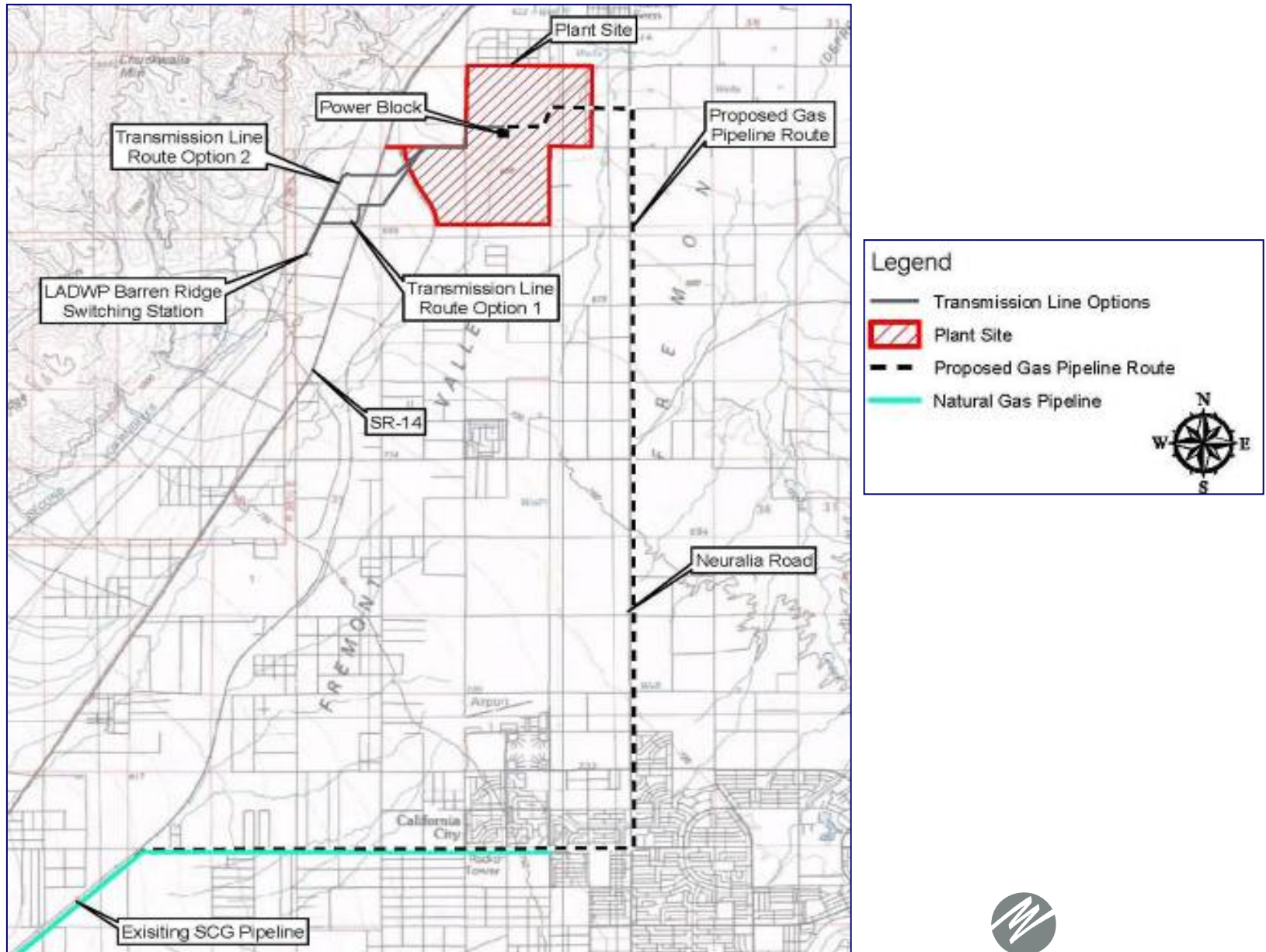
Location of Project:



Project Overview

- **Electrical output of 250 megawatts**
- **Project will use proven parabolic trough mirror solar thermal technology**
- **Solar energy will provide 100 percent of the power generated by the plant**
- **Project will utilize two auxiliary boilers fueled by natural gas to reduce startup time and to provide freeze protection for the heat transfer fluid**

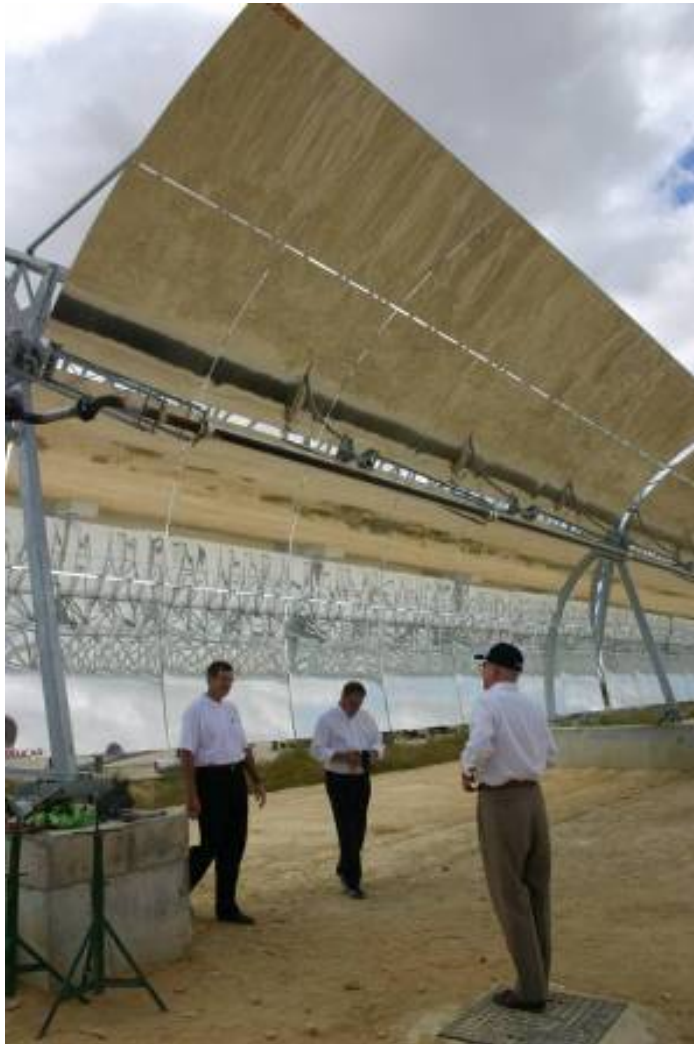
Project Site and Surrounding



Solar Parabolic Trough Mirrors



Parabolic Troughs



Solar Trough Collector Loop

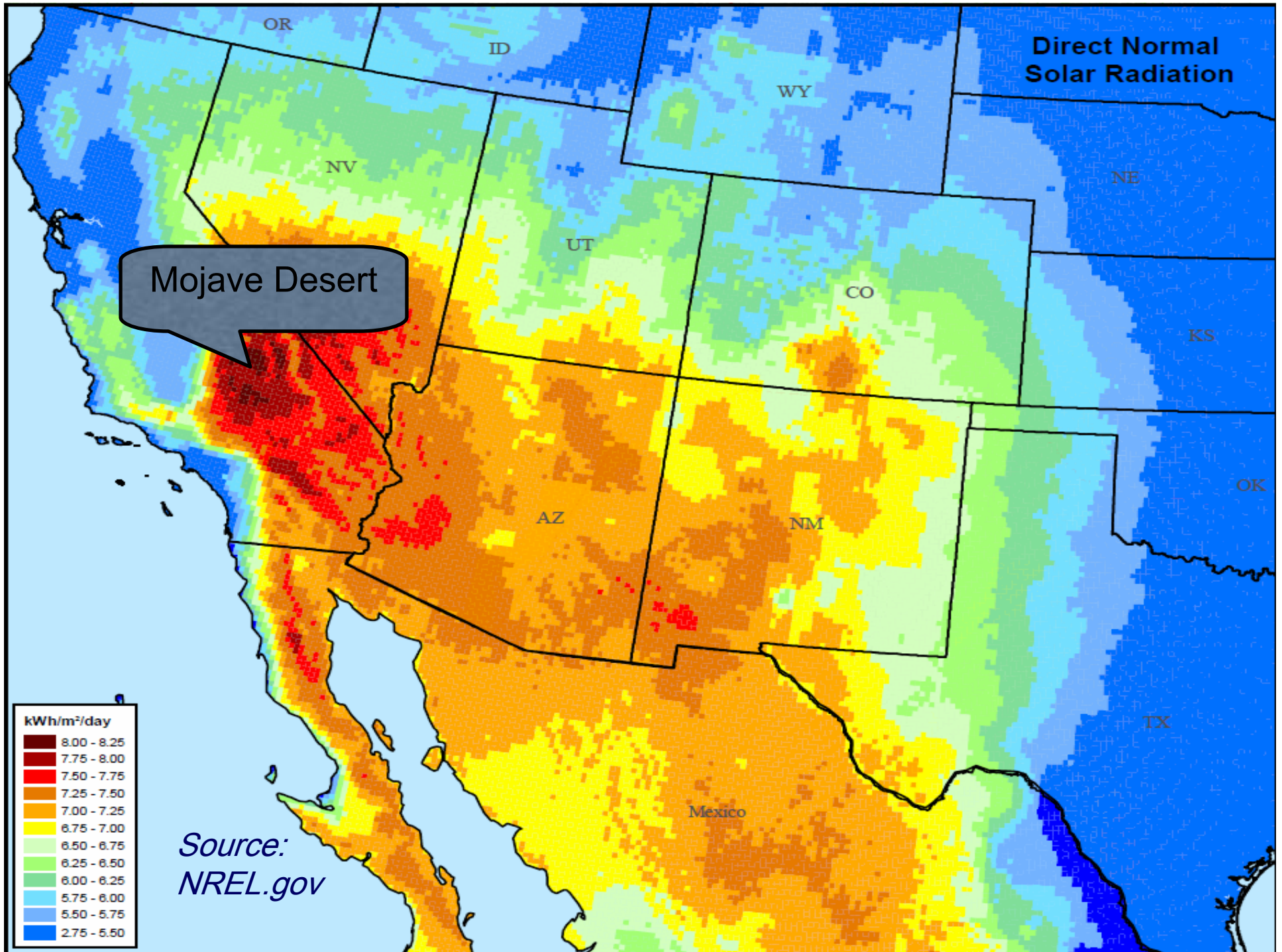


Project Components

- **A roughly 2,000 acre site containing:**
 - Solar arrays
 - Power block with steam turbine and cooling tower
 - Evaporation ponds
 - Rerouted drainage channel
 - Administration building and other facilities
- **A new 17.6-mile, eight-inch gas pipeline along Neuralia Road to connect the Project to an existing Southern California Gas Company pipeline west of California City**
- **A new approximately 3 mile transmission line to connect the Project to the Barren Ridge Substation (2 options being considered)**

Why this site?

- **Kern County- excellent solar resource**
- **Site previously disturbed by intensive farming**
- **Close proximity to transmission infrastructure, making it an ideal site in terms of minimizing environmental impacts**
- **Site has available water resources to allow wet cooling in order to optimize power generation efficiency and reduce Project cost**



Environmental Review

- Air Quality
- **Biological Resources**
- Cultural Resources
- **Geological Resources and Hazards**
- Hazardous Materials Handling
- **Land Use**
- Noise
- Paleontological Resources
- Public Health
- Socioeconomics
- Soils
- Traffic and Transportation
- Transmission System Safety & Nuisance
- **Visual Resources**
- Waste Management
- **Water Resources**
- Worker Safety

Highlighted topics are discussed in this presentation

Biological Resources

- **Site is largely disturbed due to previous intensive agricultural operations**
- **Extensive biological surveys have been performed**
- **Some habitat (<6 acres) for desert tortoise and Mohave ground squirrel will be impacted west of the site along the transmission line route**
- **Biological permitting with the California Dept. of Fish and Game and U.S Fish and Wildlife Service has been initiated**
- **Proposed mitigation would ensure that impacts are reduced to less than significant levels**

Geologic Hazards

- **Two California designated earthquake fault zones are present within the site**
- **All Project structures will be designed to meet Seismic Zone 4**
- **Critical structures such as the power block, evaporation ponds and administration buildings will be placed outside the designated fault zones**

Land Use Consistency

- **Project site is almost completely vacant and significantly disturbed from past agricultural activities**
- **Consistent with Zoning ordinance (Exclusive Agriculture or Limited Agriculture)**
- **General Plan (GP) Land Use designations:**
 - Majority of plant site is designated for Resource uses (consistent with GP)
 - Northern portion of the plant site has a residential land use designation (will need a GP Amendment)

Visual Resources

- **Project structure, stacks and transmission line structures will be a neutral color and surfaces will be non-reflective**
- **No significant glare would be expected**
- **From elevated locations at certain times of the day, the facility would contrast substantially with the surrounding environment (resemble a body of water)**
- **Transmission line will cross Highway 14**

Plant site without simulated Project facilities



Plant site with simulated Project facilities



Transmission Line Route – Existing Conditions



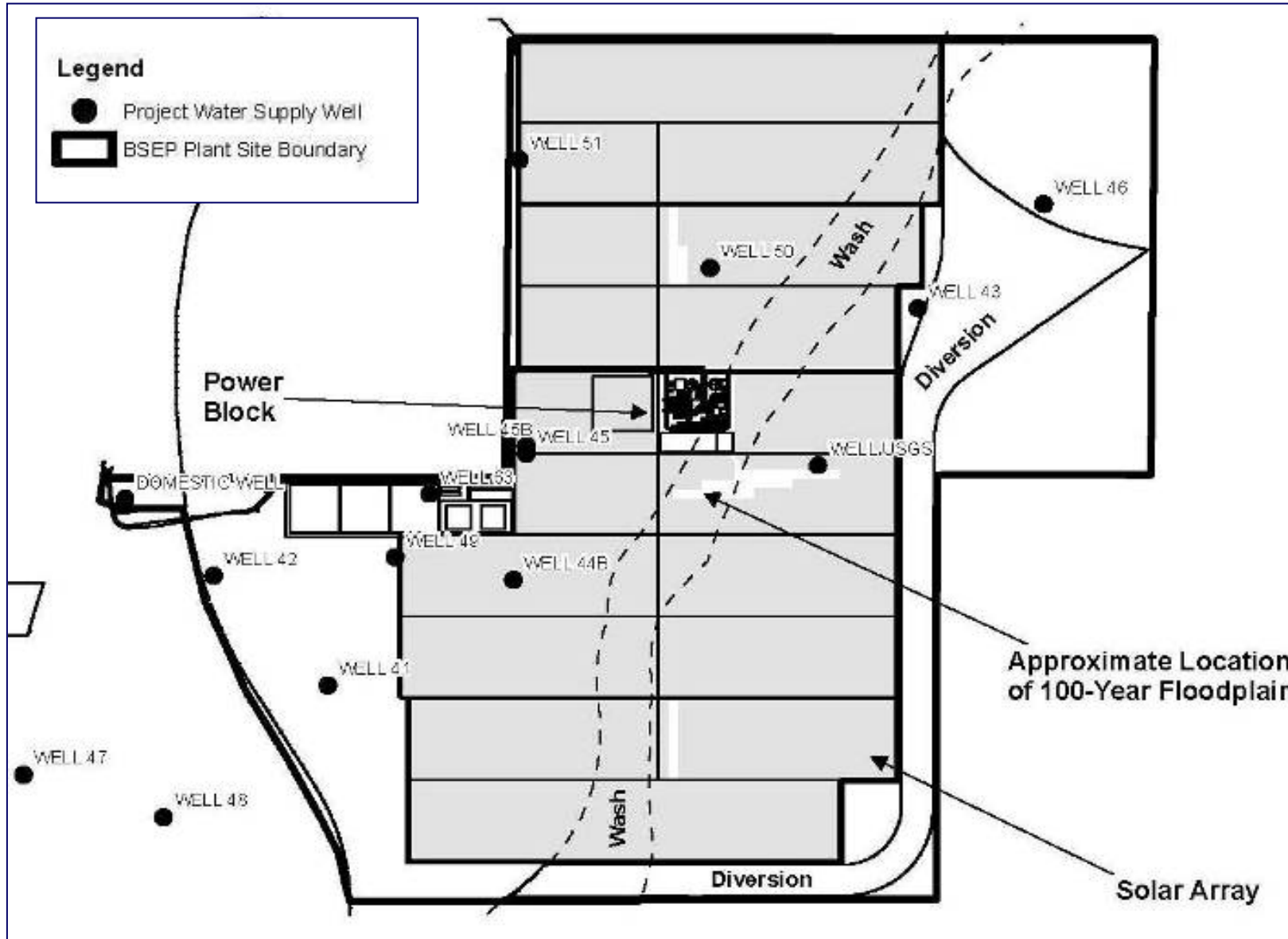
Transmission Line Route with Simulated Facilities



Water Resources

- **Water is needed for:**
 - Wet cooling tower for power plant cooling
 - Industrial uses (process water makeup, mirror washing, etc.)
 - Employee use (drinking, showers, sinks, and toilets)
- **Supplied by existing onsite wells (without significant effects on other users or on the groundwater basin)**
- **Alternative water sources are continuing to be investigated**

Project Water Supply Wells and Desert Wash Diversion



Groundwater Usage

- **Project located in the Koehn Sub-basin of the Fremont Valley Groundwater Basin**
- **Groundwater dropped 200-250 feet during agricultural pumping, but has since recovered 100-130 feet in local wells**
- **The Fremont Valley Groundwater Basin has a storage capacity of about 5M acre-feet**
- **Project will use 1,600 acre feet per year**
- **Project will not significantly affect groundwater recharge, instead it will slow the rate of recovery**

Project Schedule

- **Construction to begin in 2009 with a goal of completion in 2011**
- **Project is to be owned and operated by Beacon Solar LLC**
- **The new natural gas pipeline will be owned and operated by the Southern California Gas Company**