

GEOHERMAL PIPELINE

Progress and Development Update From the Geothermal Progress Monitor

CALIFORNIA

Glass Mountain Geothermal Power Project to Move Forward

The Bonneville Power Administration has reached an agreement with two power companies to proceed with an environmental analysis of the Glass Mountain geothermal power project on the Klamath National Forest.

The Bureau of Land Management will take the lead in drafting an environmental impact statement (EIS), working in cooperation with BPA, the Forest Service and Siskiyou County. Agencies involved in the process met the week of April 25th.

The 49-megawatt project, expected to be completed in three years, is proposed by Calpine Corp., based in San Jose, California and Trans-Pacific Geothermal Corp., based in Oakland.

The project is proposed for construction along the border of the Klamath and Modoc national forests, near Medicine Lake about 50 miles south of Klamath Falls.

A test well drilled last year to a depth of about 500 feet revealed the geothermal aquifer is capable of power production, said Maurice Richard, program manager for Calpine.

"We're satisfied with the results that we have, and therefore, we have confidence to proceed with the expenditure required to proceed with an EIS," Richard said.

Water temperatures of at least 450°F are required to generate power, Richard said. Additional holes are expected to be drilled over the next two years, he added.

The environmental impact statement will cover construction and operation of the plant, a 24-mile transmission line and power purchase agreements. The EIS is expected to be completed by the fall of 1997.

BPA said it is pursuing new sources of "renewable" power despite their relatively high cost, and even though there is currently a surplus of electricity in the northwest.

"BPA's approach to developing and marketing green power products reflects the (U.S. Energy) department's desire to encourage long-term investments that will benefit future generations in the region," said Charles Curtis, deputy secretary of Energy Department.

BPA officials said the Glass Mountain project is located in an area capable of producing 500 megawatts of power, and is one of the world's largest untapped geothermal resources.

Katherine Potter, spokeswoman for Calpine, said construction would create about 200 temporary jobs, and 15 - 20 permanent jobs. There is no firm estimate of construction costs, she said.

Glass Mountain is one of several renewable energy projects proposed in the northwest. The Newberry Geothermal Project has been issued a permit for construction on the Bend-based Deschutes National Forest.

Other projects include wind power facilities in Wyoming and Washington. (*Herald & News*, April 19, 1996)

OREGON

Alvord Geothermal Power Project Put On Hold

A California energy company has put the brakes on plans for a controversial geothermal power plant in the remote Alvord Desert in southeastern Oregon.

Anadarko Petroleum Corp. has asked M. H. A. Associates of Sacramento, California to suspend work on an environmental impact statement on the plant, said Cody Hansen, Burns district manager for the U.S. Bureau of Land Management.

The site is on BLM land about a mile from Borax Lake, the largest geothermal lake in Oregon. The lake is just north of the high desert settlement of Fields.

Hansen said the project has been stalled because Anadarko and Portland General Electric were unable to reach a power purchase agreement consistent with an April 1995 memo of understanding between the two.

PGE, initially had agreed to purchase 22.9 megawatts of electric power from the proposed plant.

Anadarko wants to review the project plans with BLM officials in July, said Hansen. But he said the federal agency wouldn't be able to participate in serious planning to resurrect the project until October 1996, the start of BLM's 1997 fiscal year, even if Anadarko decides to proceed with it again.

The proposal has attracted state-wide interest over the past few years because of environmental concerns about a rare, inch long fish called the Borax Lake Chub living in the 10-acre lake. Environmentalists say the lake also is important to trumpeter swans, snowy plovers, white-faced Ibises and other water-fowl species, as well as an unusual 2-foot reptile called the long/nosed leopard lizard.

In 1993, several environmental groups unsuccessfully appealed to stop Anadarko from drilling test wells near the lake. They included the Sierra Club, the Wilderness Society, the Portland Audubon Society, Oregon Trout and the Oregon Natural Desert Association.

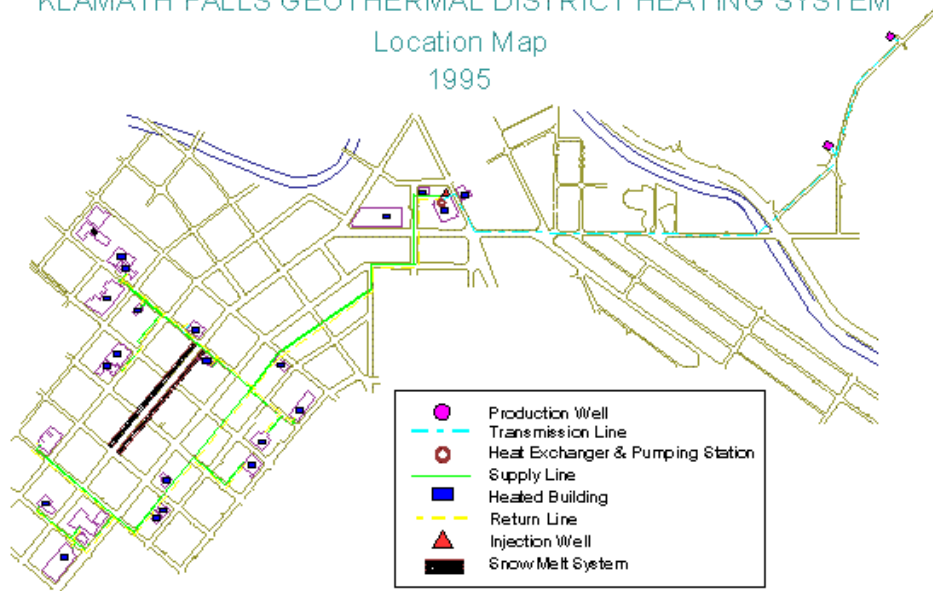
Later that year, the Nature Conservancy purchased the lake from two local ranchers to protect the chub and wild life living around the water. The nonprofit land brokerage paid \$320,000 for 320 acres, which included Borax Lake.

According to blueprints for the plant, it would use geothermal water to heat another fluid that would spin a turbine and generate electric power. Afterward, the geothermal water would be pumped back into the underground reservoir.

No steam of gases would be vented into the atmosphere, according to Anadarko's project planners. The underground water exceeds 170°F at the bottom of the 100-foot deep lake, and steam produced under pressure reaches 306 degrees.

KLAMATH FALLS GEOTHERMAL DISTRICT HEATING SYSTEM

Location Map
1995



Anadarko officials have said the plant would employ 17 to 20 workers, with low-profile buildings and probably could not be seen with the naked eye from the 9,670-foot summit of nearby Steens Mountains. (*Oregonian*, April 2, 1996)

Klamath Falls Geothermal District Heating System to Be Evaluated

Klamath Falls has contracted with a geothermal heating specialist to evaluate the city's geothermal district heating system.

Melvin Smith, geothermal supervisor for the city public works department, told members of the Geothermal Advisory Committee, the evaluation should reveal ways to make the system more efficient.

The city has hired Brian Brown, a mechanical engineer from Fort Klamath, to conduct the evaluation at a cost not to exceed \$10,000. Brown has worked with the city's downtown geothermal loop almost since it was designed, Smith said.

Brown had begun the evaluation and is expected to work 3 - 6 months on the project.

Brown will examine a telemetric system designed to control the pumps at the city's two geothermal wells located along Old Fort Road. The system is supposed to allow city

workers to control the pumps' speed by remote control, pumping more water when more is needed during cold spells, and less water during warm spells.

But the telemetric system has never worked properly, and the pumps have to be operated manually, Smith said. As a result, the pumps often run at a higher speed than is needed, wasting electricity.

Brown will also examine the performance of the heating systems in several downtown buildings. Smith said some building may be receiving more geothermal fluid than needed, resulting in waste.

Smith said the city believes the downtown loop is working at 16 - 18 percent of the capacity, and could serve many more buildings. Brown has been asked to verify that assumption, Smith said.

The system currently serves 22 buildings and provides heating for sidewalks along three blocks of Main Street.

In other business, the Geothermal Advisory Committee heard that a geothermal loop in the Michigan Avenue neighborhood is working far under capacity. Smith said the loop has hookups available for 120 residences, but only 12 acres currently using the system constructed through a federal grant in the early 1980s. (*Herald & News*, March 15, 1996)