



**PRINTABLE VERSION: Thursday, July 12, 2007**

## 1. ENERGY DEVELOPMENT: Feds promote geothermal on public lands (07/12/2007)

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According to conventional wisdom, about 90 percent of potential geothermal energy resources are located beneath federal lands, mainly in California and Nevada. And while early geothermal developments in those states have stood the test of time and there is a renewed push for renewable power throughout the West, many in the energy industry have lamented the fact that bringing geothermal power plants into operation takes many years -- in large part because of the slow bureaucracy of obtaining leases and permits from federal lands agencies.

Several dozen applications for leases have sat -- some for years -- awaiting processing by local units of the Bureau of Land Management or the Forest Service. As a result, geothermal generation, while increasing each year, has not experienced the same kind of market expansion as wind or solar power.



Geothermal energy is getting an added push from federal agencies under terms of the Energy Policy Act of 2005. Photo by Sean Ramsay. Courtesy of the Energy Overseer.

Now, impelled by external forces and pushed by provisions of the Energy Policy Act of 2005, BLM and the Forest Service exhibit new support for geothermal development on public lands with recent sales of leaseholds in Idaho and Utah, while launching a process for reviewing and assessing environmental impacts of future projects in several locations in the West with a high potential for geothermal energy.

As part of the programmatic environmental impact statement (PEIS), BLM and FS will also make recommendations for removing what has been perceived as a backlog of lease applications. The agencies launched a public PEIS process this month with a series of at least 10 scoping sessions that are taking place from Arizona to Alaska.

Jack Peterson, BLM's project manager for the PEIS, told *Land Letter* that the goal is "to expedite the ability of companies interested in developing geothermal to get leases, to reduce their risks and costs so they can forward with real exploration."

As BLM previously found with wind energy projects, federal processes for leasing contribute to difficulties and uncertainties for would-be developers, but some of the problem can be overcome with a better base of information about environmental impacts and potential mitigations that the PEIS hopes to assemble.

Geothermal power in the United States has been on the upswing. In 2006, according to the Geothermal Energy Association, there is now about 2,850 megawatts of geothermal capacity installed in the United

States -- although almost 90 percent of that, or 2,492 MW -- is in California. Only four other states have operating plants: Nevada has 297 MW; Hawaii, 35 MW; Utah, 26 MW; and Alaska with less than 1 MW. About 25 MW was added in the past year.

But the potential for geothermal could be as much as 100,000 MW, reported the Department of Energy in January. The DOE study estimated that within 50 years, geothermal could provide about 6 percent of U.S. electric energy needs.

Peterson cited the "re-emerging interest" in geothermal as being driven by the broad adoption of renewable portfolio standards in more than 20 states and the provisions within EAct allowing geothermal energy plants to now take advantage of the production tax credit (PTC) -- just as wind and solar power producers may. "PTC is a very significant driver of wind," Peterson noted. "The inclusion of geothermal has been very important."

But to qualify for the tax credit, new power plants must become operational within a specific time frame. And in EAct, Congress mandated that BLM work through the backlog of applications by 2010.

The agency itself claims that it has been working to expedite applications at a much faster clip than previously. BLM currently administers about 420 geothermal leases -- 55 of which are producing geothermal energy, including 34 power plants. BLM said it has issued 291 leases since 2001, compared to 25 leases from 1996-2001.

In passing the geothermal provisions of EAct, Congress had estimated there were 100 applications pending as of January 2005 and it required that BLM process at least 90 percent of them within five years.

"Now we have a list of between 35 and 50, that are genuinely backlogged applications," BLM's Peterson said. "We've whittled them down to a manageable number and we'll put energy into them to try to clear them."

Asked to characterize these potential project applications, he said the majority is on Forest Service lands and most are in California and Nevada. He predicted the eventual number would be about 25. "Some will be granted and some will not," he said.

In many cases, the reasons for the backlog are that existing environmental reviews or forest management plans are inadequate or outdated -- some do not even contemplate possible geothermal development.

The PEIS will help resolve this problem by creating a regional approach to environmental assessments but does not look at individual projects or wells. "With that, applicants can refer to most of what they will need to get a permit or a lease," he explained. "If an area is highly sensitive, they will have to do additional work to mitigate problems."

He cautioned that granting a leasehold is only the initial step for development, but as developers progress toward obtaining exploration permits, "it will be made much more simple by this early work."

Peterson said a draft PEIS should be ready by the end of the year, with public hearings on the document set for early 2008.

## More competition

EAct also has the effect of creating a more competitive process for leases, said Karl Gawell, executive director of the Geothermal Energy Association. "It will be a little more transparent," he said. "Under the old system, we had people speculating on the land with no interest in developing it."



Geothermal operations at China Lake, Calif., are among the world's most successful. And like many geothermal plants in the U.S., they are located on federal property -- in this case, at Navy weapons testing grounds in the desert. Photo by Sean Ramsay. Courtesy of the Energy Overseer.