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To further understand technologies allowing the geothermal community to expand production into oil- and gas-field settings, on June 12 and 13, 2007, the [illegible] hosted its second conference on Geothermal Energy Utilization Associated with Oil and Gas Development. Nearly 200 people from North America, Europe, Australia, and Asia attended, many new to geothermal. [illegible] opened the conference, describing activities over the past year. He was followed by [illegible] of [illegible] Alaska, who described his 400 kWe geothermal system and set the mood for the conference by saying, “Don’t ever take ‘no’ for an answer. ‘No’ means ‘maybe’ and ‘maybe’ means ‘yes!’”

[illegible] of the [illegible] summarized the recent Future of Geothermal Energy report, emphasizing that an investment of $300-$400 million over 15 years, along with a comparable amount for research and development, would demonstrate commercial enhanced geothermal systems (EGS) technology at several sites across the US and enable the development of 100,000 MWe by 2050.

[illegible] Research Coordinator for the [illegible] described the goal of the European Commission (EC) for 2010: to double the 2001 contribution of renewable energy from 6 to 12% of the total energy consumption with a corresponding 20% decrease in greenhouse gas emissions. The geothermal electric production goal is increased from 500 to 1000 MWe, which is already exceeded with 1179 MWe. The EC also actively promotes geothermal heat pumps and direct use. Output is currently at 13,626 MWt with a goal of 25,000 MWt by 2010. To facilitate this, an innovative networking project called ENGINE transfers information among communities at scientific, company, and country levels.

At the SMU conference, five companies described technologies used for current or future geothermal electrical production. Referring to the 40-year track record of [illegible] of ORMAT emphasized the importance of matching geothermal equipment with the resource and showed how his company’s 800MWe of geothermal power, produced worldwide, is from equipment custom-made for each environment. [illegible] of UTC highlighted the Chena Hot Springs equipment success, the “plug-n-play” technology, and the UTC 225 kWe PureCycle® power plant with its low-temperature capability and off-the-shelf availability. Technologies new to geothermal were discussed by [illegible] of [illegible] and [illegible] of [illegible] said natural-gas wells have a large kinetic energy potential and Linear Power Ltd. is developing equipment that attaches to the wellhead and can harness this kinetic resource. [illegible] invented The Natural Energy Engine™ Technology that uses the thermal expansion of a gas to convert heat to mechanical power. Hageman’s thermal hydraulic engine is able to pump 7-to-8 barrels of oil a day using no electricity. The oldest power conversion technology is an ammonia absorption power cycle, which [illegible] from [illegible] designs. In fact, he designed a system for Chena Hot Springs that keeps

their ice hotel frozen during the 24-hour long, summer days. Because of glide matching, absorption power cycles may be more efficient than the Rankine cycle. Absorption power cycles can condense at 95°F and convert heat to power from sources between 150 to 300°F.

Often oil and gas wells used for geothermal projects will need to be refractured to produce enough water to generate geothermal power. Fracturing is a subject critical for EGS systems and [illegible] representing [illegible] of Australia, spoke of his company's EGS project underway in Australia. Massive fracturing has occurred in the Cooper Basin, with 40,000m

considered geothermal prospects located in the Texas Gulf Coast-Arkansas-Louisiana geopressured area and in the Pacific Northwest. One of the areas includes the Pleasant Bayou well that [illegible] from [illegible], reassessed to have 3890 kWe of power: 37% from geothermal energy, 49% from methane, and 14% from hydraulic energy. [illegible] with [illegible] reviewed the geopressured settings in the Gulf Coast area, summarizing numerous reports from the 1970s and 1980s available online at the www.osti.gov website.

[illegible] oversees the [illegible] (GLO) geothermal leases. He outlined procedures for leasing state-owned, mineral estate wells. Texas has a specific geothermal lease contract and many wells on Texas state land are available for energy development. For example, [illegible] leased Texas GLO land along the Gulf Coast in January 2007. [illegible] gave an update on that leasing activity and answered questions about the company's plans. [illegible] is a partner in the [illegible] project that [illegible] oversees. This Wyoming project will use 170°F water to generate 180 kWe of power and is expected to be on line in January 2008.

Discussing geothermal project costs proved an important aspect of the conference. [illegible] an American Association of Petroleum Geologists "Living Legend in the Oil and Gas Business" stated, "The way to catch oil and gas companies' attention is to 'show them the money'". Oil and gas companies are very interested in new projects; they just need to be shown how they will profit from them. Addressing this point, [illegible] of [illegible] used an example of a 20 MWe project, presenting a geothermal capital cost and timeline for each stage, including a list of costs, percentage of capital needed, and possible finance sources. [illegible] of [illegible] simplified the details of the Renewable Energy Credits, Carbon Markets, Renewable Portfolio Standards, and the Production Tax Credit ($10/MHh) currently valid for new geothermal facilities through the end of 2008 for the first 10 years of operation. Since it is not always about

important aspect in expanding the ideas and finding solutions in a focused shift toward low-