

U.S Department of Energy  
Semi-Annual Program Report

**Geothermal Outreach**

**Grant No.: R021599**

**CFDA number:**

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**Project period: 10/01/04**

**Through: 03/31/09**

**Reporting from: 04/01/08**

**Through: 09/30/08**

**Date received:**

**Final report:**

**Geothermal Outreach and Coordination Program**

The Oregon Department of Energy (ODOE) provides information and services to the geothermal community and other stakeholders. By leading the GeoPowering the West (GPW) effort for Oregon, ODOE maintains working relationships with others, including but not limited to: Tribes, Oregon Department of Geology and Mineral Industries, USDOE, U.S. Forest Service, Bureau of Land Management, National Park Service, the Oregon Institute of Technology, Geothermal Resources Council, and the Geothermal Education Office. This effort will help expand direct use of geothermal energy in Oregon and may lead to overcoming barriers to geothermal power plant developments.

The following highlights the principal accomplishments during the period April 1, 2008 through September 30, 2008.

**April 2008**

In April the Oregon Department of Geology & Mineral Industries (DOGAMI) received applications from Raser technologies to drill six geothermal production and injection wells. DOGAMI circulated these applications to the state agency directors and to Klamath County where the wells are to be located. These wells are part of a planned first 10 MW plant in Oregon sited on 970 acres of leases at Liskey Farms south of Klamath Falls.

Final arrangements and agenda were completed this month for the May OWGW meeting in Bend. Interest is strong as early responses number over 50 attendees. Davenport Power is offering a tour of geothermal well pad 74-29 following the meeting.

We provided information to the Ash Grove Cement Company in Durkee, Oregon this month. The firm is investigating opportunities to self generate power for its local plant.

### ***Other Activities***

Davenport Power spudded the first high-temperature geothermal well pad constructed in over 10 years in April. The well is permitted to 10,000 feet. It is located at Newberry volcano, southeast of Bend.

### **May 2008**

In May we held the ninth OWGW meeting in Bend. The event was well received with over 60 attendees. Developers, government agencies, lawyers, engineers, other consultants, the press and environmental organizations were represented. Meeting minutes were previously sent under separate cover. The OWGW mailing list is being revised as result.

Following the OWGW meeting, we met informally to hear concerns of two Central Oregon Sierra Club members. Two steps resulted from this informal session. First, we will investigate mobile air quality treatment for wells, although it is not standard industry practice nor required under current rules. Second is to share with the appropriate federal agencies the potential breakdown in trust resulting from delayed well pad reclamation. It shows the conflict between allowable activities under energy mineral laws & rules and other land management goals.

Drilling began in May for a second high temperature geothermal well in Oregon, at Neal Hot Springs. Appendix A has the press release.

A Delegation from Iceland visited Oregon this month. We provided information on the first morning of their trip to "Explore Oregon's Geothermal Potential. Appendix B has the agenda & members of the Icelandic delegation.

Appendices C and D contain newspaper articles on the latest flurry of geothermal power development work.

### ***Other Activities***

The Chair of Council of State Governments-WEST requested through an Oregon legislator a presentation on geothermal energy. The Council is composed primarily of western legislators who get together by committee to discuss western regional issues. This year's annual meeting will be held in July in Anchorage, Alaska.

**Appendix A**  
**May 7, 2008**

**U.S. GEOTHERMAL STARTS DRILLING  
AT NEAL HOT SPRINGS PROJECT**

BOISE, Idaho - May 7, 2008 (AMEX: HTM, TSX: GTH) U.S. Geothermal Inc. ("U.S. Geothermal"), a renewable energy company focused on the production of electricity from geothermal energy, announced today that drilling has begun on the first full size exploration well at the Neal Hot Springs Project located in eastern Oregon.

Well NHS-1 is permitted for 3,500 feet of depth and is being drilled parallel to the discovery well drilled in 1979 by Chevron Resources. The drilling program is estimated to take 30 days and will be followed by a well flow test and reservoir program of approximately 60 days.

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**Appendix B**  
**May 2008**



**Icelandic Energy Mission to Oregon**  
**Energy Projects- Geothermal**

Delegation headed by Hlynur Gudjonsson, Icelandic Trade Commissioner for North America, arrives in Portland, Oregon on May 11<sup>th</sup>.

Monday May 12th, Agenda

7:15 AM Breakfast at the Hotel Pazzo Ristorante  
Jackie Dingfelder, Chair of the Oregon House of  
Representatives Energy Committee.

8:15 AM Leave the Hotel for Kell Conference Room 520 SW Yamhill St., Ste 600

8:30 AM **Oregon Department of Energy**

Carel DeWinkel, Geothermal expert  
Alex Sifford, Geothermal expert

**Oregon Department of Geology and Mineral Industries**  
Vicki McConnell, State Geologist

Clark Niewendorp, Mineral Resources Geologist  
Bob Houston, Geothermal Natural Resources Specialist

- 12:30 PM **Portland General Electric**  
One World Trade Center, 17<sup>th</sup> floor, PGE Boardroom
- 12:30 PM Executive Introductions
- 12:45 PM Introducing Portland General Electric  
Stephen Quennoz, Vice President, Power Supply and Generation  
Jim Lobdell, Vice President, Power Operations & Resource Strategy  
Bill Nicholson, Vice President, Customers & Economic Development  
Joe Eberhardt, Geothermal Resource Expert  
Shawn Chandler, Project Manager, PGE Economic Development
- PGE Overview and Renewable Energy Leadership  
Bill Nicholson, VP Economic Development and Customer Service
- 1:00 PM Development Interests – Geothermal  
Companies Overview  
Iceland Delegation
- Geothermal Projects in Iceland  
Iceland Deep Drilling Project
- PGE Geothermal and Power Acquisition Planning  
Joe Eberhardt – PGE Resource Planning
- Q&A
- 2:00 PM Development Interests – Carbon Capture  
Iceland Delegation
- 2:30 PM Open Q&A
- 3:00 PM **City of Lakeview, OR**  
City Engineer  
Kell Conference Room at 520 SW Yamhill St., Suite 600.
- 6:00 PM Dinner at Jake's Famous Crawfish, 401 SW 12th
- 9:00 PM Return to the Hotel
- Tuesday May 13, 2008
- 8:30 AM Breakfast meeting at the Hotel

Pazzo Ristorante (adjoined to Hotel Vintage Plaza at 627 SW Washington St.)

Linda Haglund, Deputy State Treasurer  
Brad Avakian, formerly Chair of Oregon Senate Energy Committee, and currently Labor Commissioner for the State of Oregon

- 9:30 AM     **Geo-Heat Center, Oregon Institute of Technology**  
Dr. John W. Lund, PE, Director of the Geo-Heat Center at the Oregon Institute of Technology, Klamath Falls, Oregon
- Albert Waibel, Geology consultant for Davenport Power on the Newberry Crater Project.
- 12:00 PM     **Nordic Business Council Group in Portland**  
Tal Finney, Iceland America Energy / Enex, Partner  
Hlynur Gudjonsson, Trade Commissioner, Icelandic Consulate in New York
- 2:00 PM     **Stoel Rives LLP** Oregon law firm that represents geothermal clients.  
900 SW 5<sup>th</sup> Ave., Suite 2600. Conference room on 26<sup>th</sup> floor

**Iceland Energy Delegation**  
**Iceland America Energy / Enex**  
Tal Finney  
Partner

Roberto C. Agustin  
Technical Specialist

**Glitnir Bank**  
Arnar Hjartarson  
Analyst - Geothermal Reservoir Specialist  
Global Sustainable Energy

**Geysir Green Energy**  
Steinar Gudlaugsson  
Geophysicist

Auður Nanna Baldvinsdóttir  
Head of Marketing and Relations

**Mannvit Engineering**  
Eyjolfur Arni Rafnsson, Ph.D.  
CEO of Mannvit

Board of Directors, Geysir Green Energy

**The Icelandic Consulate in New York**

Hlynur Gudjonsson

Trade Commissioner for North America

Les Swanson Honorary Consul of Iceland in Oregon 520 SW Yamhill Street Portland, OR 97204 +1 503 228 1838 <a href="mailto:lesswanson@comcast.com">lesswanson@comcast.com</a>	CONSULATE OF ICELAND IN NY 800 Third Avenue, 36 <sup>th</sup> Floor New York, NY 10022 Tel: (+1 646) 282 9366, cell: (+1 917) 575 6758 <a href="mailto:hlynur@mfa.is">hlynur@mfa.is</a>
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**Appendix C**

**May 2008**

**Geothermal power on the rise in Oregon**

**By Sarah Skidmore**

**The Associated Press**

**Eugene Register Guard May 24, 2008**

LA PINE — As the demand and price for energy grows, companies are searching for new sources of power. In Oregon, they are looking deep into the earth.

Geothermal energy projects are burgeoning in the state. Several companies have projects pending to harness heat from below the earth's surface and make it available for use above ground. The technology is prevalent in countries such as Iceland, which uses its volcanic geology to provide much of its energy needs. Domestically, states such as California and Nevada have been engaged in rapid geothermal development for years.

But geologists and geothermal development companies say the Pacific Northwest has been largely untapped because of the abundance of low-cost hydroelectric power and a ready supply of natural gas that have dominated the market for years.

But things have changed.

Many states, such as Oregon, have instituted renewable portfolio standards that require a portion of their energy supplies come from renewable sources. Combined with incentives for companies, advances in technology and market pressures, there is a renewed interest in geothermal.

“There is clearly an interest in Oregon from utilities in talking about geothermal,” said Doug Perry, president of Connecticut-based Davenport Power. Davenport Power is currently doing exploratory drilling at the Newberry Crater outside Bend and has a contract with California’s Pacific Gas & Electric to sell 60 and 120 megawatts of geothermal power from the proposed project. The first phase of the project is scheduled to begin operating in late 2009.

In Eastern Oregon, U.S. Geothermal Inc., based in Boise, has begun drilling at the Neal Hot Springs Project, where it may go as deep as 3,500 feet into the ground looking for a potential commercial geothermal reservoir.

And in Southern Oregon, geothermal power is positively bubbling.

Raser Technologies, based in Utah, has plans to construct a geothermal plant in Klamath Falls and has another chunk of land in the area leased for potential geothermal development.

The city of Klamath Falls itself has operated a geothermal heating utility for years, using the energy to do everything from heating some of its buildings to melting snow on some of its streets and sidewalks. Now the city is looking at the feasibility of using the geothermal power for a low-temperature electricity generating project.

Nearby, the Oregon Institute of Technology in Klamath Falls plans to ramp up its use of geothermal to ultimately run its campus entirely on geothermal power.

A 2006 report by the Western Governor’s Association found that the Western states share a capacity of almost 13,000 megawatts of geothermal energy that can be developed. About 5,600 megawatts of that total are considered by the geothermal industry to be viable for commercial development within by about 2015.

“In a general way, the Northwest is running out of substantial excess hydro supply and the region certainly has to turn to other power sources now,” said Steve Munson, chief executive officer of Bend-based Vulcan Power Co., which works in geothermal.

To tap geothermal supplies, companies drill wells deep into the earth and use hot water found there to either directly heat buildings and water or harness it to generate electricity in power plants.

Geothermal is expensive to develop up front, but has become competitive in pricing and is not a polluter like other sources. And in comparison to other “green” energy technologies — such as the sun or wind — it doesn’t rely on fluctuating sources to

operate. However, there are a limited number of sites that are geologically suited for drilling. And some may conflict with other needs for that area, such as wildlife or recreation.

But companies say they are seeing a growing interest for its development. In Oregon, they are likely to get support from the state government.

Gov. Ted Kulongoski helped create a geothermal working group to examine the opportunities for geothermal growth in the state. His office says he is also trying to recruit companies that make the technology here as well as work with existing companies that want to install their projects in the state.

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## **Appendix D**

### **May 2008**

#### **Geothermal prospector hopes to tap central Oregon's Newberry Crater**

Increased demand and higher electricity costs energize Davenport Power's plans, but past environmental concerns remain.

The Oregonian May 29, 2008

GAIL KINSEY HILL

LA PINE -- For more than 30 years, geologists have boasted about the fiery depths of central Oregon's Newberry Crater, a geothermal resource said to be one of the best in the world. And public and private prospectors have drilled, measured and poked the landscape.

Still, no one has ever built a power plant near the volcano, an area of high-desert forests, shrub and obsidian flows. Money demands and environmental concerns always have proved insurmountable. A large portion of the storied natural setting came under the protections of the federally designated Newberry National Volcanic Monument in 1990.

This go-round, it may be different. High energy prices and the West's search for clean, renewable power have returned Newberry Crater to the spotlight, where it's viewed as a potential mother lode of geothermal.

The modern-day miner is Davenport Power, a young renewable-energy company with offices in Connecticut and Bend, just 25 miles northwest of the crater. It began exploratory drilling on the volcano's western flank in April, and by year's end, executives should know whether there's a sufficient brew of heat and water in deep underground fissures to justify full-on pursuit. "I'm nervously optimistic," said Doug Perry, Davenport's president. "Hopefully, I'll be smiling come December."

If it turns out, the Newberry project could tap into 120 megawatts of electricity -- enough to light up about 80,000 homes, according to company estimates. It would do that by

drawing super hot water from nearly two miles down. At the surface, in a large facility on Newberry's flanks, the water would flash to steam that drives a turbine, generating electricity. And that electricity would then be shipped to California.

Not everyone shares Perry's enthusiasm. The company's geothermal leases lie just outside the Newberry monument's boundaries and near a multitude of popular vacation haunts.

Paulina Peak rises 7,994 feet above the treed hills, about four miles from the drilling site. Paulina and East lakes rest in the caldera next to the mountain and draw scores of campers, hikers, sightseers and fishermen.

Paulina Lake Campground -- two and a half miles from the drill rig -- is the closest developed recreation site.

"Newberry is a very treasured place," said Asante Riverwind, who represents the Sierra Club's Juniper Group and opposes the project. The environmental organization isn't dead set against geothermal development, he said, but "this just isn't the appropriate place."

Riverwind's objections underscore a conflict certain to face any geothermal development in the West. By nature, the resource lies in remote or wilderness areas, such as the Northwest's volcanic Cascade Range.

"It's an industrial activity in land not typically used for industry," said Alex Sifford, a renewable-energy consultant for the Oregon Department of Energy, one of the agencies that would review a formal development application. "If you could put geothermal at the site of the old aluminum smelter in Troutdale, that would be great, but it just doesn't work that way."

At this point, Oregon doesn't have a commercial-scale geothermal plant. But several projects are in the works as the state experiences an unprecedented surge in interest. Companies are pursuing projects at Neal Hot Springs west of Vale near the Idaho border, Crump Geyser in Lake County and another in neighboring Klamath County.

Oregon Institute of Technology in Klamath Falls, known for local use of geothermal energy, has proposed building a plant that would power the college campus.

These projects are far smaller than Newberry.

"We're hunting for hamburger," said Kevin Kitz, vice president of project development for U.S. Geothermal of Boise, which hopes to unleash 26 megawatts of power at the Neal Hot Springs site. "They're after steak."

There's more money on the line, too. Each drill hole -- there could be as many as 9 -- could reach as far as 10,000 feet into the ground and cost \$8 million, Davenport's Perry said. If the company builds a power plant, the price tag could increase to "at least \$400 million."

"They know it's a gamble," said Department of Energy consultant Sifford. "But it's a calculated gamble."

So far, the company has one drill rig at a 5-acre forest clearing. It has plumbed to 4,000 feet, still too shallow to know whether it will hit paydirt. "It doesn't get exciting until 6,000, 7,000 feet," said Brian Johnston, the project's operations manager. Prior testing has confirmed that deep-lying magma has created temperatures in excess of 400 degrees, just what the company is after. The question is the water. "We need water or steam so we can mine the heat," Perry said.

The superheated liquid flashes into steam at the earth's surface. The force of that expanding steam spins a turbine generator to create electricity. Water is injected back into the ground to be reheated and used again. An air-cooling system would reduce the release of vapor plumes, Perry said.

Perry said the community generally supports the project. The designation of the monument in 1990 was based on an agreement between public and private interests that the federal government protect the caldera and allow exploration in nearby terrain.

"We think we can have a very low-impact plant that's a good neighbor to everybody," Perry said.

But the Sierra Club's Riverwind said federal agencies allowed Davenport to drill exploratory wells without adequate environmental assessments. His organization has appealed the Bureau of Land Management decision that allowed the drilling permits.

Riverwind said the project could release toxic fumes into the air and degrade wildlife and forests. Tourists atop Paulina Peak would see geothermal operations, he said, and transmission lines would cut through sensitive landscapes. "We have strong ecological and recreational concerns," he said.

Some locals also are angry about Davenport's decision to sell the power to California utility Pacific Gas and Electric. Perry said he would have preferred to sign a contract with a Northwest utility but Pacific Gas and Electric offered the best deal.

Davenport would build power lines to La Pine, where high-voltage transmission owned by the federal Bonneville Power Administration would deliver the electricity south.

But first, the Davenport wells must have their eureka moment. Then, the project would face extensive review by state and federal regulatory agencies. If construction were allowed, the first megawatts would start flowing in mid-2011, Perry said.

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## June 2008

In June staff gave a presentation to the Oregon Renewable Energy Working Group (REWG). The presentation contained a status report of development activities and a brief overview of how the REWG might be able to help the geothermal energy industry. A copy of the presentation was submitted to ODOE prior to the meeting. One result of the meeting was a survey of areas for potential legislative concepts. Concept areas include the following: Economic Development, Incentives and Resources, Workforce Development, Regulatory Fixes & Adjustments, Utility System Integration, Public Outreach/Technical Assistance, and Power Plant Siting.

Staff also gave a presentation to the Council of State Governments-WEST. The Council is composed primarily of western legislators who get together by committee to discuss western regional issues. Oregon State Representative Jackie Dingfelder is the Committee Chair of the Energy and Environment Committee of the CSG-WEST. The current Chair of CSG-WEST, Representative Lesil McGuire from Alaska requested that a portion of the Energy Committee agenda be focused on geothermal energy. Jackie recommended Carel DeWinkel who will be unavailable so Alex Sifford will fill in.

The Geo-Heat Center at OIT was in the news last month. Appendix A contains an article about seismic testing that took place in April and continuing progress the college is making towards funding geothermal power generation at the school.

Related to that effort, USDOE is proposing to provide Congressionally directed federal funding to OIT for the project. As a result, USDOE is preparing an Environmental Assessment for the project. A copy of the Scoping Notice (DOE/EA - 1621) can be found at the Golden Field Office Reading Room website:

[http://www.eere.energy.gov/golden/PDFs/ReadingRoom/NEPA/OIT\\_Scoping\\_Notice-Final.pdf](http://www.eere.energy.gov/golden/PDFs/ReadingRoom/NEPA/OIT_Scoping_Notice-Final.pdf)

### *Other Activities*

In an effort to encourage appropriate geothermal energy development on public lands, the Bureau of Land Management (BLM) and the U.S. Forest Service have prepared a Draft Programmatic Environmental Impact Statement (PEIS) for geothermal leasing in the West. The draft PEIS was opened for public comment on June 13, and it will remain open until 90 days after the U.S. Environmental Protection Agency publishes its notice in the Federal Register, an event expected to occur on June 20. The BLM also held public meetings in 13 cities throughout the region in July. Approval of the PEIS will allow the BLM to modify its land use plans and to issue decisions on geothermal lease applications that are now pending. It will also help the Forest Service decide when to approve leases in national forests, although the Forest Service will require a separate environmental review process to amend its land use plans.

The U.S. Department of Energy requests proposals for Enhanced Geothermal Systems Research, Development, and Demonstration Grants. Through this initiative, DOE seeks to solve critical R&D needs for Enhanced Geothermal Systems (EGS) technical feasibility and to increase the knowledge and understanding necessary for EGS to advance to a state of commercial readiness. Areas of interest include Component Technologies R&D and System Demonstrations. Initial estimated total funding for this award is listed at \$10,500,000 in FY'2008. Up to 20 awards are anticipated. Responses were due 8/12/08. .

## **Appendix A**

### **June 2008**

#### **Geothermal energy to meet all campus needs in Klamath Falls**

05/11/2008

Associated Press

Geothermal water naturally heated to up to 200 degrees has warmed the Oregon Institute of Technology for years, but plans now are to use the subterranean water to meet all campus power needs. It would require drilling a well to find even hotter water and building a power station. Engineers set off 68 dynamite charges last month to test fault lines on and near the campus, and geophones recorded sound to provide information about how the underground fault line is positioned.

The results will help determine the best position for a mile-deep well, which would use geothermal steam to power the proposed 1.2-megawatt power plant, roughly half again what the university uses now. Any surplus energy can be sold on the grid, Boyd said. The cost would be between \$5 million and \$6 million, said Toni Boyd of the OIT Geo Heat Center. So far, OIT has about \$2 million in state and federal grant and bond money. She said the university plans to apply for another federal grant. Savings are estimated at about \$500,000 annually.

An environmental assessment is due May 16 to look at hydrology, geology, water quality, air quality and noise to evaluate possible harm to immediate surroundings during construction. The assessment must be completed and public notice given before drilling can start, Boyd said. She said the process could last four to six months and that drilling would take about 30 days.

In addition to a deep well for a high-temperature generator, a low-temperature generator would be installed, using existing water used to heat campus. Both generators would use the steam to turn a turbine, generating power, before cooling and condensing the steam and returning the water to the cascading system or injecting it back into the geothermal reservoir.

The plants also would be used as a teaching and hands-on realistic laboratory for OIT students and serve as an example to private businesses interested in similar projects.

Information from: Klamath Falls Herald and News, <http://www.heraldandnews.com>

## **July 2008**

In July Alex Sifford gave a presentation to the Council of State Governments-WEST. The Council is composed primarily of western legislators who get together by committee to discuss western regional issues. Oregon State Representative Jackie Dingfelder is the Committee Chair of the Energy and Environment Committee of the CSG-WEST. The current Chair of CSG-WEST, Representative Lesil McGuire from Alaska requested that a portion of the Energy Committee agenda be focused on geothermal energy. Jackie recommended Carel DeWinkel who was unavailable so Alex Sifford filled in. A copy of the presentation is placed on ODOE's website.

Staff attended a July public meeting in Portland to learn about the Draft Programmatic Environmental Impact Statement (PEIS) for geothermal leasing in the West. The draft PEIS was opened for public comment on June 13 and comments will be accepted until September 19. Approval of the PEIS will allow the BLM to modify its land use plans and to issue decisions on geothermal lease applications that are now pending. It will also help the Forest Service decide when to approve leases in national forests, although the Forest Service will require a separate environmental review process to amend its land use plans. A summary of the 1372 page report with details on the pending Oregon leases is in Appendix A.

The Program reviewed a feasibility study for power generation at Lakeview, Oregon. A summary of the 50 page study and my suggestions provided to the Town Manager are in Appendix B.

### ***Other Activities***

US Geothermal announced this month the successful completion of its first well at Neal Hot Springs in Malheur County. A press release is in Appendix C.

The Pacific Northwest Section of the Geothermal Resources Council held a luncheon meeting in July. We heard that Davenport Power concluded drilling its first deep well and is moving the rig to a second permitted well site at Newberry.

## **Appendix A July 2008**

### **Summary: ES-6 Draft PEIS for Geothermal Leasing in the Western US, May 2008**

#### Need for the Action

The PEIS is being done to comply with Energy Policy Act of 2005. Specifically, Section 225 requires that the Secretary of Interior and Secretary of Agriculture establish a program for reducing by 90 percent the backlog of geothermal lease applications that

were pending as of January 1, 2005. The EPO Act of 2005 mandates that action be taken by August 8, 2010.

#### Alternative A: No Action

Alternative A is the No Action Alternative. Under this alternative, no BLM land use plans would be amended and the existing plan decisions, stipulations, and allocations would not change. Processing of pending geothermal lease applications would continue; however, they would be evaluated on a case-by-case basis using analysis in the existing land use plans. Likewise, future lands nominated for leasing would be evaluated using analysis in existing land use plans. This could require additional NEPA documentation and possibly amendments to the plans. Taking no action would not facilitate the leasing process and does not meet the stated purpose and need.

#### Alternative B: Proposed Action

Approximately 117 million acres of BLM administered public land would be allocated as open and 75 million acres of NSF land would be legally open to geothermal leasing for direct and indirect use subject to existing laws, regulations, formal orders, stipulations attached to the lease form, and the terms and conditions of the standard lease form. The authorized officer retains the discretion to issue leases with stipulations that impose moderate to major constraints on use of surface of any leases in order to mitigate the impacts to other land uses or resources objectives as defined in the guiding resource management plan

#### Alternative C: Leasing Lands near Transmission Lines

Under Alternative C, the BLM and FS would only consider leasing lands for commercial electrical generation if they are within a 20-mile corridor (10-mile from centerline) from existing transmission lines and lines currently under development at 60kV to 500kV. All lands within this corridor would be designated as closed or open with moderate to major constraints to leasing using the criteria outlined for the Proposed Action Land Use Plans Proposed for Amendment under the PEIS.

#### What does it mean for Oregon?

Oregon has 6 pending lease applications directly affected and many additional acres of federal land indirectly affected by the PEIS.

#### **Pending Lease Applications Prior to January 1, 2005 (Applicant)**

Mount Hood NF OROR 017049 1538 (PGE)

Mount Hood NF OROR 017051 2480 (PGE)

Mount Hood NF OROR 017052 2480 (PGE)

Mount Hood NF OROR 017053 1376 (PGE)

Mount Hood NF OROR 017327 1294 (PGE)

Willamette NF OROR 054587 1115 (Estate of Max Millis)

VOLUME II of the draft PEIS *Analysis for Pending Lease Applications* has two chapters analyzing the impacts to pending Oregon lease applications. These are Chapter 15: Mount Hood National Forest/Prineville Field Office Leases and Chapter 16: Willamette

National Forest/Salem District Leases. Each amounts to a 50 page mini-EIS, complete with references.

Of the remaining available BLM land in Oregon - over nine million acres - BLM District Plans would be revised to reflect the PEIS alternative selected. Oregon BLM offices and plans are shown below.

<u>BLM District or Field Office</u>	<u>Affected Plan</u>
Burns	Three Rivers RMP
Eugene	Eugene District RMP
Lakeview	Klamath Falls Resource Area RMP
	Upper Klamath Basin & Wood River Wetland RMP
Medford	Medford RMP
Prineville	Two Rivers RMP
	Brothers/LaPine RMP
	John Day RMP
	John Day River MP
	Lower Deschutes RMP
Roseburg	Roseburg RMP
Salem	Salem RMP

The PEIS preferred Alternative would allow geothermal development only on lands legally open to geothermal leasing and subject to existing laws, regulations, formal orders, stipulations. The pending Forest Service land lease applications are highly speculative at this stage and along way from being developable sites. Many resource questions and environmental hurdles remain.

The PEIS preferred Alternative will benefit not only geothermal but other renewable resources such as wind and solar energy on BLM lands. Alternative C, which limits development to a 20-mile corridor from existing transmission lines, could limit development of those renewable resources as well.

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## **Appendix B July 2008**

### **“The development of a small geothermal power plant in Lakeview “**

Salient points of the well- written 54 page feasibility study are below, followed by Sifford’s suggestions to the Town Manager, provided in a phone conversation on July 31.

## **Summary**

“The development of a small geothermal power plant in Lakeview could take advantage of several key elements unavailable at other sites. The well providing geothermal water to the Warner Creek Correctional Facility has excess capacity and could provide the necessary heat source for the plant, thus eliminating the risk associated with resource development at an undeveloped site. Assuming 7.0% efficiency, a binary plant would require 325 gpm of 206° resource water to generate 200 kilowatt hours of power. The effluent from the power plant, likely in the 145° to 165°F range, would be used for the correctional facility heating. Cooling water from an existing well is available to meet at least part of the cooling needs of the plant, reducing or eliminating costs associated with cooling towers. Interconnection facilities with electric utility systems are in close proximity to the project site. All of these factors tend to result in a far more favorable development setting than is typically the case.”

“Re-injection of the remaining water is the only viable alternative as the water will recharge the aquifer in the well vicinity and result in only a 230 gpm net use of groundwater for the project. Re-injection is possible on the Town’s property near the area of Rabbit Hills Road and Geyser View Lane. Re-injection will greatly reduce the drawdown in the well at the 700 gpm pumping requirement to approximately 92 feet below land surface with the net water demand on the aquifer of 230 gpm. Re-injection will allow the aquifer to reach a steady state. This will also reduce pumping costs and require a minimum of return piping from the generator site to the re-injection well site.”

### **Construction**

Construction of the facility involves the generator and related equipment for required power production. With PacifiCorp purchasing the power the geothermal production well site is the preferred site due to existing power transmission lines.

The generator can be purchased directly from UTC Power with a lead time of 16 weeks to delivery. The generator would require a concrete pad with a roof and some passive sound proofing to keep noise levels within Town Standards. An electrical transformer and switching interface will be required to tie into the power grid. A transformer is required since the generator produces power at three phase / 440 volts. New well pumps will be required for the geothermal wells and the cooling water wells due to changes in the new pumping rates and performance. The production well is on site as is the pipeline supplying the cooling water. The only piping required is a cooling water return line to the cold water re-injection well/biomass point and back up supply piping from the Utley Well. Pipelines will be located on public right-of-way.

The project has the source wells, cooling water piping to the generator site, a cooling water source, and adequate property for the related improvements. All that remains is to sell the generated power. Two power providers are available to the Town; Surprise Valley Electric, located in Alturas, California (a rural cooperative), and PacifiCorp of Portland, Oregon. PacifiCorp’s service area is located east of the Rabbit Hills Road while Surprise Valley Electric’s service is west of the area.

During meetings with representatives of both power companies the topics discussed included the options and probable costs, and the rates for the generated power. Surprise Valley Electric was somewhat disinterested in the project and could offer only a rate of

**Table 7 - Development Costs**

<b>Equipment Costs</b>	<b>Open Tower Cooling</b>	<b>Well Water Cooling</b>
Generator Unit	\$ 370,000.00	\$ 370,000.00
Pump Replacement in North Well	\$ 8,000.00	\$ 8,000.00
Pump Replacement Geothermal Well	\$ 30,000.00	\$ 30,000.00
Pump for Utley Well	\$ 15,000.00	\$ 15,000.00
Supply Piping from Utley Well to Production Well	\$ 50,000.00	\$ 50,000.00
Cooling Water Return Line	\$ 60,000.00	\$ 60,000.00
Open Cooling Tower	\$ 133,000.00	\$ -
Re-injection Well (Cold Water)	\$ -	\$ 150,000.00
Site Work	\$ 10,000.00	\$ 10,000.00
Electrical Tie-in/Switching Transformer	\$ 20,000.00	\$ 20,000.00
<b>Total Equipment Costs:</b>	<b>\$ 696,000.00</b>	<b>\$ 713,000.00</b>
<b>Design Costs</b>		
Engineering	\$ 52,000.00	\$ 42,000.00
Intertie / Connection Study	\$ 15,000.00	\$ 15,000.00
Administration	\$ 5,000.00	\$ 5,000.00
<b>Total Design Costs</b>	<b>\$ 72,000.00</b>	<b>\$ 62,000.00</b>
<b>Total Costs</b>	<b>\$ 768,000.00</b>	<b>\$ 775,000.00</b>

\$0.03 per kWh. The Coop currently serves the Oregon Department of Corrections Facility, and indicated that if some cost support from the State of Oregon could be obtained possible higher power rates could be obtained. The Town's proposed yearly generation output of approximately 1,000 megawatt hours is roughly the amount the correctional facility uses in a year. This is an interesting note with the heat provided to the facility by the Town, and if the Town generation could offset the power usage, the Correctional Facility could become a "Truly Green" facility. Further exploration of this concept is needed with the Department of Corrections. However this would probably result in the corrections facility paying the difference to increase the rate and long term agreements could be difficult to obtain.

Meeting with PacifiCorp personnel resulted in current power sales in the \$0.060 - 0.065 range. PacifiCorp is interested in the power and has purchase procedures in place to contract with the Town. Long term twenty year agreements are required, with rate increases during the time of the agreement. The PacifiCorp option will be utilized for the analysis of this report, as it allows a definite rate which allows a cost analysis of the project. Prices paid by PacifiCorp are based on avoided costs on a fixed rate or avoided costs based on the natural gas market index.

## Funding

Currently the Town has \$200,000 in federal funds available for geothermal development. In addition The Business Energy Tax Credit Program through the State of Oregon allows money to be used for renewable energy in lieu of tax payments by private companies. The Town utilized this source of funding when installing the geothermal system to the Department of Corrections facility. This funding is available up to 35% (now 50%) of project costs. The tax credits are a good option for the Town and a \$200,000 value will be used for the cost analysis.

Other funding is available from the Energy Trust of Oregon, U.S. Department of Agriculture, U.S. Department of Energy, Oregon Economic Development Renewable Energy Program and others. Private funding may be available from organizations such as The Climate Trust, which are interested in renewable energy and carbon reduction. The Town, being a municipal organization, has many options for funding that is otherwise not available to the private sector. Agency funding of grants and low interest loans will be the best alternative for the Town. Lakeview is familiar with working with these agencies and has a track record of success with them.

Gross income from power sales was projected using a power output of 1,000,000 kWh per year for open tower cooling and 884,000 kWh per year for well water cooling. This is a conservative estimate to allow for down time and variations in power output.

**Table 11 - Annual Operating Costs**

	Open Tower Cooling	Well Water Cooling
Oversight/Monitoring Maintenance	\$ 18,450.00	\$ 10,000.00
Cold Water Pumping	\$ -	\$ 9,600.00
Administration	\$ 1,000.00	\$ 1,000.00
<b>Total Operating Costs</b>	<b>\$ 19,450.00</b>	<b>\$ 20,600.00</b>

## Conclusions

This project is feasible and has significant profits for the Town. The cooling Tower will probably be the best option; however, final considerations will need to be evaluated in the final design of the facility. Table 12 shows the net present value of the projected profits.

**Table 12 - Net Present Value of Profits**

Open Cooling Tower	\$508,643.27
Well Water Cooling	\$337,829.55

The next step is to move into project development. This includes securing funding and proceeding into detailed design. Detailed design will also allow further value engineering comparisons of the options for maximum power production. Permitting should be started immediately; along with the interconnection study required with PacifiCorp. These items can effect design parameters and need to be completed first.

Securing funding should also be completed during the permitting phase. This report will assist agency funding requests. “

Staff made the following suggestions for the City Manager Ray Simms on 7/31/08:

- 1) Long term flow tests – 30 days or more – of both hot & cold wells at projected rates. The early 1980s history of the Hammersly Canyon well interfering with other nearby wells is a concern to be addressed by such testing.
- 2) Consider outside equity partner. Potential benefits would include more (up to 100%) equity and use of full federal tax incentives to reduce total cost to Town. The trade off is giving up municipal control of the project for an extended period of time. The Town clearly wants to maintain ownership and control of the project, which is fine but it should quantify the cost of doing so.
- 3) Confirm operating cost estimate. The Town is using conservatively-allocated staff time for existing project.
- 4) Confirm power plant availability without having to go through a third party company (Raser).
- 5) Continue to explore the “Green Correctional Facility” concept using public equity funding. Providing its own power would make the facility unique and potentially attractive to some funding sources. Financial payback will be a challenge as the power provided to the prison is inexpensive.
- 6) Have ODOE Energy Loan Program staff look at numbers for input and possible financing.

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## **Appendix C July 2008**

### **U.S. GEOTHERMAL ANNOUNCES SUCCESSFUL COMPLETION OF FIRST WELL AT NEAL HOT SPRINGS**

BOISE, Idaho - July 10, 2008 (AMEX: HTM, TSX: GTH) U.S. Geothermal Inc. ("U.S. Geothermal"), a renewable energy company focused on the production of electricity from geothermal energy, announced today that the first full size production well (NHS-1) at the Neal Hot Springs Project was successfully completed on May 23 and an initial flow test confirms the presence of a geothermal reservoir.

NHS-1 encountered a large, productive, geologic fracture in the Neal Hot Springs geothermal reservoir at 2,287 feet below surface and was completed to a depth of 2,305 feet. Drilling was stopped 375 feet above the original target due to high torque on the drill bit and a total loss of drilling mud returning to the surface.

Initial flow testing resulted in a flowing temperature inside the well casing of 277° F (136° C). The new well flowed under artesian pressure at 1,200 gallons per minute (gpm), but was controlled and reduced to 800 gpm for the duration of the test due to equipment constraints. Mr. Richard Holt, an independent consulting geothermal reservoir engineer, has calculated a productivity index for the well with a range of 300 to 500 gpm/psi. "Any productivity index over 100 gpm/psi is extremely high in relation to the worldwide geothermal industry," said Mr. Holt.

"Although the flowing temperature at this specific depth is 277° F (136° C), the extremely high productivity index indicates potential production of five to six megawatts from this well," said Daniel Kunz, President and CEO. "This is a great start for development of the Neal Hot Springs project."

The bottom hole flowing temperature of the well was measured 287° F (142° C) and indicates that increased depth may yield higher reservoir temperatures. Geothermometer analysis of the geothermal fluid produced during the test also indicates that the reservoir temperature may be higher at greater depth. The chalcedony geothermometer shows a reservoir temperature of 322° F and the Sodium-Potassium-Calcium geothermometer is 350° F. A second, higher rate flow test is planned within the next 30 days to provide additional data that will be used for reservoir analysis. Permits for three more wells were submitted to the Oregon Department of Geology Mineral Industries in April and are pending approval.

#### About U.S. Geothermal:

U.S. Geothermal is a renewable energy development company that is operating geothermal power plants at Raft River, Idaho and at the San Emidio Desert in Nevada. The Neal Hot Springs project in eastern Oregon is being explored for a commercial reservoir. Please visit our Website at: [www.usgeothermal.com](http://www.usgeothermal.com)

#### **August 2008**

In August staff began working on agenda items for our next Working Group meeting. A primary goal is to engage the Central Oregon environmental community in talks about the several geothermal power projects underway.

At the direction of ODOE staff, Oregon Dept. of Transportation Region 1 out of Portland is investigating the potential for a geothermal project at Government Camp to heat and cool an ODOT facility.

#### **Website**

A Notice of Intent to apply for a Site Certificate for the proposed Newberry Geothermal Project was added to the website this month. It can be found at [http://www.oregon.gov/ENERGY/SITING/review.shtml#Newberry\\_Geothermal\\_Project](http://www.oregon.gov/ENERGY/SITING/review.shtml#Newberry_Geothermal_Project).

### ***Other Activities***

On August 27, 2008 ODOE made public a Notice of Intent (NOI) to apply for a Site Certificate for the proposed Newberry Geothermal Project. Newberry Geothermal Holdings LLC submitted the notice. A “site certificate” is a state permit issued by the Oregon Energy Facility Siting Council. The Oregon Department of Energy serves as staff to the Council and administers the site certificate application process. A public meeting is scheduled for September 18, 2008 at the Deschutes County Services Center in Bend, Oregon. The applicant expects to submit an Application for Site Certificate on or about November 15, 2008.

The Geothermal Energy Association released a new survey, the U.S. Geothermal Production and Development Update this month. This report shows continued growth in the number of new geothermal power projects under development in the United States, a 20% increase since January of this year. The report identified 103 projects underway in Alaska, Arizona, California, Colorado, Florida, Hawaii, Idaho, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming. When developed, these projects could provide nearly 4,000 MW of new electric power, enough electricity to meet the needs of roughly 4 million homes. (Note that many of the proposed plant sizes are derived from the BLM PEIS work.) A summary of the GEA report with details on Oregon estimates is in Appendix A.

US Geothermal at its corporate meeting this month provided a status report on its Neal Hot Springs prospect in Oregon. Geophysical work, transmission studies and preliminary engineering activities are underway at this site. Portions of the press release are in Appendix B.

The Oregon renewable Energy Working Group this month started drafting language for legislation to include geothermal an allowed third party non-utility energy source. In late July, the Oregon Public Utility Commission lifted a cloud of uncertainty over solar energy projects for cities, counties and other public bodies. The Commission decided that a third-party financing model for building and operating solar facilities on premises belonging to utility customers does not run afoul of state laws or Commission rules. However, the ruling did not extend to other renewables such as geothermal. The REWG will submit a legislative concept extending the underlying definitional basis for the PUC ruling to include geothermal energy sources.

### **Appendix A August 2008**

## **Geothermal Energy Association U.S. Geothermal Power Production and Development Update**

August 2008

Summary Table for Oregon Estimates: Oregon: 297 - 322 MW

<u>LOCATION</u>	<u>SIZE</u>	<u>DEVELOPER</u>
<b>Phase 1</b>		
• City of Klamath Falls	1.0 MW	City of Klamath Falls
• OIT Geo-Heat Center	1.2 MW	OIT
• Liskey Greenhouse	10 MW	Raser Technologies
• Hood River County	20 MW	Portland General Electric
• Willamette	20 MW	Estate of Max Millis
• Hood River County	30 MW	Portland General Electric
• Willamette	30 MW	Estate of Max Millis
<b><u>Phase 2</u></b>		
• Neal Hot Springs	25-30 MW	U.S. Geothermal
<b><u>Phase 3</u></b>		
• OIT Geo-Heat Center	0.2 MW	OIT
• Crump Geyser	40-60 MW	Nevada Geothermal Power
• Newberry Geothermal	120 MW	Davenport Power

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**Appendix B**  
**August 2008**

**U.S. GEOTHERMAL CORPORATE UPDATE**

BOISE, Idaho - August 27, 2008 (AMEX: HTM, TSX: GTH) U.S. Geothermal Inc. ("U.S. Geothermal"), a renewable energy company focused on the production of electricity from geothermal energy, announced a corporate update, on business conducted at their Annual General Meeting ("AGM") and on the operating and development activities at their three main projects. The AGM was held on August 21st at the corporate headquarters in Boise, Idaho.

**Neal Hot Springs**

An in-fill geophysical program is currently being completed to enhance subsurface structural definition within the geothermal field and improve targeting new production and injection wells. Well NHS-1 has been shut in and placed on standby. The company is awaiting permits from the State of Oregon to drill three additional wells for the purpose of defining the extent of the reservoir. The three planned wells have been located to demonstrate the potential size and production capability of the reservoir. Transmission studies are complete and preliminary engineering activities related to the power plant are underway.

Please visit our Website at: [www.usgeothermal.com](http://www.usgeothermal.com)

## **September, 2008**

### **Program Activities**

In September Program staff prepared agenda speakers and topics for our next Working Group meeting. It is scheduled for October 31, 2008 in Bend. The primary goal of this meeting is to engage the Central Oregon environmental community in talks about geothermal energy in general and power projects in particular.

The program prepared a short presentation to the Oregon House Committee on Energy & the Environment by Committee Chair Jackie Dingfelder. Oregon Department of Energy Director Michael Grainey gave the presentation on September 26.

As noted in prior reports, Newberry Geothermal Holdings LLC submitted Notice of Intent (NOI) to apply for a Site Certificate for the proposed Newberry Geothermal Project. Oregon Energy Facility Siting Council must hold an early public information meeting after receiving a Notice of Intent. That public meeting was held September 18, 2008 at the Deschutes County Services Center in Bend, Oregon. Program staff attended the meeting to observe public reaction to the proposed development.

Staff began preparations to present at an Oregon State Bar continuing education class scheduled for October.

### ***Website***

ODOE recently updated its website to include a very simple way for people to join the OGWG email list. Needing only an email address and optional name, it is easy to sign up at <http://oregon.gov/ENERGY/RENEW/Geothermal/OGWG.shtml>.

### ***Other Activities***

AltaRock Energy Inc. announced today it had finalized agreements with Weyerhaeuser Company and the Weyerhaeuser Company Foundation allowing it to explore the potential for developing geothermal projects in Oregon and other states. The biggest area covered by the agreement is 378,500 acres in south-central and western Oregon. A press release with details is in Appendix A.

Davenport Power released its first issue of "NEWBERRY GEOTHERMAL NEWS" this month. A copy of the *News* is in Appendix B.

The USDA Rural Development-Oregon office energy web site was updated in September to reflect some of the Farm Bill-directed changes in rural energy programs. One

important change is the old §9006 program was revised, updated, and renamed "REAP" (Rural Energy for America Program). More information can be found at <http://energy.ruraloregon.biz> .

## **Appendix A September 2008**

### **AltaRock Energy Finalizes Deal with Weyerhaeuser to Explore Engineered Geothermal System (EGS) Potential on 667,000 Acres in California, Oregon and Washington**

**Sausalito, Calif. (September 2, 2008)** AltaRock Energy Inc. announced today it had finalized agreements with Weyerhaeuser Company (NYSE:WY) and the Weyerhaeuser Company Foundation allowing it to explore the potential for developing geothermal projects in California, Oregon, and Washington.

The geothermal rights, totaling nearly 667,000 acres, include approximately 25,400 acres in Northern California, 378,500 acres in south-central and western Oregon, and 263,000 acres in western Washington. AltaRock will be granted an exclusive option by Weyerhaeuser to assess the geothermal potential and can convert up to 40 percent of the acreage rights to geothermal development leases within two years. AltaRock CEO Don O'Shei said, "We're pleased to be working with Weyerhaeuser. AltaRock is confident in its ability to put this land to an environmentally friendly use that benefits both companies and the region. These geothermal rights will provide us with a pipeline of development projects to showcase our innovative technology, and generate jobs and clean, renewable energy." Weyerhaeuser said the agreements support its strategy of finding innovative ways to release the full potential of its land holdings.

The agreements will further AltaRock's goal to develop EGS in a cost-effective manner in order to provide base load renewable energy to U.S. power markets, and to meet the renewable portfolio standard needs of utilities in states such as Washington, Oregon, California and Nevada.

#### **For More Information**

[www.AltaRockEnergy.com](http://www.AltaRockEnergy.com)

Media Contact

Kim Van Hall, 206-729-2400

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## **Appendix B September 2008**

**“NEWBERRY GEOTHERMAL NEWS”**

*September, 2008*

## **Newberry Geothermal Project Update**

Davenport Power, Operator of the Newberry Geothermal Project, is leading an effort to explore for geothermal resource areas on the western flank of Newberry Volcano. We ultimately hope to develop a power plant facility on this site utilizing geothermal energy - heat from the earth that provides a renewable, continuous energy resource and is a clean and reliable alternative to fossil fuel.

Last April, we started drilling the first of a series of exploratory test wells to explore potential geothermal resource areas to find the right combination of heat and water.

If our exploratory drilling program is successful and a favorable commercial resource is found, then development of power facilities could occur. In that case, our next steps would involve rigorous processes to obtain federal and state environmental approvals and permits for development of a power plant that will use geothermal energy to generate electricity.

### **Exploratory Wells**

As we reported earlier, three well pad locations have been approved by the Bureau of Land Management (BLM) and the Forest Service. Well pads have been prepared and exploratory wells now are being drilled on these pads in accordance with permits and oversight by the State of Oregon and the BLM. The well pads and wells are located on federal geothermal leases held by the Project, located about 25 miles south of Bend and west of the Newberry National Volcanic Monument.

Drilling of Exploration Well #1 was completed on July 12, 2008 at a depth of 10,060 feet. While this well encountered high temperatures and some fractures, the underground rock formations did not contain significant quantities of water or steam. Davenport Power will continue to study this well and use the geologic and scientific data throughout the exploratory drilling program.

Following completion of Exploration Well #1, we moved the drilling rig approximately two miles north to a second well pad. Drilling of the second exploration well began August 11, 2008. At the present time, Exploration Well #2 has been drilled to a depth of about 4,700 feet—less than half way to the expected total depth.

Safety is of primary concern to Davenport Power and the Project. This extends not only to the way activities are conducted at the Project site, but also to all aspects of our planning and design as well as to regulatory review and inspection processes.

### **Oregon Department of Energy Announces Information Meeting**

There are a number of permits and government approvals which the Newberry Geothermal Project is required to obtain throughout all phases of exploration, development, and plant operation. One of the major environmental and regulatory approvals involves acquiring a Site Certificate from the Oregon Energy Facility Siting

Council. Davenport Power initiated the process with the Oregon Department of Energy in July 2008 by submitting a “Notice of Intent” to apply for a Site Certificate for our proposed Project.

Under State of Oregon regulations, the Oregon Energy Facility Siting Council must hold an early public information meeting after receiving a Notice of Intent. That meeting will occur on September 18, 2008 in Bend, at 7 p.m. in the Barnes Room at the Deschutes County Service Center at 1300 NW Wall Street. The purpose of the meeting is to provide the public with information about the proposed Newberry Geothermal Project and the Site Certificate process. This meeting will provide an opportunity for the public to informally ask questions and give comments about the proposed Project at a very early stage in the process. Public comments are helpful for Davenport Power and the State of Oregon to help identify information to include in the Site Certificate application. A formal public hearing will be scheduled by the Department of Energy much later in the process, after they have reviewed the completed application and issued a Draft Proposed Order. The public can also comment on the Notice of Intent by sending written comments to the State of Oregon by September 30, 2008. More information can be found at the [Oregon State Website](#), or by contacting John White, Project Officer, at Oregon Department of Energy, at 625 Marion Street NE, Salem, OR 97301-3742, by telephone at 503-378-3742, or by email at [john.white@state.or.us](mailto:john.white@state.or.us).

The BLM and Forest Service will have a separate Environmental Impact Statement process to analyze the Project under the federal National Environmental Policy Act. This has not yet been initiated and more information will be announced later.

**Mailing List Changes and Information Requests**

If you wish to update your contact information or be removed from our mailing list, please respond to this email with your requests or revised information.

For additional information on [Davenport Power](#) or the [Newberry Geothermal Project](#), visit us online or call our Bend office at 541-323-1190.

Thank you for your interest in the Newberry Geothermal Project and renewable energy!

Doug Perry  
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541-323-1190