BRIEFING PAPER

THE CASE IN SUPPORT OF SB243 FOR REMOVING ROYALTY OBLIGATIONS FOR GEOTHERMAL RESOURCES

EXECUTIVE SUMMARY

Geothermal power offers reliable baseload power that delivers consistent megawatt-hours 24 hours per day, 365 days per year, which is something that most other forms of renewable resources cannot provide. In fact, for a utility or regional transmission organization, a geothermal power plant shows up in a resource plan much like a conventional power plant. Geothermal power is also unique in its lack of emissions, minimal land use, low visual impact and other environmental merits.

Geothermal energy is extremely cost competitive when compared to other forms of renewable energy and fossil-fuel based processes (e.g. natural-gas based plants, as indicated by studies performed by the California Energy Commission[1] [2]).

Multiple western states (e.g. California, Nevada, Hawaii, Utah and Oregon) recognize the merits of geothermal power and have generated geothermal power for decades. These states, among many others, also have multiple new geothermal projects under development.

Although believed to be rich in geothermal resources in various regions around the state, Alaska has yet to develop a single utility-size geothermal power plant. One major hurdle for geothermal development is the relatively high capital cost associated with exploration, drilling and development, as well as high operation and maintenance costs due to the remoteness of resources and the harsh terrain and climate. While capital costs for development and construction of geothermal power plants in other states is typically around $4,000/kW[3], in Alaska estimates typically increase 25%-50%. Operation and maintenance costs of geothermal plants in Alaska are expected to be as much as 100% higher than the respective lower 48 states, again due to the typical remoteness of the plants.

In other western states, geothermal power projects rarely are required to pay State royalties. A report by the Geothermal Energy Association explains geothermal royalties vary depending on land ownership type (Federal, state, private) yet tend to range from 0.5% to 5.5% of revenues[4]. The majority of the geothermal projects currently under development in the US are on Federal lands, where BLM regulations call for revenue royalties of 1.75% during the first 10 years and 3.5% thereafter.

[1] http://www.energy.ca.gov/2009publications/CEC-200-2009-017/CEC-200-2009-017-SD.PDF

[2] http://www.energy.ca.gov/2007publications/CEC-200-2007-011/CEC-200-2007-011-SD.PDF

[3] Climate Change Business Journal, April/May 2009

[4] http://www.geo-energy.org/publications/reports/Socioeconomics%20Guide.pdf

In Alaska, despite the fact that geothermal development faces greater financial challenges compared to other states, the current statutes call for royalty rates of 10%-15%, similar to oil, gas and mineral regulations. Ormat believes this rate is cost-prohibitive and is one of the reasons no utility-size geothermal plant has ever been built in the state.

Financial analysis shows that removing the 10-15% royalty obligation will lower the operations and maintenance cost by 10-15%, therefore lowering the kWh cost by 10-15%. Removing royalty obligations from geothermal power plants in Alaska will serve to acknowledge the unusually high costs of geothermal development, operation and maintenance while incentivizing geothermal development in the state. This will ultimately lower the cost of clean, reliable power to the ratepayers.

Paul Thomsen
Director, Policy & Business Development
Main: (775) 356-9029 Ext. 32237
Cell: (775) 313-6569
6225 Neil Road
Reno, NV 89511
www.ormat.com | pthomsen@ormat.com

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