

Ormat Nevada, Inc.

U.S. Geothermal Development

“Improvements in Modular Technology”

June 2007

Table of Contents

- Ormat
- Ormat ORC Technology
- Environmental Impact
- Implementation and improvements
- Emerging Technologies
 - RMOTC/ TX
 - EGS
 - Plug & Play
- Summary

Experience and Proven Capability

- 40 years experience:
 - developing modular power plants from 0.2MW to 130MW for geothermal, waste heat, biomass, solar, and re-powering rehabilitation of existing plants
- Vertically integrated alternative energy company
 - With 40 Years of success
 - Ormat Technologies Inc. NYSE (ORA) listed
- Geothermal and recovered energy power plants and projects
 - Approx 300 Mw installed in the United States
 - Approx 800 MW of installed capacity worldwide
- Flexible business model in the energy industry
 - Develop, design, build, own, operate
 - Turnkey supply
 - Equipment sales
 - Finance

Developing Technology Through Innovative Power Plant Technology R & D

Solar Water Pump System, Mali

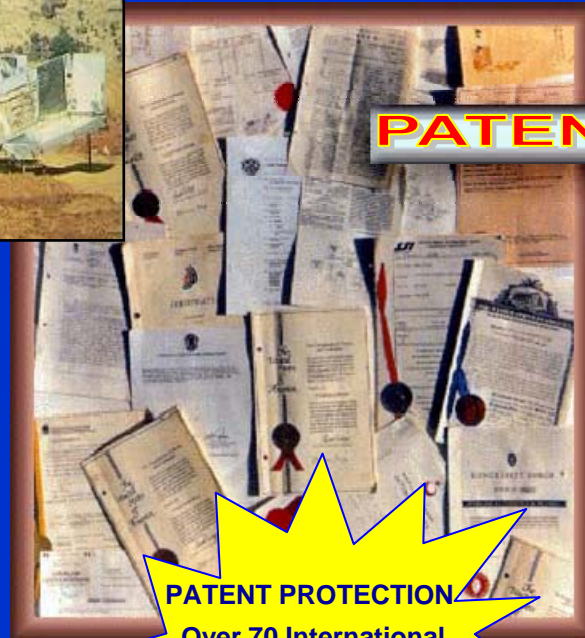


HBJ Gas Pipeline Project, India



PATENTS

5 MW Solar Pond Plant Demonstration



PATENT PROTECTION
Over 70 International Patents



Puna Geothermal Power Plant, Hawaii

Ormat ORC Technology: and the market

850 MW of Commercial Geothermal Power Plants



**57 MW Ormesa Binary
Geothermal Complex, California**



**30 MW Puna Combined
Geothermal Power Plant, Hawaii**



**125 MW Upper Mahiao Combined
Geo- Power Plant, Philippines**



**40 MW Heber Geothermal No. 2
Binary Power Plant, California,**



**20 MW Burdette Binary
Geothermal Power Plant, Nevada**



**60 MW Mokai Combined Geo'mel
Power Plant, New Zealand**

GEOHERMAL TECHNOLOGIES OVERVIEW

- RESOURCE TEMPERATURES FROM 250 F TO 350 F
 - Organic Rankine cycle (ORC) Technology most appropriate
 - Air cooled condensers possible – 100% injection of all fluids/gases
 - Most new western US resources are in this category
 - Has lowest environmental impact

The Environmental Impact

- One Megawatt of Geothermal Energy will annually avoid(*):
 - 8,666 tons of CO₂ / MW
 - 36.6 tons of SO₂ / MW
 - 12.5 tons of NO_x / MW
 - 11,000 gallons of water / MW

(*) Off setting a coal-fired power plant at 38% efficiency*

Based on the International Energy Agency (IEA)

Ormat's Environmental Impact

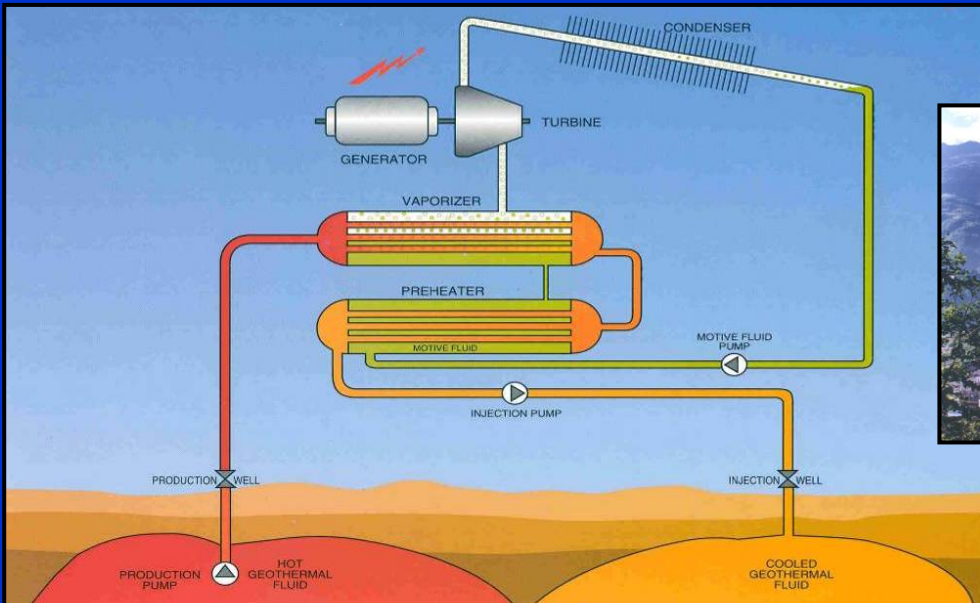
- Ormat's 800 MW of Geothermal Power around the world are annually avoiding:
 - 6 million tons of CO₂
 - 2 million tons of Oil
 - The equivalent fuel used by 800,000 cars

Binary Organic Rankine Cycle Geothermal Power Plant Technology

- Geothermal fluid heat sources are inherently low enthalpy as compared to conventional fossil fuels.
- Original binary power plants work on the Rankine cycle, with two closed loops – the geothermal fluid is in one loop and the working fluid is contained in the second loop
- In a conventional Steam Cycle the working fluid is water. Requires high temperatures for superheating steam to dry condition, or when working with high moisture content.
- In the Organic Rankine Cycle the working fluid is a hydrocarbon organic fluid which remains dry without superheating.

Improving Project Viability by Matching the Geothermal Power Plant to the Resource

Binary Geothermal Power Plants

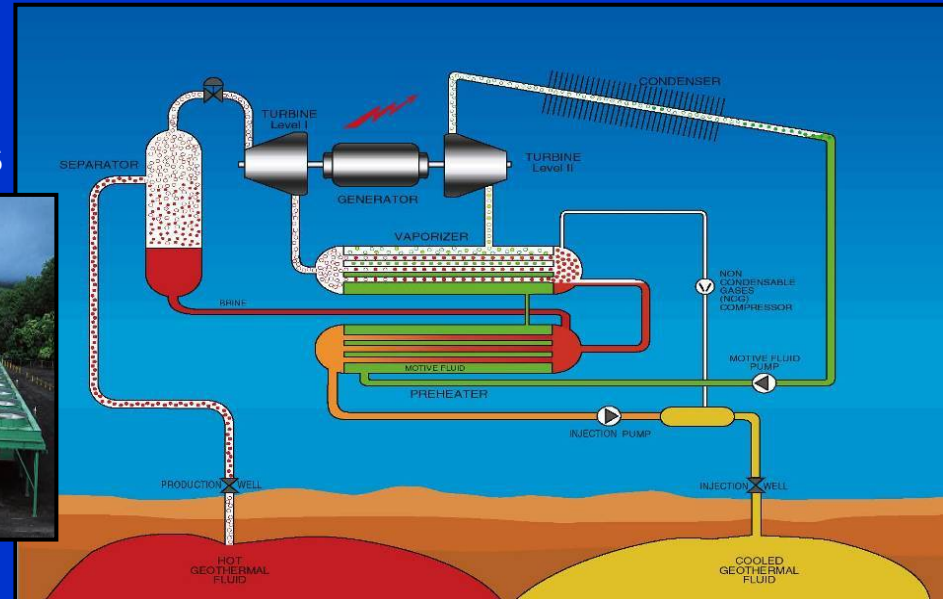


24 MW Zunil Geothermal Power Plant, Guatemala

Combined Cycle Geothermal Power Plants



30 MW Puna Geothermal Power Plant, Hawaii



Power Plant Technology Considerations

- Designing the geothermal power plant requires matching the characteristics of the geothermal fluid with the optimum power cycle. The market driver is energy production and availability.
- Power generation factors are: (i) system simplicity; (ii) maintenance requirements; (iii) reservoir management, (iv) environmental considerations, and (v) power plant reliability.
- The optimum power cycle should allow injection of all of the geothermal fluid for long term reservoir sustainability.
- The optimum power cycle provides for the maximum output from available geothermal heat source with simplicity and high plant reliability. The project output is commercial grade electricity with financible field proven technology.

ORMAT's Modular Geothermal Power Plant Advantage.

- **Modular Geothermal Power Plants can serve:**
 - Rural electricity needs,
 - Remote locations-displace diesel power,
 - Eco-tourist resorts,
 - Agricultural industries,
 - Schools, fire fighting camps, hospitals and remote facilities,
 - Remote load centers, displacing need for uneconomical transmission lines, and
 - Local small entrepreneurs interested in renewable energy projects.

ORMAT's Modular Geothermal Power Plant Advantage.

- Easy to transport and install
- Accommodate wide range of temperatures
- Accommodate changing loads
- Accommodate changing resource conditions
- Operate unmanned and automatically

Ancillary Benefits of Binary Technology

- Heat from cooled geothermal fluid may be used for direct heating or agro-industrial processes
- Enables local industry and development
- Cost savings for “inside the fence” installations in high energy tariff areas.

Technological Advancements and Support

- **Field Proven Technology**
- **Improved Turbine Efficiency**
- **Full continuous factory support**

Technological Advancements and Support

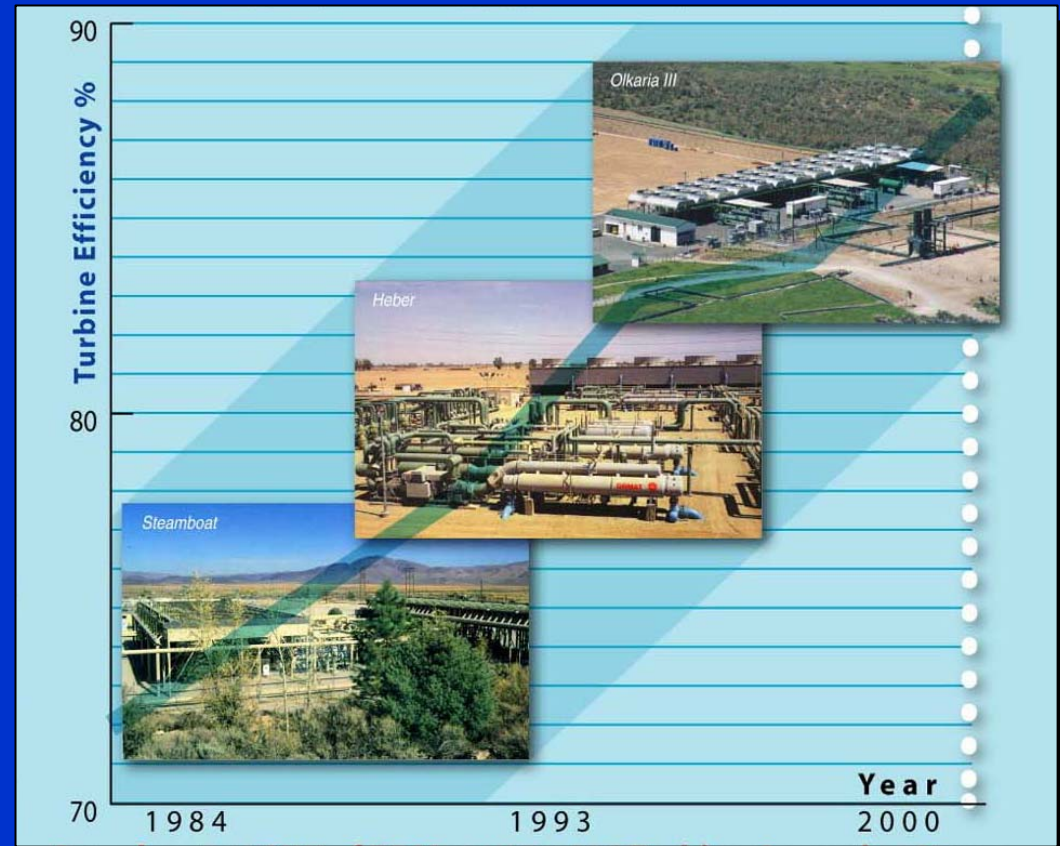
Field Proven technology

- 800 MW of Installed Capacity
- Over 50 power plants in 21 countries
- Over 300 Turbogenerators Installed Since 1982
- Over 30 million turbine hours of operation
- Slow Speed Turbines – 1800 rpm

Technological Advancements and Support

Continuous Improvement to Turbine Efficiency

YEAR OF FIRST USE	REPRESENTATIVE PROJECTS	TURBINE EFFICIENCY %
1984	Steamboat	72
1985	Ormesa	75
1989	Puna	78
1993	Heber	83
1996	Rotokawa	84
2000	Olkaria	88



Technological Advancements and Support

- Full continuous factory support, including
 - Factory integration and testing of OEC power modules before shipment,
 - Remote monitoring by ORMAT engineers,
 - 35 year unbroken record of spares supply and service in the field,
 - Refresher training for staff and upgrading of plant equipment available.

The Promise of Tomorrow

Emerging Technologies

Ormat – 40 years of ORC technical innovation

Solar Powered ORC Water Pump – Mali 1966



High Reliability ORC Power Unit for Alyeska P/L 1976



5 MW Solar Pond Collects and Stores Energy - 1982

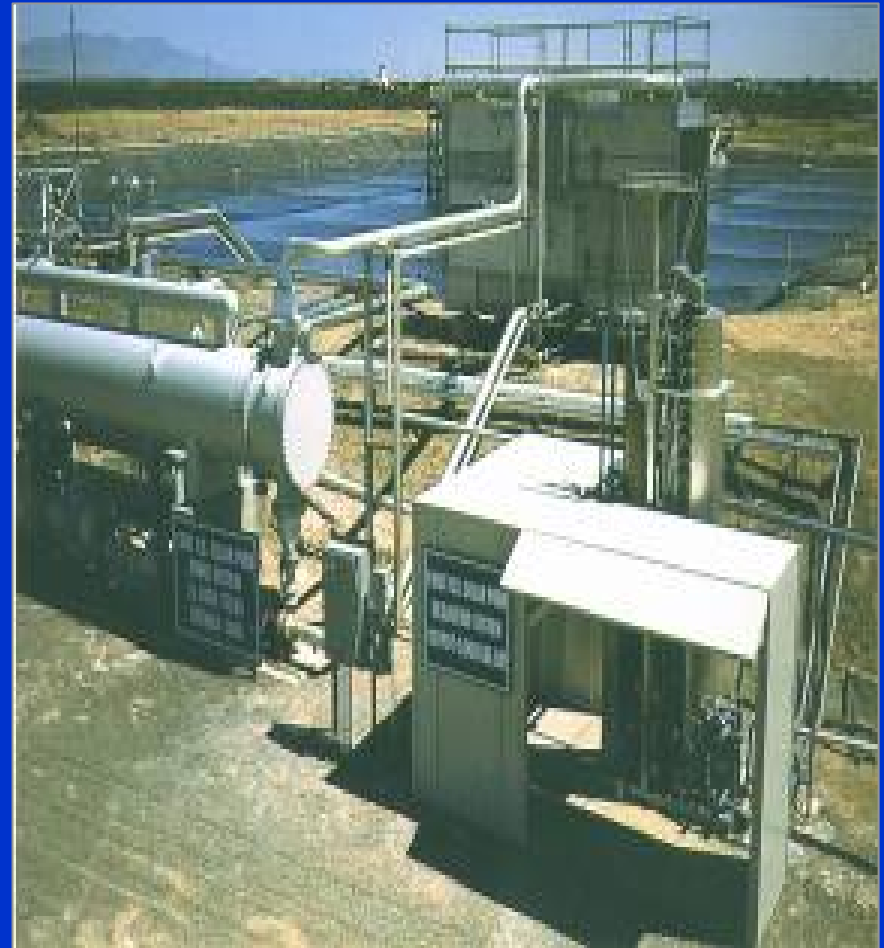


1 MW ORC Solar Thermal Project –Arizona 2006



Field Proven, Low Temperature, Ormat ORC Power Plant

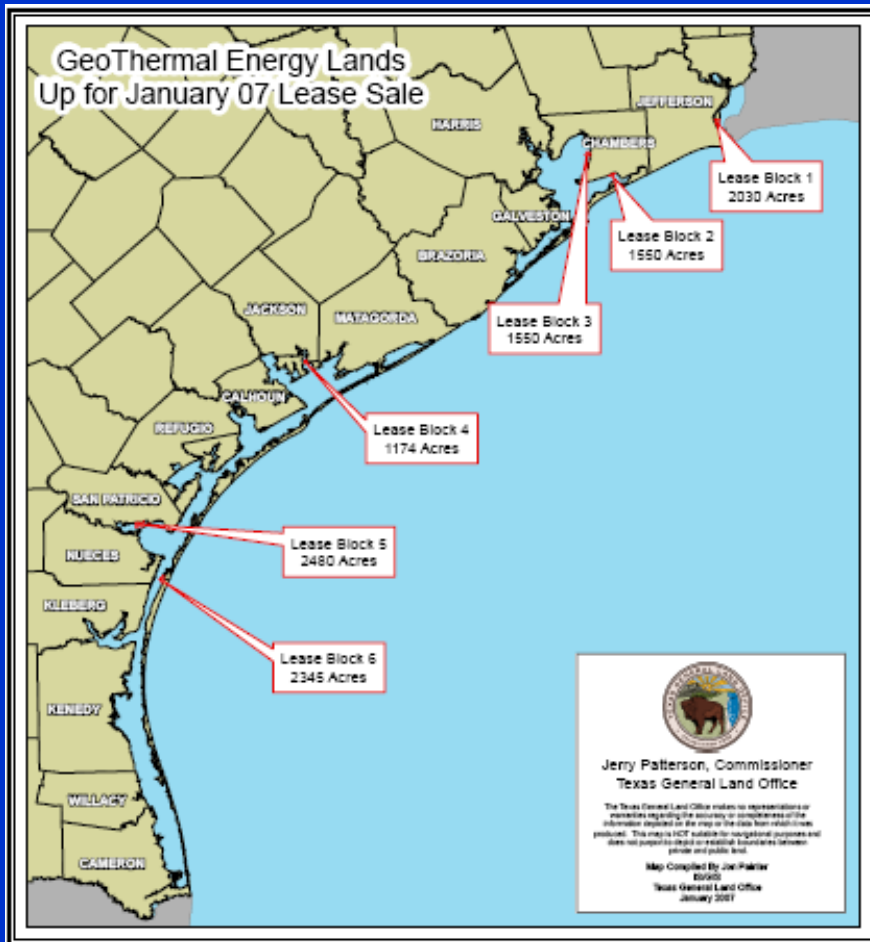
- Collaborative R&D project with the Bureau of Reclamation and UTEP
- 70 kW Solar Pond
- ORC Power Unit at El Paso, Texas
- In operation from 1986 to 2002
- temperatures of 154°F to 190°F



Oil and Gas Co-production

- Ormat signed a shared-cost Cooperative Research and Development Agreement (CRADA) with the US Department of Energy (DOE)
- Ormat will validate the feasibility of proven technology for the production of commercial electricity using hot water produced during the process of oilfield production.
- 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.

Texas lease acquisition



TEXAS GENERAL LAND OFFICE JERRY PATTERSON, COMMISSIONER

Office of Communications • Mark Dallas Loeffler, Director
1700 N. Congress Ave. • Austin, TX 78701-1495 • 512-463-5339 • Fax: 512-475-1415

PRESS RELEASE

FOR IMMEDIATE RELEASE
Feb. 6, 2007

Contact: Jim Suydam
(512) 463-5339
(512) 417-5382 cell

Land Office awards Texas' first geothermal lease *Coastal tracts of land in seven counties went to highest bidder*

AUSTIN — Texas reinforced its status as the nation's new frontier for renewable energy today, awarding the state's first lease for geothermal energy production.

Nevada-based geothermal industry leader, Ormat (NYSE: "ORA"), had the high bids Tuesday for six tracts of coastal land in seven counties totaling more than 11,000 acres. The lease allows Ormat to explore the potential of the land's geothermal resources and produce geothermal power from the tracts.

"Texas is hot for geothermal energy," said Jerry Patterson, Commissioner of the Texas General Land Office. "At the Land Office, renewable energy means renewable revenue for the schoolchildren of Texas."

Geothermal energy provides a steady, reliable power source that doesn't create any carbon dioxide, and its "fuel" — the earth's natural heat — is unlimited.

Ormat paid \$55,645 to lease the submerged land for an average of about \$5 an acre, or more than twice the minimum bid of \$2 an acre. In addition to the lease bonus, the Texas Permanent School Fund will earn 10 percent of any electricity produced from the geothermal leases.

Multiple bids received for the land ensured that the bidding process was very competitive, Patterson said. "We got more bids than we expected," he added. "I think that's a good sign geothermal might just be an economically viable form of renewable energy for Texas."

The tracts of land range from 1,174 acres to 2,480 acres and are along the coast in Jefferson, Galveston, Chambers, Calhoun, Jackson, Nueces and Kleberg counties.

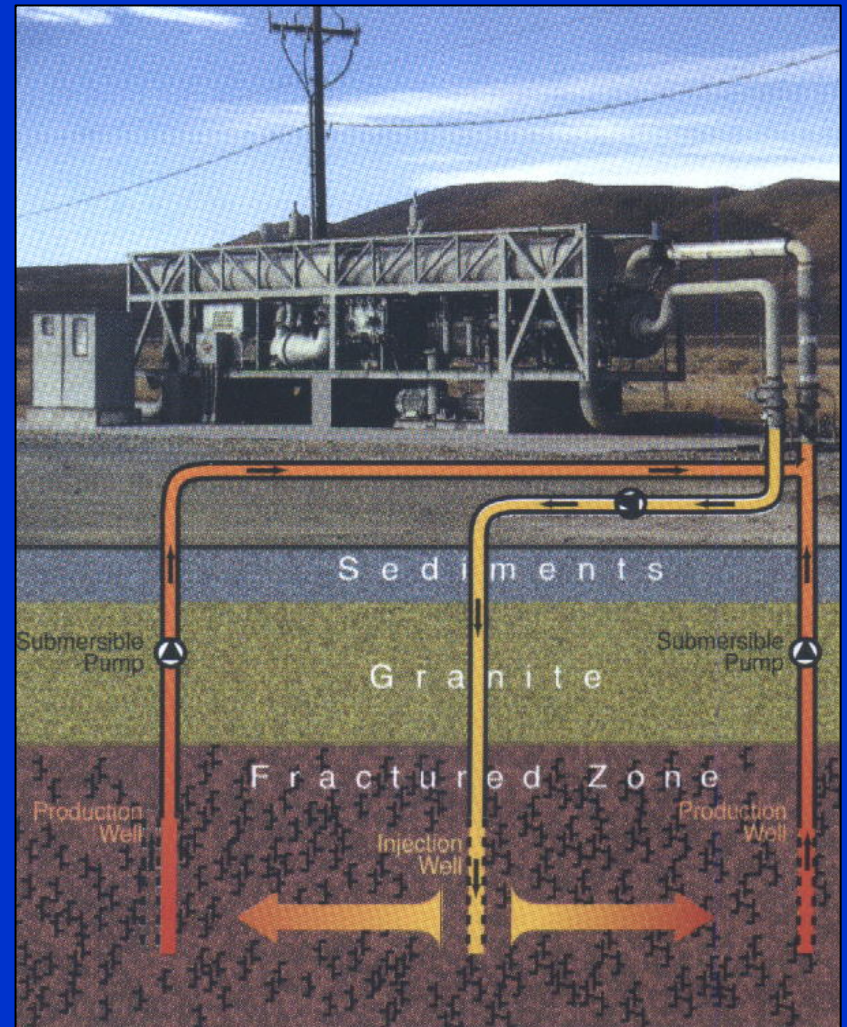
Geothermal energy is heat energy from the earth's molten interior. Heat can be brought to the surface from movements in the Earth's crust or by deep circulation of groundwater, which forms reservoirs of hot water under pressure.

Texas isn't exactly known as a geothermal hot spot like Hawaii or California, which sit on the volatile Pacific Rim. But relatively new technologies, such as binary power plants, are primed to

— more —

The Desert Peak Enhanced Geothermal System

- Collaborative R&D project:
- Ormat
- Geothermex, Inc
- University of Utah, Energy & Geoscience Institute
- University of Nevada Reno
- Cost Sharing with DOE



Plug and Play On Site Geothermal Power Pre-Packaged Equipment Supply for Self Construct

Ormat supplied equipment for remote and rural applications

1984



First commercial geothermal application in Nevada. 800 kW OEC. with power supplied to Sierra Pacific Power Co. 22 years of operation.

800 MW Wabuska Geothermal Power Unit, Nevada.

1989



Supplying local electrical power and energy for crop drying and cold storage since 1989. 17 years of operation.

300 kW Egat Geothermal Power Plant, Thailand

2004



Owner installed plant using Ormat supplied equipment, documentation and technical assistance.

1.8 MW Oserian Geothermal Power Plant in Naivasha, Kenya

2001



250 kW air-cooled geothermal CHP plant generating electrical power as well as district heating, by utilizing a low temperature geothermal resource. 5 years of operation

250 kW Geothermal Power Unit at Rogner Hotel & Spa, Bad Blumau, Austria

On Site Power for Austrian Eco-Tourist Resort

250 kW OEC Power Plant Provides Power & Heat
from 210° F Geothermal Fluid from Hot Spring



Similar to the ORC power unit being supplied under the CRADA for
installation at RMOTC Casper, Wyoming

Summary

- Ormat's success is a result of matching geothermal resources with field proven, and time tested technologies.
- Ormat's U.S. Geothermal generation has saved 2.5 million tons of CO₂, 3,750 Tons of NO_x, 3.3 million tons of H₂O
- Ormat is committed to innovation, and successfully implementing innovative technologies such as:
 - RMOTC / Oil & Gas
 - EGS
 - Plug & Play for onsite power

Summary: Oil & Gas field application

- Factory integrated small binary power plants are field proven and reliable,
- Containerized modular power plants may be deployed and installed easily,
- On a multiple use site small binary plants can provide cost effective power and heat,
- Success of small plant projects includes matching the plant to the resource, spares, training and support services.