COUNTY OF LAKE
BOARD OF SUPERVISORS
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
TELEPHONE: 707-263-2368
FAX: 707-263-2207

ED ROBEY
District 1

October 18, 1999

Mr. David S. Guzy, Chief
Rules and Publication Staff
Minerals Management Service
Royalty Management Program
P.O. Box 25165, MS 3021
Denver, Colorado 80225

Re: Valuation of Geothermal Resources

Dear Mr. Guzy:

Thank you for the opportunity to provide comments regarding proposed changes in the rules pertaining to the valuation of geothermal resources on federal lands. I am the elected county supervisor from the district where the Geysers geothermal steam development is located.

First, let me state that I agree with the position taken unanimously by our Board that we support the Rate of Return method of valuation since it will most closely approximate an arms-length transaction method of valuation. We have explained this in detail in our letter to you dated October 7, 1999 and rather than repeat those points here, I would like to add a few additional comments of my own.

First, I understand from the meeting with MMS in Sacramento on Oct. 7th that the process for changing the rules may take as long as 2 or 3 years. This is totally unacceptable, as the fiscal impact of the loss of the royalty revenue to Lake County will be in the millions. The current situation should have never been allowed to happen, and there must be some provision in your Administrative code to shortcut the rulemaking process in such a case. To allow this to go on for two or three years subverts the will of Congress.

Second, at that meeting on Oct 7th, industry representatives tried to give the impression that they were not making much money on geothermal because of the electrical deregulation in California. This is hooey, to put it politely. I have attached several articles from our local newspaper, which describe how well CalPine is doing. One of the articles points out that CalPine, the worlds largest geothermal company, had profits of $41.5 million for the third quarter of 1999 compared with $23.1

million in 1998, and this is after buying fourteen power plants in the Geysers that had been owned by PG&E. In addition, I have attached five pages from the Final EIR for PG&E's application to sell those power plants which point out that the Geysers plant is designated as a "must run" facility, "meaning that PG&E (and any future owner) receives payments from the ISO over and above any revenues received from selling the power from the facility, merely for remaining available to serve local loads."

Third, I believe that geothermal power is eligible for tax and other benefits under federal and state law because it is "green" power (renewable energy). There have been millions of public dollars spent on the geothermal pipeline project here in Lake County to help bring back steam pressure and extend the life of the steam fields. Santa Rosa in Sonoma County is now planning an even larger pipeline project, evidence that this technology does in fact work. I personally think that this investment of public funds makes it even more imperative that the royalties on the value of the steam be restored immediately.

Thank you for your attention to this extremely important issue.

Sincerely,

Ed Robey
Supervisor, District 1

ER:bw

Enclosures

lowering overall operational costs by reducing the overall amount of hazardous waste generated. Since the mercury scrubbers are in place, and reduce overall operational costs, it is assumed, as stated in the DEIR, that the new operators would continue to use the equipment.

H12 Regarding continued participation in GAMP, please see response to Comment H10. With respect to the suggested mitigation measure that the seismic monitoring program continue, as noted in response to Comment H11, PG&E does not participate in a seismic monitoring program and does not have authority over the composition of Lake County's Southeast Geysers Monitoring Advisory Committee.

H13 The CPUC strongly supports the continued viability of the Geysers as a geothermal generating resource, which includes continued coordination of operations between the steam field owners and the generating unit owners. The CPUC will not approve any transfer of a Geysers generating unit to an entity that is not qualified to operate those units in a responsible manner. The response to Comment H14 below addresses the issue of "green power" policy.

With regards to maintenance policies, the commenter may have misread Attachment C to the DEIR. The new owners would have a greater incentive to maintain the Geysers plants than would PG&E (see page C-29 of the DEIR). The new owners will have the benefit of PG&E labor and insight for at least two years after divestiture, and they are free to continue to employ valuable PG&E employees.

Also, it appears that the market will provide a very strong incentive to the new owners of the generating units to ensure the long-term viability of the units and the steam fields that supply them. One cannot sell power, or recover investment, from a plant that does not generate.

H14 The purpose of an EIR is to provide decision-makers and the public with information concerning the environmental impacts of a proposed governmental action. The project will not alter any policies concerning green power. Thus, this EIR is not the appropriate avenue for examining policy concerning green power production in the state. Please see the response to Comment H15 for further discussion of policy issues.

H15 The discussion of market forces and available subsidies and other incentives for the Geysers plant is largely mooted by the fact that the electric transmission system in Northern California is significantly constrained during much of the year, meaning that bringing in power from outside the region to serve local loads is often difficult, if not impossible. Because of this fact, the ISO has designated the Geysers plant as a "must-run" facility, meaning that PG&E (and any future owner) receives payments from the ISO over and above any revenues received from selling the power from the facility, merely for remaining available to serve local loads. (This contractual arrangement assures that an owner of a must-run facility would not charge exorbitant prices during times when that facility is the only resource available to serve certain loads.) Barring construction of a new

major power plant near the Geysers, or a significant upgrade of the transmission system (which would most likely include obtaining new rights-of-way because existing rights-of-way are already at maximum capacity), this situation is likely to continue indefinitely. And because of the lead time needed to construct a new power plant or to upgrade the transmission system, the situation will likely continue for several years. Therefore, an evaluation of subsidies, tax benefits and other incentives for renewable power in this EIR is not needed and would not enhance the analysis. However, for discussion purposes, a brief examination of market and policy issues related to renewable energy resources is provided below.

The California Legislature and the CPUC have enacted the restructuring of the electric utility industry in the state following the tenet that consumer choice is a very powerful tool in guiding the electric power market in the years to come. By expressing their desire to use renewable energy to power their homes and businesses, even if they must pay a premium above the cost of power from conventional resources, California consumers can in effect make decisions on the makeup of the future generating portfolio available in the state. This process is apparently already occurring, as some consumers have switched to service providers who guarantee that all or a significant portion of the power they market comes from renewable sources. Since restructuring was initiated in March 1998, at least 69,000 residential customers in the state have switched their service provider from their local utility to independent suppliers. According to the Center for Energy Efficiency and Renewables Technology, the majority of those customers switched to green power providers. Several businesses have also publicized their switch to renewable energy service providers as a means of attracting customers (article, "Green power luring consumers," by Associated Press reporter Martha Bellisle, in the September 28, 1998 issue of the *San Francisco Examiner*).

While only time will tell if a large, robust market for renewable energy resources will develop in California, early indications show that the market is promising, and could become much larger than it was before restructuring, largely because of the innovation and creativity in marketing brought about by restructuring. For example, Green Mountain Energy Resources, LLC, an energy service provider registered with the CPUC, has promised to construct a new wind turbine for every 4,000 new customers that sign up under one of its Green Power programs. The company to date has committed to installing two new turbines in the Palm Springs area because of the marketing commitment. It recently stated the two turbines represent "the first new renewable generation ever built in the U.S. because of electric deregulation" ("'Green energy' sales build new turbines," by George Raine, *San Francisco Examiner*, October 15, 1998). Use of this type of marketing technique is a direct result of the CPUC's restructuring effort, and shows that by bringing market forces to bear in the electric generation marketplace, companies will craft innovative and creative marketing techniques to become long-term players in the market. This is exactly what is envisioned in the sale of the Geysers geothermal plant. The CPUC believes that market forces will pressure the new owner(s) of the Geysers generating units

to become similarly creative and innovative in marketing their non-polluting power to California consumers.

In addition to market forces, efforts by various agencies and non-profits are also acting to promote use of renewable resources in the state. For example, to help consumers in deciding whether and who to choose as a renewable energy service provider, AB 1890 (the California Legislature bill mandating restructuring) requires the CEC to implement a process for certifying renewable energy providers. In response, the CEC has established a program for certifying the renewable energy products offered by registered energy service providers in the state. The electric service industry, through the efforts of various associations and individuals, has also established a program, called the "Green-e Renewable Branding Program," for certifying renewable energy service products. Green-e certification is administered by the Center for Resources Solutions, a non-governmental non-profit organization. To receive the Green-e certificate or to qualify as a renewable energy service provider with the CEC, at least 50 percent of the energy offered through the product must come from qualifying renewable energy resources. Those include solar, wind, biomass, waste tire, municipal solid waste, small hydroelectric, digester and landfill gas, and all geothermal sources. As well, Senate Bill 1305 requires all energy suppliers to periodically disclose the sources of the energy resources they market, using a standard label created by the CEC. The CEC believes these labeling programs will become a powerful marketing tool for energy service providers.

The CEC itself is strongly promoting renewable energy to the state's consumers. In its educational material available on the Internet, the CEC points out that although consumers may have to pay a premium for renewable energy, that premium is just a small portion of the consumer's overall bill. The material also points out that the price of power from conventional sources does not include the cost to repair the environmental damage caused by the generation of that power, nor is the environmental benefit of renewable energy resources included in the pricing of the power they generate.

In relation to the various incentives available to renewable energy generators, many sections of the Energy Policy Act of 1992 (EPAct) address subsidies and tax incentives provided to renewable power producers. Section 1212 (e) specifies that qualified renewable energy facilities are eligible for a direct 1.5 cent/kWh energy production subsidy from the federal government for a period of 10 years. This credit will rise over time to account for inflation. However, the Geysers project does not appear to qualify for this direct subsidy under the EPAct. The subsidy applies only to projects owned by government and non-profit corporations or to private wind and closed-loop biomass projects, and any representation by a CPUC representative to the contrary was incorrect. If the Geysers plant was purchased by a government agency or government-owned corporation or non-profit organization, however, energy sales from the facility would apparently be eligible for the 1.5 cent/kWh subsidy under the Act.

The Geysers plant, like all renewable energy projects except hydroelectric facilities, is eligible for tax and other benefits under the EPAct and state law. The benefits vary depending on the nature of the new owner of the facilities. The EPAct (Public Law 102-486-Oct. 24, 1992) contains several provisions that encourage investment in renewable energy technologies by private and public entities. Under the act businesses can take a 10 percent business investment tax credit for purchases of solar and geothermal energy property under Sec. 1916, Permanent Extension of Energy Investment Credit for Solar and Geothermal Property.

Other applicable EPAct provisions include: Section 2111, Renewable Energy, and Section 1202, Demonstration and Commercial Application Projects for Renewable Energy and Energy Efficiency Technologies, which both offer funds, financial assistance and cost-sharing benefits to renewable energy generators for a variety of research and demonstration projects, including the demonstration of reliable generation from existing resources; Section 29, which grants a tax credit for producing fuel, including electricity, from a non-conventional source; Section 3001, Research, Development, Demonstration, and Commercial Application Activities; and Section 3002, Cost Sharing, which obliges the federal government to pay up to 50 percent of certain renewable energy research or demonstration projects.

In addition to the provisions of the EPAct, Section 168 of the Internal Revenue Code contains a Modified Accelerated Cost Recovery System (MACRS) by which businesses can recover investments in solar, wind, and geothermal property through depreciation deductions. The MACRS establishes a set of class lives for most property, ranging from 3 to 31.5 years, over which the property may be depreciated. The types of property covered by MACRS include equipment used to produce, distribute or use energy derived from a geothermal deposit, up to the electrical transmission stage.

Other potentially applicable federal laws giving preference, tax or other benefits to renewable energy generators include the Public Utilities Regulatory Policy Act (PURPA) of 1978, the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, the Energy Policy and Conservation Act, the Powerplant and Industrial Fuel Use Act of 1978, and the Stevenson-Wydler Technology Innovation Act of 1980.

At the state level, renewable energy policy has somewhat shifted away from using set-asides and other government mandates to ensure renewable resources were developed to help meet California's electricity needs. Instead, in the new competitive electricity market, consumers will decide whether further development of renewable resources will continue. However, many state programs offering incentives for renewable energy generators still exist. Primary among those is a program run by the CEC under which consumers of renewable energy can receive a credit of up to 1.5 cents/kWh. Some electric service providers may reflect the value of this credit in their pricing scheme, while others may use the credit to give customers a monthly bonus.

To qualify for the program, the electric service provider must: register with the CEC as a renewable electricity product provider (having a Green-e certificate does not necessarily make a provider eligible for the credit because that program has slightly different criteria for determining eligibility); serve customers previously served by either PG&E, Southern California Edison or San Diego Gas & Electric; and, obtain the renewable energy from non-utility generators within the state. Power sold by the new owner of the Geysers to customers of PG&E, Edison and SDG&E would qualify for this credit. The credit is funded through a $0.0002/kWh surcharge an all electricity sold in the state (typically, about $8 million per year), which can and will be used for other programs that promote development of renewable resources.

Conversely, if PG&E would continue to own the Geysers, purchasers of power from the Geysers would not be eligible for this credit. Thus, through the divestiture project, the Geysers should become more competitive under a new owner. And if the Geysers plant was purchased by a government-owned entity, it apparently would be eligible for a total of at least 3 cents/kWh in generation subsidies or credits.

Other California incentives programs potentially available to a new owner of the Geysers include: the Geothermal Resources Development Account (GRDA); the Energy Technologies Advancement Program; the Geothermal Grant & Loan Program; Opportunity Technology Commercialization Program; and the Energy Technology Export Program. Most of those programs offer grant and/or loans for geothermal research, resource development, commercialization, planning and impact mitigation. The GRDA, however, is specifically aimed at finding ways to make existing geothermal generators, including the Geysers, more competitive in the restructured electric industry.

By mandating these programs in state law, including the 1.5 cent/kWh credit and the certification process, the California Legislature made clear it wants the renewable energy industry in the state to continue to flourish. Some municipal utilities, especially the Sacramento Municipal Utilities District, are also offering their customers the choice of having all or a portion of their power come from renewable sources, and are crafting ways to provide incentives to make that choice.

In any event, however, PG&E has successfully generated very large amounts of electrical energy from the Geysers plant over the years without the benefit of many of the subsidies and tax benefits available to other renewable project owners. The new owner(s) of the Geysers units will likely receive the same or better subsidies or tax benefits as PG&E has had. Therefore, given the constraint of the transmission system, and PG&E's successful track record to date, any analysis of how market forces or government-mandated incentives for renewable power production will affect the viability of the Geysers would not change the conclusions of this EIR.

H16 Please see responses to Comments H14 and H15 above.

H17 Please see responses to Comments H14, H15, and J8.

average
Close
10,648.18
October 11, 1999
NYSE volume: 791.73 million shares traded

BUSIN

Santa Rosa, California, Tuesday, October 12, 1999

STRICTLY BUSINESS

LOCAL

Calpine says Geysers will boost earnings

Calpine Corp., the nation's largest producer of geothermal power, said Monday it expects financial results for the third quarter to exceed expectations, mainly because of its acquisition of 14 Geysers geothermal power plants from Pacific Gas & Electric Co. in May.

Calpine owns the steam fields and 19 of the 21 power plants at The Geysers.

For the quarter ended Sept. 30, the San Jose company expects net income in the range of $40.5 million to $41.5 million, compared with $23.1 million for the third quarter of 1998. Diluted earnings per share are expected to be in the range of 70 cents to 72 cents per share compared to 56 cents per share for the same period last year.

For the nine months ended Sept. 30, Calpine expects earnings of $61.9 million to $62.9 million, compared with $31.6 million for the same period last year. On a diluted basis, that would represent $1.16 to $1.19 per share, compared to 77 cents per share for the first nine months of last year.

Calpine will release its third quarter earnings in the after-hours period between the close of markets Oct. 21 and their opening Oct. 22, according to spokeswoman Katherine Potter.

—Mary Fricker

Sebastopol landmark Marty's up for sale

Marty's Top of the Hill, a Sebastopol dine-and-dance for nearly 30 years is for sale for $825,000.

The restaurant and night club, a west county landmark, catered to country and western music-lovers for a quarter of a century. Last year, yielding to changing times and tastes, owner Martin

Massive wi

By TED APPEL
Staff Writer

Even Superman would have problems leaping over this building in a single bound.

"It's a big building, all right," says Dana Dalton, manager of distribution and customer service for Allied Domecq Wines USA.

The Airport Business Center is constructing a mammoth 284,000-square-foot warehouse for Allied Domecq on the outskirts of Windsor. When completed next summer, the warehouse will be one of the biggest buildings in all of Sonoma County.

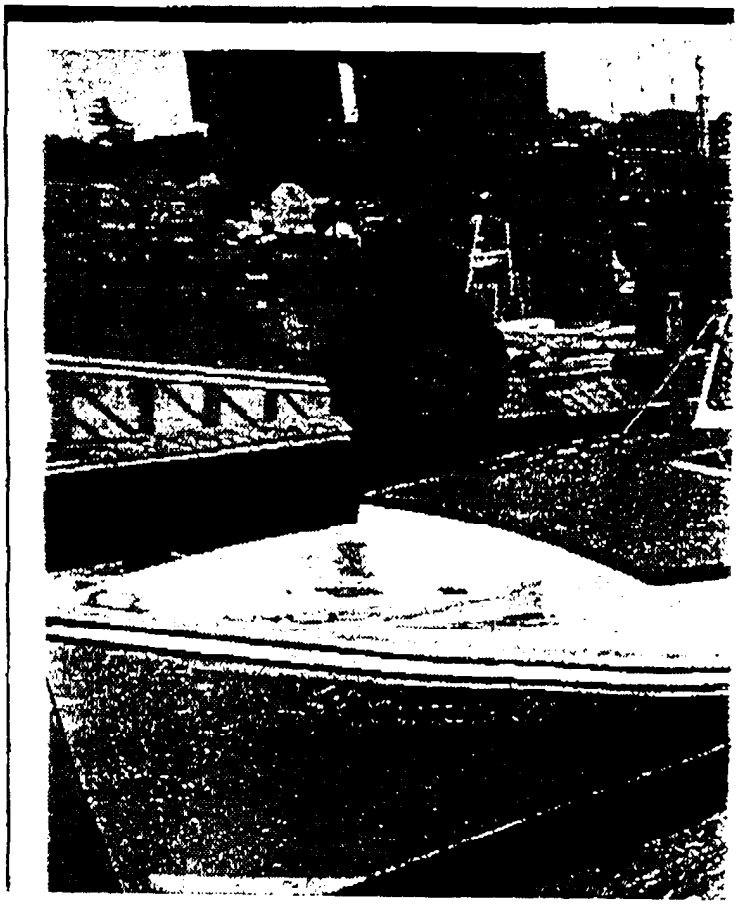
Buildi

Some buildi
hold more, su
and its multi
But few will ta

"It is defir
buildings in S
ard Coombs,
Airport Busine

How big?

Allied Dome
cover 6½ ac
Road — enou
fields, side by



Lake County's recycle success encourages SR

Electrical output hiked at Geysers

Oct. 7, 1999

By STEVE HART
Press Democrat Staff Writer

Two years after Lake County started putting wastewater into The Geysers, energy producers are drawing more steam out of the underground reservoir, generating enough additional electricity to power a city the size of Rohnert Park.

Energy producers say they've gained almost 40 megawatts of electricity, enough for a population of about 40,000. Eventually, they hope to generate 70 megawatts with the imported water.

Meanwhile, Lake County has safely recycled billions of gallons of wastewater. "We've been able to dispose of everything we generated," said spokesman Mark Dellinger.

The results are encouraging for Santa Rosa officials, who plan to send wastewater to The Geysers starting in 2002. "It makes us feel more comfortable our project will do what we want," said Ed Brauner, Santa Rosa's assistant city manager.

But some environmentalists say wastewater isn't a long-term source of energy at The Geysers or a solution to cities' effluent disposal problems. The Geysers has been running out of steam since the 1980s because too many producers tapped into the geothermal reservoir.

Krista Rector of the Sierra Club has said she's

worried the system will collapse when steam levels decline so much that power plants are forced to close.

Steve Enedy, steam field superintendent for Northern California Power Agency, one of two energy producers at The Gey sers, acknowledged the geothermal area is losing steam. Even with a gain of 70 megawatts, production in the southeast Geysers is expected to decline, he conceded.

But he said Lake County's wastewater is restoring some of the lost resource, and the pipeline should allow NCPA's power plants to operate for at least another 30 years. Enedy said imported water could make The Geysers a sustainable source of energy, although long-term production would be less than current levels.

NCPA is a consortium of public utilities including Ukiah and Healdsburg. Lake County's pipeline also serves steam wells and power plants operated by Calpine Corp., The Geysers' biggest energy producer.

Lake County pipes water 29 miles from Clear Lake to the geothermal complex in a remote corner of Lake and Sonoma counties. It is injected thousands of feet into the earth, where it hits super-hot rocks, turns to steam and shoots back to the surface. The steam is piped to five power plants in the southeast Geysers, where it's used to generate electricity.

Lake County officials proposed the pipeline in 1991 after they came under state orders to upgrade their wastewater disposal system following a series of effluent spills that prompted a moratorium on growth.

The county shared the $45 million construction cost with the geothermal industry and the state and federal governments. The industry pays most of the pipeline's operating costs.

Since October 1997, the pipeline has carried

more than 5 billion gallons of Lake County water to The Geysers. The flow is a mix of fresh water from Clear Lake and effluent from the county's treatment plants.

As part of a Department of Energy project, chemical tracers are added to the water to record its path through the geothermal reservoir. Results show most of the water is converted to steam within about 60 days.

Energy producers have injected water into the geothermal reservoir for years, but there was never enough water at The Geysers to provide a significant boost in steam levels. Sponsors said the Lake County pipeline is the world's first "wastewater-to-electricity system."

According to Dellinger, it has won several awards and is getting attention from the geothermal industries in New Zealand, Australia and other countries.

Enedy said NCPA also is getting cleaner steam from its production wells since it started injecting the Lake County water. He said the steam produces less hydrogen sulfide, a pollutant that must be hauled away and buried in landfills.

Dellinger said there have been no wastewater spills since the pipeline went into operation and there have been few other problems with the system, which delivers about 8 million gallons a day.

Santa Rosa plans a 43-mile pipeline from its regional treatment plant to The Geysers, delivering about 11 million gallons of treated wastewater a day.

Calpine buys Geysers plant

$78 million for site's last private unit

Sep. 28, 1999

By BOB NORBERG
Press Democrat Staff Writer

Calpine Corp., the nation's largest producer of geothermal power, is consolidating its holdings at The Geysers with the purchase of the last privately owned power plant there.

The San Jose-based Calpine Corp. is purchasing the plant owned by Florida Power and Light of Juno Beach, Fla., and Caithness Corp. of New York, for $78 million.

The plant, which has two electricity generation units producing 80 megawatts, has been in operation since 1984. Called the Calistoga plant, it is on Socrates Mine Road about two miles from the small community of Anderson Springs.

When the deal closes within the next two weeks, Calpine will control the steam production at the 30-square-mile steam field and will operate 19 of the 21 power plants that are located at The Geysers.

"Our whole focus is to consolidate operations at The Geysers to make it as efficient as possible," said Jan Stewart, a spokeswoman in Calpine's San Jose headquarters. "We really are committed to the long-term stewardship of The Geysers."

Calpine is the largest geothermal operator in the United States, now producing 800 megawatts of power, enough to serve 800,000 customers, at The Geysers, a remote and hilly area straddling the Sonoma and Lake county lines.

The Florida Power plant will add another 80 megawatts, enough to serve 80,000 customers.

The power generated there is from renewable resources sold at a premium as "green power" to the Commonwealth Energy, the Association of Bay Area Governments and on the open market.

The remaining two power plants are owned by the Northern California Power Agency of Roseville, a public consortium of Northern California cities and governmental agencies. It produces 150 megawatts for a number of governments, including Healdsburg and Ukiah.

Calpine has approached the agency about buying the plant, but the agency isn't interested in selling, according to agency general manager George Fraser.

Operations at The Geysers were first begun in 1964 by Unocal. Calpine, a steam field developer since 1987, bought out Unocal for $101 million earlier this year. Calpine also this year completed the purchase of 14 power plants owned by Pacific Gas and Electric Co. for $213 million.

At The Geysers, Calpine pipes steam out of 300 wells and delivers it to the 21 power plants, where it spins turbines that generate electricity.

Because The Geysers is slowly running out of steam, Calpine is counting on the construction of a pipeline from Santa Rosa that would deliver 11 million gallons of wastewater a day, which would recharge the underground steamfield.

Stewart said the $132 million pipeline is expected to increase steam output and power generation by 10 percent, or 85 megawatts, which will serve another 80,000 customers.

The project, however, is being challenged by

the Alexander Valley Association, a group of property and business owners in Alexander Valley, which has filed suit claiming the pipeline has not adequately been studied.

A similar pipeline on the Lake County side of The Geysers brings in 8 million gallons of wastewater a day.

Calpine has 300 workers at The Geysers involved in steam production and in manning the power plants, which is still under the supervision of PG&E.

About 20 people work at the Florida Light plant.

Calpine is also waiting for a decision by the federal Bureau of Land Management and the U.S. Forest Service on a proposal to build a 50-megawatt power plant in the Modoc National Forest in the northeast corner of California.

The $120 million power plant, which would go online in 2002, would use wet steam produced by magma remaining underground from a now-dormant volcano at Medicine Lake, in the Glass Mountain Geothermal Resource Area.