

Newberry Demonstration Enhanced Geothermal System Project

Bureau of Land Management

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- AltaRock Energy, Inc., Davenport Newberry Holdings, LLC, proposes to create a demonstration project involving new technology, techniques, and advanced monitoring protocols for the purpose of testing the feasibility and viability of enhanced geothermal systems for renewable energy production.
- The project area is 22 miles south of Bend, Oregon, within the Bend-Fort Rock Ranger District of the Deschutes National Forest. The entire project is located on National Forest System Lands and would utilize an existing well pad and existing 10,000-ft deep geothermal well on Federal geothermal lease (OR40497) held by Davenport Newberry Holdings LLC.
- The BLM received 11 comments following publication of the draft environmental assessment, which identified several primary concerns regarding this project related to toxicity, seismicity, and groundwater connectivity along with several other issues.
- This geothermal project will enable the AltaRock Energy to create, test, and demonstrate the Enhanced Geothermal Systems (EGS) reservoir technology and its potential for electricity generation in areas with underground heat but little or no natural water. The EGS projects produce electricity using heat extracted with engineered fluid flow paths in hot rocks. These pathways are developed by stimulating them with cold water injected into a well at a relatively high pressure.
- It is important to note that while the proposed oil and gas hydro-fracturing regulations do not apply to geothermal, the process proposed for this exploration project is referred to as hydro-shearing. Hydro-shearing differs from hydraulic fracturing in that only existing fractures are utilized. Water is injected into the formation at lower pressure than that used for hydraulic fracturing, and no expansive chemicals or explosives are used to create new fractures.
- The decision to approve this EGS project does not allow for the production of electricity and no facilities capable of generating electric power are being proposed. Further analysis under NEPA would be required prior to any future decision to develop an electric production facility at Newberry.
- Development and testing of the EGS will take about two years, and involve several components, including the development of an underground reservoir, one “stimulation” well to help create the reservoir and transport water to it, two production wells to transport heated water out of the reservoir, and an array of up to 20 surface and “down-hole” seismic monitoring devices.
- Eleven of the monitoring sites would be on Federal geothermal leases administered by the BLM, and nine would be on lands that are administered by the U.S. Forest Service, including one surface micro-seismic monitoring station and a motion sensor installed in the Newberry National Monument.
- The project would be financed by a \$21.4 million Department of Energy grant utilizing American Reinvestment and Recovery Act funds and through AltaRock Energy’s cost share of \$22.3 million. The U.S. Forest Service Deschutes National Forest, Bend-Fort Rock District and the Department of Energy are co-operating agencies on this project. If approved, drilling and installation of the micro-seismic monitoring stations for the geothermal project could begin in 2012.

