



Getting to the Core Rules and Regulations for Geothermal Development

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Geothermal Energy Utilization
Oil & Gas Development Conference
Dallas, Texas
17 June 2008

¡Disclaimer!

HANDLE WITH EXTREME CARE:

**This Product Contains Minute Electrically Charged
Particles Moving at Velocities in Excess of Five
Hundred Million Miles Per Hour.**

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...

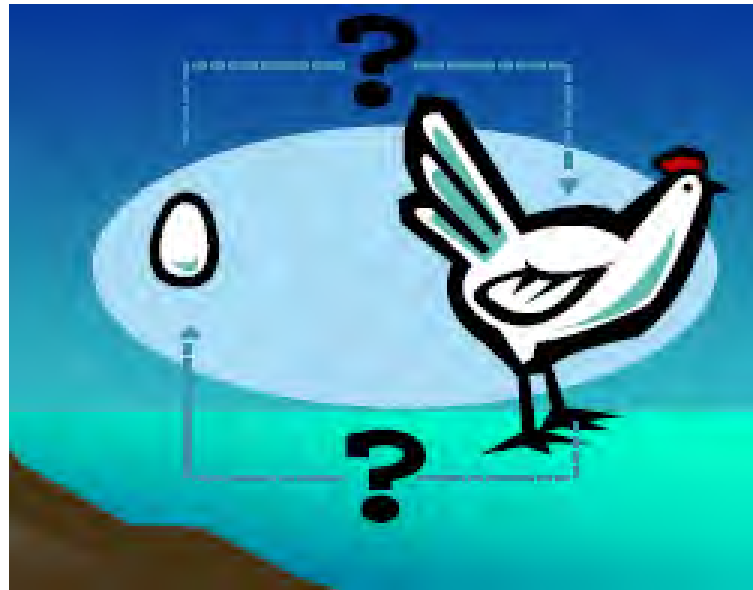
- Governor's business initiative
- Legislative session

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.



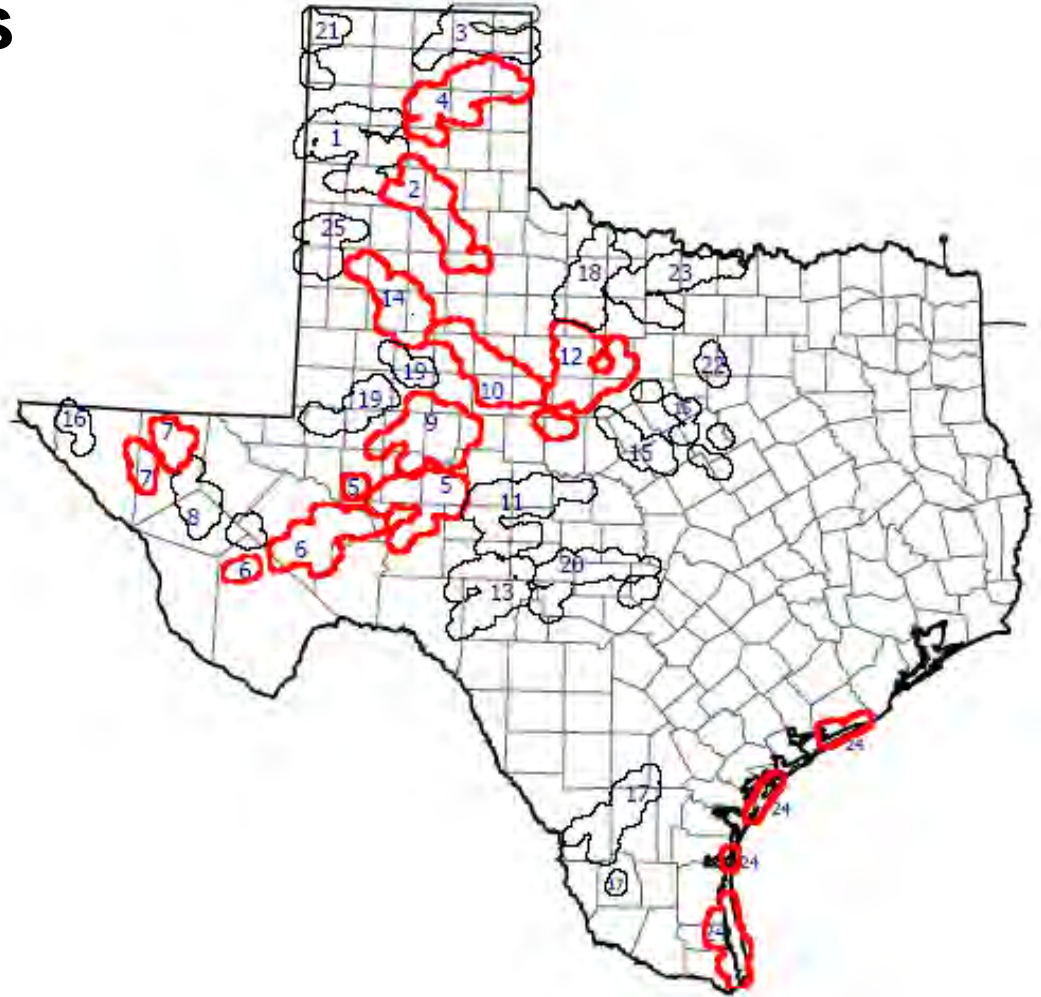
Financial Commitment

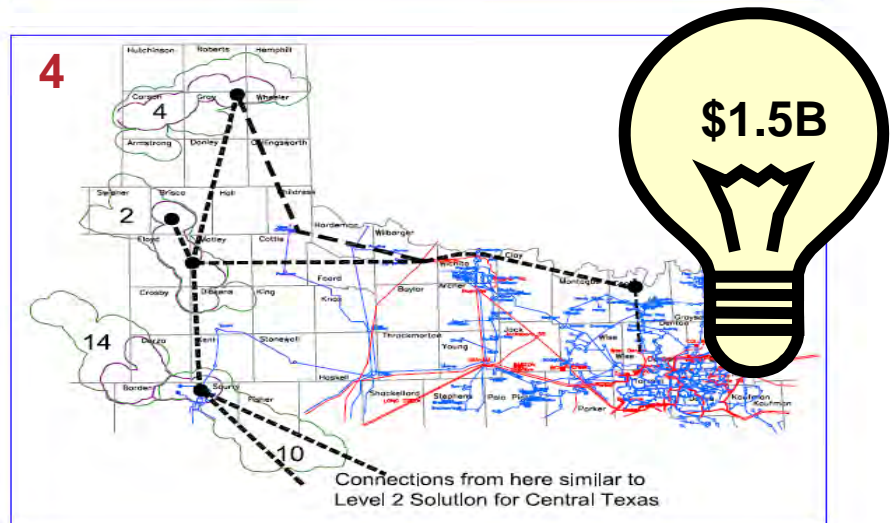
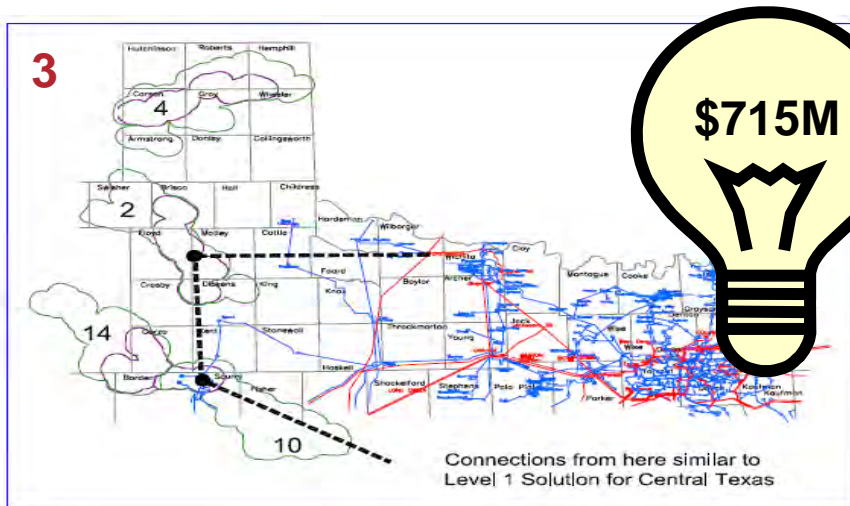
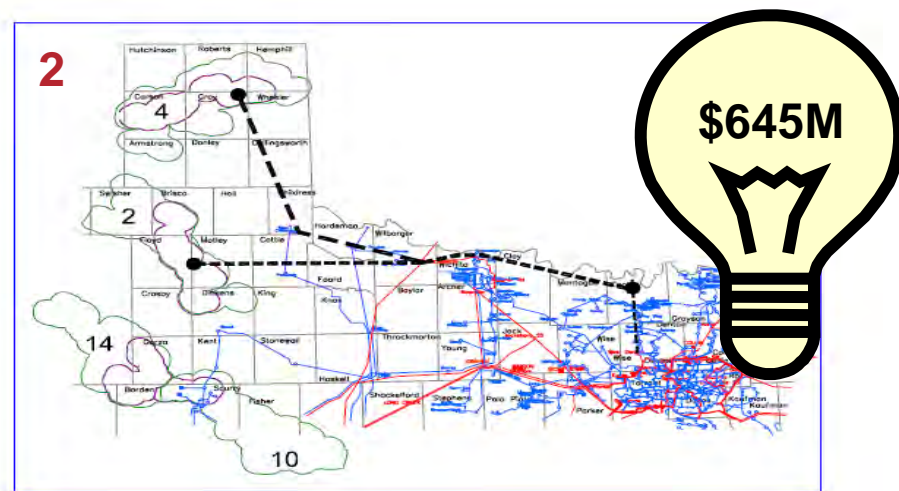
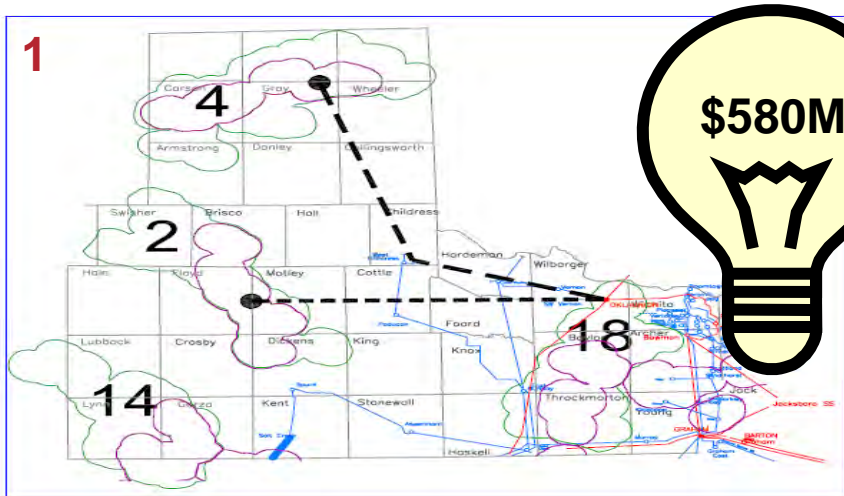
PUCT considers developers' financial commitment in deciding whether to designate an area a CREZ **and whether to issue a certificate of convenience and necessity.**



CREZ Designations

ZONE	DEVELOPERS
1	1
2	6
4	5
5	5
6	5
7	1
9	5
10	5
11	1
12	2
14	2
18	1
19	1
20	1
25	1





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??

