

Minutes of the Eighth Meeting of the Oregon Geothermal Working Group

Portland, OR, July 23, 2007

The meeting was preceded by a luncheon hosted by the Pacific Northwest Section of the Geothermal Resources Council. As part of the lunch, Daniel Fleischmann of ORMAT Nevada Inc. gave a presentation titled "Getting Geothermal Electricity Projects On Line". His talk concluded that many opportunities exist for geothermal power projects. He also called for an organized effort in the state to show how geothermal development can work in concert with the environment.

The official OGWG meeting (see Agenda on page 3) began with introductions from the 31 attendees. Following introductions Carel DeWinkel of the Oregon Department of Energy (ODOE) covered renewable energy legislation that came out of the recently concluded 2007 Oregon legislature. For the geothermal energy industry, the two most significant of the several laws he discussed are the Renewable Portfolio Standard (RPS) and the changes in the Business Energy Tax Credits. The RPS law requires all Oregon utilities and electricity service suppliers to include in their portfolio of power sold to retail customers a percentage of electricity generated from qualifying renewable energy sources. A summary of the standard can be found at the ODOE and OPUC websites. The Business Energy Tax Credits increase from 35 percent of eligible costs up to 50 percent, spread evenly over 5 years, and an increase in the maximum eligible project cost from \$10 million to \$20 million.

Note: most of the following speakers used power point presentations, which are posted on the same ODOE web page as these Minutes.

Al Waibel of Columbia Geoscience presented a short update of activities his client, Davenport Power LLC, operator for Northwest Geothermal Co. Davenport submitted a Plan of Exploration to the BLM in February 2007, and is defining the resource. The company is proposing to drill and test deep exploration wells to evaluate and define the extent and characteristics of the geothermal reservoir on the western flank of Newberry Volcano. Nine wells from three well pads are proposed. An Environmental Assessment for the proposed activities is underway.

Invited speakers from Nevada Geothermal, US Geothermal and Eugene Water & Electric Board (EWEB) were unable to attend so Alex Sifford of Sifford Energy Services filled in. He provided information on each firm's geothermal activities in Oregon from press releases and personal communications. Nevada Geothermal is concentrating its efforts at Blue Mountain Nevada but continues to investigate power transmission options for its Crump Geyer prospect in Oregon. The US Geothermal Neal Hot Springs project currently consists of 9.6 square miles located in Malheur County Oregon. A geophysical program using gravity and magnetic surveys was completed in February 2007 and will be used to develop drill targets. U.S. Geothermal is planning a production well drilling program to determine the commercial viability of the geothermal resource. The current development plan anticipates 26MW of power production. EWEB continues discussions with US Geothermal for possible power purchases, most likely from Raft River, Idaho. EWEB seeks renewable power sources including geothermal energy starting around 2011.

Joe Eberhardt provided an excellent talk on Portland General Electric's (PGE) interest in geothermal energy. Joe works in the trading floor of PGE so he is familiar with current short and long term energy prices. PGE's latest Integrated Resource Plan describes an energy supply strategy for 2008 through 2015 that targets additional renewable resources, energy efficiency, demand-side resources, and power purchase agreements of varying terms. PGE will be seeking 300 MW of power from

renewable sources starting in the 2012 period, 50 MW of which is earmarked for geothermal sources. PGE forecasts ideal geothermal power costs at about \$67 per megawatt-hour. Joe encouraged developers to prepare proposals accordingly. In the interim, the utility is screening geothermal prospects, transmission hurdles and examining participation options. More information and a press release can be found at http://www.portlandgeneral.com/about_pge/news/irp_filed_07.asp

Nick Rahn of PacifiCorp Energy shared that utility's interest in geothermal energy, past, current & future. More than 15 years ago, PacifiCorp subsidiary Rocky Mountain Power (formerly Utah Power) teamed with Phillips Petroleum to build the Blundell Plant, the first geothermal electric plant outside of California. The geothermal reservoir at Blundell in southern Utah is 3,000 feet deep, more than 500 degrees Fahrenheit and with a pressure of 500 pounds per square inch. PacifiCorp Energy is adding 11 MW of new capacity at Blundell, using an ORMAT bottoming cycle binary system. Going forward, PacifiCorp has a 2007 Integrated Resource Plan that indicates plans to acquire 1400 MW of new cost-effective renewable resources by 2015. Nick also encouraged developers to prepare proposals to meet that goal. More information can be found at <http://www.ppl.com/Navigation/Navigation23807.html>.

The Energy Trust of Oregon has an interest in geothermal energy, as speaker Betsy Kaufman shared with the audience. The avenue for support is the Open Solicitation program, designed to support renewable energy projects that are not eligible for other Energy Trust renewable energy programs. The program also provides opportunities to receive financial incentives and support for innovative commercial applications of renewable energy technology. Eligible projects must either be located in or deliver power to the Oregon service territories of Portland General Electric or Pacific Power. Energy Trust may fund all or a portion of the above-market costs of a project, defined generally as the difference between the net present value of the electricity produced by the project, and the net present value of the costs and expenses incurred to generate that electricity. There is no fixed percentage for the amount of the above-market costs Energy Trust will pay. Each project is unique and incentives are based on many factors. The Energy Trust is currently accepting proposals for projects. More information can be found at <http://www.energytrust.org/RR/os/index.html>

Clark Niewendorp, with the Oregon Department of Geology and Mineral Industries officially unveiled the Geothermal Information layer for Oregon (GTILO) database and geographic information system. It compiled information for all known well and spring data in Oregon. The work is just completed and can be found at <http://www.oregongeology.com/sub/gtilo/index.htm>

Following the OGWG at 4:30 in the same Hotel Monaco location, the BLM put on a Scoping Session for the Nationwide Geothermal Programmatic EIS. It was one of ten scoping meetings the BLM and Forest Service are hosting to share information and get input. The meeting included an open house from 4:30 – 6:00, followed by a brief presentation and comment period. Draft EIS will be available for public review in winter 2008 (with public meetings). The Final EIS will be available in summer 2008. More information can be found at www.blm.gov/geothermal_eis.

Eighth Meeting of the Oregon Geothermal Working Group

Portland OR, July 23, 2007

When: Monday, July 23, 2007, 1:30 – 3:45 PM

Where: Lipman Wolfe B Room, Hotel Monaco (formerly 5th Avenue Suites)
506 SW Washington St., Portland. Phone: 503-417-3375

This meeting is scheduled to follow a Pacific NW Geothermal Resources Council hosted luncheon (with guest speaker Daniel Fleischmann, ORMAT) at 12:30, and precedes a Nationwide Geothermal Programmatic EIS Scoping Session at 4:30, both in the same location.

*******AGENDA*******

- 1:30 Welcome/Introductions – Carel DeWinkel, Oregon Department of Energy (ODOE)
- 1:35 Renewable energy update from the 2007 Oregon Legislature – Carel DeWinkel, ODOE
- 2:00 Davenport Power– Al Waibel
- 2:10 Nevada Geothermal - invited
- 2:20 US Geothermal - invited
- 2:30 PGE’s interest in geothermal energy - Joe Eberhardt
- 2:45 PacifiCorp’s interest in geothermal energy – Nick Rahn
- 3:00 EWEB’s interest in geothermal energy - invited
- 3:15 Energy Trust of Oregon’s interest in geothermal energy - Betsy Kauffman
- 3:30 Geothermal Information Layer for Oregon (GTILO) Release-1, Clark Niewendorp, Oregon Department of Geology and Mineral Industries
- 3:45 Adjourn

Register by July 18, please

Please send the following registration information to

jenifer.wetherbee@state.or.us :

name, organization, address, e-mail address, and phone number

Attending Luncheon

Attending Meeting