



APS TO CONSTRUCT SOLAR TROUGH POWER PLANT ***First Such Project in U.S. Since 1990***

RED ROCK, ARIZ. – APS today broke ground on Arizona’s first commercial solar trough power plant and the first such facility constructed in the United States since 1990.

Located at the company’s Saguaro Power Plant in Red Rock, about 30 miles north of Tucson, the APS Saguaro Solar Trough Generating Station will have a 1-megawatt (MW) generating capacity, enough to provide for the energy needs of approximately 200 average-size homes.

APS has contracted with ***Solargenix Energy*** to construct and provide the solar thermal technology for the plant, which is expected to come online in April 2005. Solargenix, formerly Duke Solar, is based out of Raleigh, North Carolina. Solargenix has partnered with ORMAT who will provide the engine to convert the solar heat, collected by the Solargenix solar collectors, into electricity.

“The APS Saguaro Solar Trough Power Plant presents a unique opportunity to further expand our renewable energy portfolio,” said Peter Johnston, manager of Technology Development for APS. “We are committed to developing clean renewable energy sources today that will fuel tomorrow’s economy. We believe solar-trough technology can be part of a renewable solution.

Solargenix is sure too. The company’s solar-trough technology uses parabolic shaped reflectors (or mirrors) to concentrate the sun’s rays to heat a mineral oil between 250 and 570 degrees. The fluid then enters the ORMAT engine passing first through a heat exchanger to vaporize a secondary working fluid. The vapor is used to spin a turbine, making electricity. It is then condensed back into a liquid before being vaporized once again.

Historically, solar-trough technology has required tens of megawatts of plant installation to produce steam from water to turn generation turbines. The significant first cost of multi-megawatt power plants had precluded their use in the APS solar portfolio. This solar trough system combines the relatively low cost of parabolic solar trough thermal technology with the commercially available, smaller turbines usually associated with low temperature geothermal generation plants such as the ORMAT unit being used for this project.

In addition to generating electricity for APS’ customers, the solar trough plant will help APS meet the goals of the Arizona Corporation Commission’s Environmental Portfolio Standard, which requires APS to generate 1.1 percent of its energy through renewable sources – 60 percent through solar – by 2007. APS owns and operates approximately 4.5 megawatts of photovoltaic solar

generation around the state and has partnered on a 3-megawatt biomass plant in Eager, which came online in February, and a 15-megawatt wind farm to be constructed near St. Johns.

APS, Arizona's largest and longest-serving electricity utility, serves about 902,000 customers in 11 of the state's 15 counties. With headquarters in Phoenix, APS is the largest subsidiary of Pinnacle West Capital Corp. (NYSE: PNW).

March 26, 2004

How solar-trough technology works...

