

## **EMD Mid-year conference call, 18 November 2006**

### **EMD Geothermal Committee Report**

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#### **Summary:**

There has been a slight change in the capacity of geothermal power plants producing electricity over the past year. A small (200 KWe net), but interesting, power plant has been placed on line at Chena Hot Springs, Alaska and a new 27 MWe plant began operations at Steamboat Nevada. A number of projects are in various stages of development. Construction of a new plant began at Raft River, near Malta, Idaho and a new binary plant at Desert Peak, Nevada should come on line by the end of 2006.

Several web sites offer periodic information related to the geothermal industry and legislation and regulation affecting geothermal development. The Geothermal Energy Association (GEA) publishes the *GEA Update* periodically. It is available at <http://www.geo-energy.org> or <http://www.geo-energy.org/publications/updates.asp>. GEA also provides a page providing summaries of geothermal development projects in the United States ( <http://www.geo-energy.org/information/developing.asp> ) The Nevada Division of Minerals also periodically publishes the *Nevada Geothermal Update* at <http://minerals.state.nv.us/> or <http://minerals.state.nv.us/formspubs.htm>.

### **U. S. Geothermal Activity**

#### **General**

The Energy Policy Act of 2005 modified leasing provisions and royalty rates for both geothermal electrical production and direct use. Pursuant to the legislation the Bureau of Land management published draft regulations for continued leasing and operation of geothermal leases ( see: [http://www.blm.gov/nhp/news/regulatory/3200p\\_et al-2006/3200\\_3280p.html](http://www.blm.gov/nhp/news/regulatory/3200p_et al-2006/3200_3280p.html)). Comments on the regulations closed during September and the final rule making should be completed this year. Notable changes include a legislative mandate that all geothermal leases be awarded competitively and changes in royalty rates. The new law parallels existing oil and gas leasing provisions.

A “Geothermal Energy Generation in Oil and Gas Settings Conference” was hosted by Southern Methodist University during March 2006. The conference goal was to stimulate the development of geothermal energy into new areas utilizing existing oil and gas infrastructure. Locations are currently being reviewed for geothermal energy generation in oil and gas settings – in Wyoming, Louisiana, and multiple locations in Texas. Conference abstracts, presentations and DVDs of the presentation are available from the SMU Geothermal Lab ([http://www.smu.edu/geothermal/Oil&Gas\\_SMUmeeting.htm](http://www.smu.edu/geothermal/Oil&Gas_SMUmeeting.htm) ).

## **State reports**

Information for the following state activity summaries is primarily from the GEA web site. Only significant activity is reported here. For more detailed information see the GEA Nevada Division of Minerals sites

### **Alaska**

A 200 KWe binary powerplant was commissioned at Chena Hot Springs (<http://www.yourownpower.com/Power/> ) during the fall of 2006 and a second unit was being installed at the end of the year. The project is notable because it has provided the entrance into the geothermal industry of United Technologies Company owner of Carrier. The plants are based on UTC's air conditioning equipment. They hope that installations utilizing their off-the-shelf equipment will allow production from otherwise low to moderate temperature geothermal resources that have been un-economic.

### **California**

California Energy Company has placed on hold a 185 MWe plant in the Salton Sea pending extension of a geothermal production tax credit. The existing geothermal tax credit does not provide a sufficiently long time period for development of any but the simplest geothermal plant.

At The Geysers geothermal field, about 90 miles north of San Francisco, two companies have announced plans to develop new power plants. U. S. Renewable Group intends to re-power the mothballed Bottlerock plant. They are recompleting shut in wells and refurbishing the power plant. They hope to bring the plant on line in 2007. Western GeoPower announced that they have acquired geothermal leases in the southwest portion of The Geysers and intend to drill wells and build a new geothermal plant near the site of the decommissioned PG&E Unit 15 geothermal plant.

### **Idaho**

U. S. Geothermal is currently constructing a 10 MWe geothermal plant at the Raft River geothermal field near Malta, Idaho. They plan to bring power on line in 2007.

Idatherm has announced several geothermal exploration projects in southeastern Idaho Both are within the southeastern Idaho phosphate belt and the Idaho portion of the overthrust belt. The Willow Springs project is investigating the geothermal potential indicated by an oil and gas well drilled to more than 14,000 feet in the 1980s. A temperature of 480 F is reported in the well.

## **New Mexico**

Lightning Dock Geothermal has announced plans to build a 20 MWe plant in the Lightning Dock geothermal field in southwestern New Mexico.

## **Nevada**

Nevada remains the most active state for geothermal development with power plant expansions or modifications at three sites and exploration and development drilling on at least 12 sites. A total of 13 projects are under development in Nevada. These would supply up to 365 MW of electricity.

Exploration activity is most advanced at the Blue Mountain geothermal site in Humboldt County where Nevada Geothermal Power Company has completed one development well and has reported that the well was hotter than expected and flowed in commercial quantities.

Ormat Nevada brought on-line a 27 MWe binary plant at Steamboat Springs, Nevada and announced a sales agreement with Sierra Pacific Power Company for additional power. After completion of an additional plant, the Steamboat Springs geothermal complex will provide about 90 MWe of power to the Reno area.

Ormat has also completed construction of a new plant at the Desert peak field about 50 miles northeast of Reno. The 11 MWe binary plant will replace the existing flash steam plant.

## **Oregon**

Nevada Geothermal has announced plans for further exploration and possible development of the Crump Geyser geothermal prospect in Warner Valley, Oregon. Northwest Geothermal Company has entered into a power sales agreement with Pacific Gas & Electric Company for power from the Newberry geothermal project about 25 miles south of Bend, Oregon. Newberry was the site of extensive geothermal activity during the 1980s.

## **Utah**

Amp Resources is continuing development of the Cove Fort geothermal field somewhat to the southeast of the intersection of interstate highways 15 and 70 in central Utah. Cove Fort was the site of a small geothermal plant which has been decommissioned by Amp.

PacifiCorp is considering expansion of the Roosevelt geothermal field through the addition of a binary bottoming cycle plant to its existing 26 MWe plant.