Getting to the Core
Rules and Regulations for Geothermal Development

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Geothermal Energy Utilization
Oil & Gas Development Conference
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THIS IS A 100% MATTER PRODUCT:
In the Unlikely Event That This Merchandise Should Contact Antimatter in Any Form, a Catastrophic Explosion Will Result.
Texas Geothermal Policy

- "It is declared to be the policy of the State of Texas that: (1) the rapid and orderly development of geothermal energy and associated resources located within the State of Texas is in the interest of the people of the State of Texas;"

- Geothermal Resources Act of 1975
History of Geothermal Energy Interest

- 1960s/1970s energy crisis
  - Geothermal Steam Act of 1970
  - state laws encouraging geothermal exploitation

- increased environmental interest/Mid East tension
  - Department of Energy initiatives starting in 2000

- increased cost of oil and gas
Geothermal Rights
Geothermal Rights – Federal

- Geothermal Steam Act of 1970
  - Department of the Interior

- Outer Continental Shelf Lands Act

- Department of Defense Lands
Geothermal Rights – State

- State
- Private Land Owners
- Other Lease Holders??
Leasing – The Grant

- oil, gas and other minerals
- exploring, drilling, mining and operating for, producing and owning oil, gas, sulphur and all other minerals
- oil and gas, along with all hydrocarbon and non-hydrocarbon substances
Leasing – Other Issues

- Term
  - Initial
  - production

- Royalty

- Surface use
Leasing – Other Issues

- Migration
- Oil & Gas versus Geothermal Rights
- Environmental Liability
Environmental Laws
Environmental Laws – Federal

- Coastal Zone Management Act
- Endangered Species Act
- National Environmental Policy Act (NEPA)
  - requires an environmental impact statement
Environmental Laws – State

- State environmental laws
Environmental Laws – Local

- Water conservation districts
- Other county and municipal laws
Environmental Challenges to Renewables

- Parties
  - American Bird Conservancy
  - Armstrong Ranch
  - Audubon Outdoor Club of Corpus Christi
  - Coastal Bend Audubon Society
  - Frontera Audubon Society
  - Galveston Bay Conservation and Preservation Association
  - Houston Audubon Society
  - King Ranch, Inc.
  - Lower Laguna Madre Foundation
  - Matagorda Bay Foundation
  - Travis Audubon Society
Environmental Challenges to Renewables

- **Agencies**
  - Texas Coastal Coordination Council
  - Public Utility Commission of Texas
  - US Fish & Wildlife

- **Courts**
  - Travis County, Texas state court
  - United States federal court
Development
Development – Federal

- Geothermal Steam Act of 1970
  - “so much of the surface of the land . . . for the production . . . of geothermal resources.”

- Do not need consent of surface owners
Development – State

- Surface owners

- Classification
  - Mineral
    - Texas, California, Alaska, Arizona, Hawaii
  - Water
    - Wyoming, Utah
  - Neither
    - Idaho, Washington, Montana
Development – State

- Drilling permits/regulations
  - On or off school fund land

- Reporting requirements

- Safety requirements
  - Blowout prevention standards
Development – State

- Power line easements
- State (and possibly federal) approvals for transmission lines
Ryan’s Ideas
Legislative Initiatives
Things to think about…

- Governor’s business initiative
- Legislative session
Wind-Related Initiatives
The Next Texas Tea Is Clear

- **1999**
  - Installed Wind Generation Capacity: 880 MW
  - Texas Legislature Mandate: +2,000 MW by 2009

- **2005**
  - Installed Wind Generation Capacity: ~2,000 MW
  - Texas Legislature: +3,000 MW by 2015 / 10,000 MW by 2025
  - **with 500 MW carve out for non-wind renewables**

- **2007**
  - Installed Wind Generation Capacity: ~3,000 MW
How Do We Get There?
Competitive Renewable Energy Zones

CREZ: Zone in which renewable energy resources and suitable land areas are sufficient to develop generating capacity from renewable energy technologies.
Financial Commitment

PUCT considers developers' financial commitment in deciding whether to designate an area a CREZ and whether to issue a certificate of convenience and necessity.
## CREZ Designations

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Source: PUCT Docket No. 33672
Source: ERCOT's 1 Dec 06 Report
Next Steps

- **Determine Transmission Scenario**
  - Hearings last week
  - July 17, 2008

- **Determine Transmission Provider**
  - Hearings by year-end?

- **Separate Line-Approval Cases**
  - 2009

- **Return to Dispatch Priority Discussion**
  - ?
  - We must do more than stand still
So What?

- Dispatch priority proceeding
- Nesting??