BrightSource Energy gets OK for 370-megawatt solar plant in Mojave Desert

Dana Hull, Bay Area News Group, 9-23-10

Over the objections of several environmental groups concerned about the impact on native plants and the desert tortoise, the California Energy Commission on Wednesday gave Oakland-based BrightSource Energy approval to build a 370-megawatt solar thermal power plant in California's portion of the Mojave Desert.

BrightSource's Ivanpah Solar Electric Generating System is one of four large solar thermal power plants approved by the Energy Commission this month; five others are pending. The commission hopes to rule on all nine projects by the end of the year in order to qualify for federal stimulus funds.

If all nine are approved, they are expected to create more than 8,000 construction jobs and generate more than 4,300 megawatts of electricity. The Solar Energy Industries Association estimates that 1 megawatt of solar electricity is enough to power 200 homes, so the nine projects could power 860,000 homes.

"This is a very good day for California, and the benefits of this project far outweigh the impacts," Commissioner Jeffrey Byron said after the unanimous vote.

In weighing their decision, the five-member commission had to balance the benefits of renewable energy against the fact that land-intensive power plants will irrevocably change the desert landscape. Ivanpah went through three years of review, and state regulators ultimately ruled that the need to reduce global warming and diversify the state's energy supply took precedence over the impacts on plants and tortoises.

"It's tangible evidence of a substantial move away from fossil fuels," commission Chairwoman Karen Douglas said.

BrightSource plans to build its project near Ivanpah Dry Lake in San Bernardino County, near the Nevada border. It would be constructed in three phases: one 120MW phase and two 125MW phases. Ivanpah would be among the first commercial solar thermal power plants permitted on federal public land in the United States. The Bureau of Land Management, which approves the use of federal public lands, has signaled support for the project and is expected to issue its final decision in early October.

Several environmental groups and some Native American tribes have objected to locating the project in the Ivanpah Valley, saying it would negatively impact the habitat of the endangered desert tortoise as well as rare native plants, such as the Mojave milkweed and desert pincushion. Other local activists are warning of "energy sprawl" and fear a rapid industrialization of the desert.

A record number of environmental groups, eight in all, weighed in against the project, including the Sierra Club, the Center for Biological Diversity and the California Native Plant Society.

"We're committed to moving California and the nation off of dirty coal," Barbara Boyle of the Sierra Club said. "But the project as designed has a significant impact on the desert tortoise."

Desert tortoises spend much of their time in burrows underground, and biologists estimate that 25 to 50 live on the proposed 3,500-acre Ivanpah site. BrightSource plans to have trained biologists move the tortoises to a new location, but environmentalists say moving the creatures from their current habitat will harm them.

"The desert tortoise will continue its ongoing slide toward extinction," said Ileene Anderson of the Center for Biological Diversity in Los Angeles. "And if these tortoises are going to be moved, we have to make sure that they don't move them again if another project comes along, like the proposed high-speed rail line."

The Mojave Desert, with its high altitude and flat landscape, is thought to have some of the best habitat in the world for solar thermal technology. BrightSource concentrates the sun's rays with mirrorlike "heliostats" that reflect heat to boil water. The steam from the boiling water turns turbines that generate electricity.

The company's heliostats track the sun on two axes to optimize exposure throughout the day as well as during different seasons. The heliostats are capable of heating up to 550 degrees Celsius (about 1,000 degrees Fahrenheit), which allows BrightSource to use the most-efficient turbines now on the market. The Ivanpah project would include 173,500 heliostats and three 459-foot towers.

Roughly two-thirds of the power generated from the solar plants would be sold to PG&E and about one-third to Southern California Edison.

"We look forward to commencing construction on Ivanpah and setting a model for environmentally-responsible utility-scale solar projects," BrightSource CEO John Woolard said.

BrightSource has about 200 employees, most of whom work at its offices in Israel. It is backed by venture capital firms Draper Fisher Jurvetson, VantagePoint Venture Partners, Google.org and others, and has received a $1.37 billion conditional loan guarantee from the U.S. Department of Energy.

"This is actually going to happen," said Stefan Dolezalek, leader of the cleantech practice at VantagePoint and a member of BrightSource's board of directors. "BrightSource has the agreements and the financing -- it's the biggest and the most real."

BrightSource declined to comment on reports that it has hired investment banks to prepare for an initial public offering of stock in 2011.