



**Statement of Paul A. Thomsen
Public Policy Administrator
Submitted to the U.S. House Energy and Minerals Subcommittee
House Natural Resources Committee
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Mr. Chairman, members of the committee, it is my honor to testify today on behalf of ORMAT Technologies.

By way of introduction ORMAT Technologies, is a New York Stock Exchange registered company (symbol "ORA"). ORMAT technologies develops, owns, and operates geothermal and recovered energy facilities throughout the world. ORMAT has supplied 800 MWs of geothermal power plants in 21 countries. Here in the United States ORMAT owns and operates 250 MWs of geothermal power plants in the states of California, Hawaii, Nevada, and we are pleased to be providing US Geothermal Company with the technology needed to bring Idaho's first geothermal power plant online. To date ORMAT has arranged over \$1 billion dollars in geothermal projects and corporate financing which is particularly significant since geothermal projects require the upfront financing of a continuous lifetime supply of fuel.

Now..onto the Impact of EPAct:

I had the pleasure of testifying in the Senate approximately a year ago and at that time we agreed with the GAO report's findings that it was too early to accurately assess the impact of EPAct on the geothermal Industry at that time

WHY? BECAUSE (i) only one operating 20 MW project, which happens to be ORMAT's, has qualified to date for the PTC; (ii) the new regulations to implement the Rishell Amendment to the steam act are still currently being drafted, and (iii) the DOE Geothermal Research Program funding for fiscal year 2007 was zeroed out by the administration, causing uncertainty and delay.

Today, unfortunately, little has changed: (i) only one operating 20 MW project, which happens to be ORMAT's, has qualified to date for the PTC; (ii) the new regulations to implement the Rishell Amendment to the steam act are still currently being drafted, and (iii) the DOE Geothermal Research Program funding for fiscal year 2007 was zeroed out by the administration causing uncertainty and delay.

The Potential Impact of EPAct:

That being said, the Ormat truly believes that despite the fact that geothermal power currently provides approximately a significant portion of renewable energy produced in the United States, the geothermal provisions in EPAct, specifically the PTC will enhance the ability of geothermal projects to compete with fossil fuel technologies. The PTC can effectively lower the price of



geothermal energy by 1.9c/KWh making more resources of geothermal energy cost competitive, enabling the full development of the 5,600 MW of near-term, economically viable capacity that's considered available in the Western United States over the next decade. I would note that Ormat is in advanced construction of four plants which will qualify for PTC, two plants will be operated by third parties and two by Ormat.

The John Rishell Amendment to the Geothermal Steam Act will simplify processes allowing the BLM and other federal and state agencies to work in the spirit of the legislation, encouraging expanded geothermal production.

The significant increase in the funding authorized by EPAct for DOE's renewable research programs, including geothermal energy will facilitate collaboration between researchers and industry to harness the underutilized geothermal resources through out this country.

For example ORMAT has signed a cost-shared Cooperative Research and Development Agreement (CRADA) with DOE to validate the feasibility of proven technology already used in geothermal and Recovered Energy Generation (REG).

The project will be conducted at the DOE Rocky Mountain Oil Test Center (RMOTC), near Casper Wyoming, and will use an Ormat Organic Rankine Cycle (ORC) power generation system to produce commercial electricity. The test will use a commercial air-cooled, skid mounted standard design Ormat Organic Rankine Cycle system. Ormat will supply the ORC power unit at its own expense while the DOE will install and operate the facility for a 12- month period. Ormat and the DOE will share the total cost of the test and the study, with Ormat bearing approximately two thirds of the less than \$1M total investment.

Presently there are two large unutilized sources of hot water at the RMOTC Naval Petroleum Reserve No. 3, which produces water in excess of 190 degrees Fahrenheit and at flow rates sufficient for generation of approximately 200 kW. The project will consist of the installation, testing and evaluation of a binary geothermal power unit in the field near these hot water sources. The ORC power unit will be interconnected into the field electrical system and the energy produced will be used by RMOTC and monitored for reliability quality.

Some 8,000 similar type wells have been identified in Texas, by Prof Richard Erdlac of the University of Texas of the Permian Basin, and the US DOE Geothermal Research Project Office. Ormat is now assessing the feasibility of utilizing some of these wells to support on site power generation by employing Ormat's factory integrated sub megawatt geothermal power units, based on the Company's proprietary ORC technology, which has been field proven in installations totaling 900 MW world wide.

While Ormat recognizes that DOE research programs are outside of the primary jurisdiction of this Subcommittee, last year the house passed a GEO Fund section in the DOER Act which looked at creating a funding mechanism for cost shared pilot projects looking at these types of projects. We believe it is important to recognize that EPAct included a significant increase in the funding authorized for DOE's renewable research programs, including geothermal energy.



There are substantial needs for improvements in geothermal technology, information, and efficiencies for which federal research is vital.

Instead of seeking to terminate the geothermal research program, the Department of Energy should be working with industry, the university, and the laboratory research community to develop the tools needed to access this massive resource base.

So how do we make this committee's will a reality?

ORMAT believes that the Production Tax Credit should be extended five to ten years for geothermal facilities. This may be accomplished by qualifying geothermal facilities for the PTC before the operational placed in service date if: (i) the facility has a power purchase contract in place and (ii) has begun construction. This is not without precedent. For some other tax provisions with similar time-certain requirements, the law allows investments to qualify based upon having binding contracts in place that meet specified requirements.

ORMAT believes that the BLM and other state agencies need to move quickly on the pending lease applications and complete regulations that will implement the new law. BLM needs to hold new lease sales in every western state. Let's implement the new law and urge Congress to actively oversee the process to ensure that all agencies keep the spirit of the legislation – to boost production of geothermal energy. Then and only after a thorough review of the results, should industry ask Congress to take action on any changes that may be needed.

ORMAT believes that the full geothermal potential of the western United States can be brought online in the near term with the assistance of DOE. In the next decade ORMAT feels that the DOE research program can benefit by focusing its funding in the following areas: (i) improve accuracy of exploration technology to reduce risk; (ii) improve drilling technology to reduce risk and cost; (iii) improve identification, and characterizations of geothermal resource areas; (iv) share in the cost of exploration and drilling in these new areas; and (v) continue investigations into future technologies such as Enhanced Geothermal Systems (EGS), Oil and Gas applications, and Geo-pressured systems.

On behalf of ORMAT, I want to applaud this committee for its interest in the secure domestic baseload energy supply that is geothermal energy. We humbly realize that the decisions made by this committee impact our nations energy security. This concludes my prepared comments I am happy to respond to any questions the committee might have.