

The Energy Policy Act of 2005 and Section 999:

A Public/Private Partnership for R&D in the
Ultra-Deepwater in the Gulf of Mexico and in
Unconventional Onshore Natural Gas and Other
Petroleum Resources of the United States



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RPSEA Member Forum
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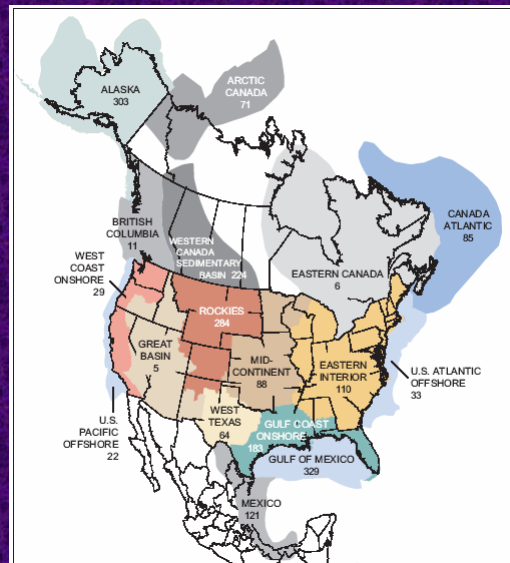
What is Section 999?

A new federal collaborative R&D
public/private partnership, **managed by
industry and academia**, engaging all
stakeholders in the value chain to benefit
consumers and enhance domestic
productivity and competitiveness



1999 NPC Gas Supply Study

- Two regions—deepwater Gulf of Mexico and the Rockies – will contribute most significantly to new supply.”
- “Deeper wells, deeper water, and nonconventional sources will be the key to future supply.”
- “Technology improvements are particularly important given the difficult conditions accompanying new resources.”
- “This study assumes that technology improvements will continue at an aggressive pace. However, recent industry trends in research and development have raised concerns regarding this assumption.”
- “The government should continue investing in research and development through collaborations with industry, state organizations, national laboratories and universities.”



NPC 2003 Technical Resources (TCF)



What is Section 999?

Specifically, the law directs --

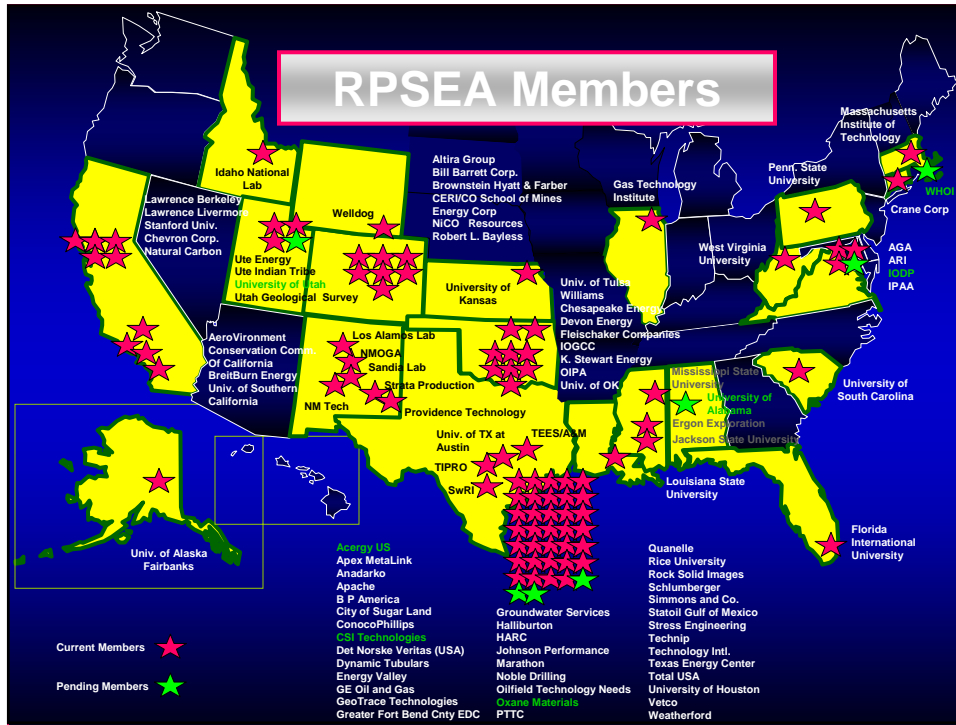
- ... research, development, demonstration, and commercial application of technologies for ultra-deepwater and unconventional natural gas and other petroleum resource exploration and production. (Sec.999A.a)
- ... to maximize the value of natural gas and other petroleum resources of the United States, by increasing the supply..., ...reducing the cost ... increasing the efficiency of exploration for and production of..., while improving safety and minimizing environmental impacts. (Sec.999B.a)



Who is RPSEA and What are its Statutory Features?

- A 501c3 not for profit
- Competitively selected by DOE as the Program Consortium Manager
- Comprised of you









What is the Program's focus?

The Program has three program elements:

- **Ultra-deepwater 35%**
(> 1500 Meters water or 15,000' OCS drilled depth)
- **Unconventional Onshore 32.5%**
(Economic accessibility)
- **Small Producers 7.5%**
(< 1000 BOEPD)





Statutory Description of Program Elements

- Ultra-deepwater program focus
 - Technologies and architectures
- Unconventional onshore focus
 - Resource perspective
- Small producer focus

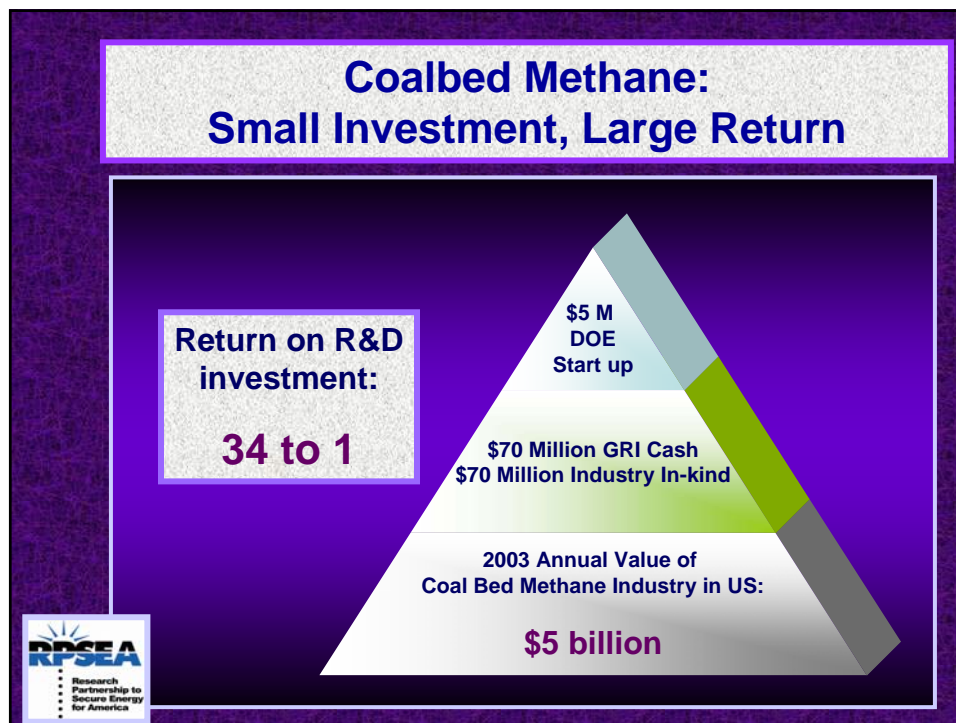
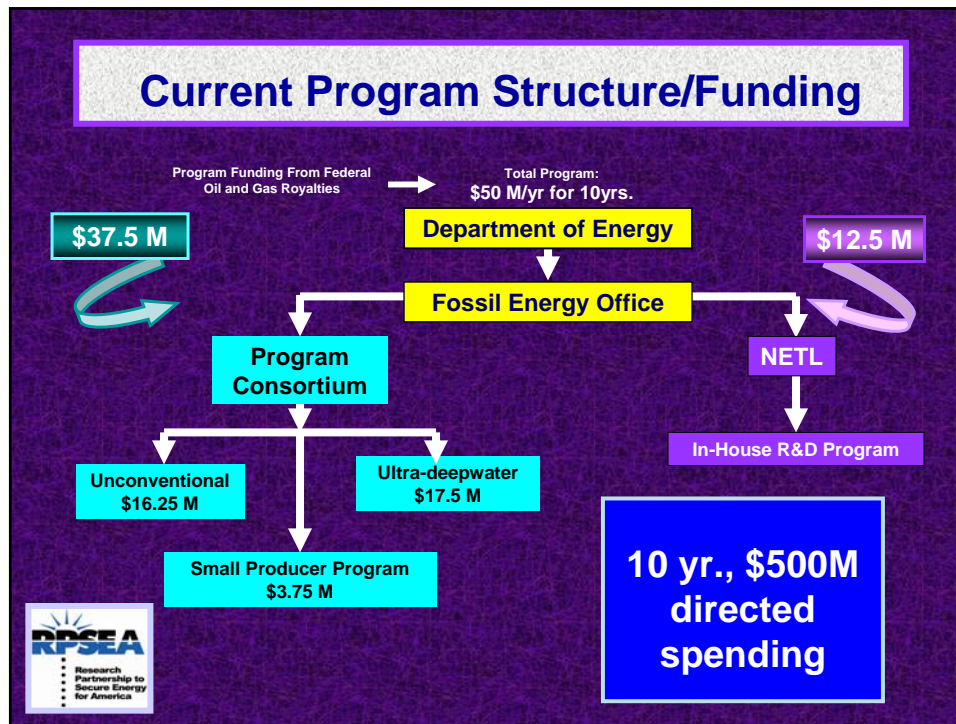
Consortia addressing unique needs of small producers

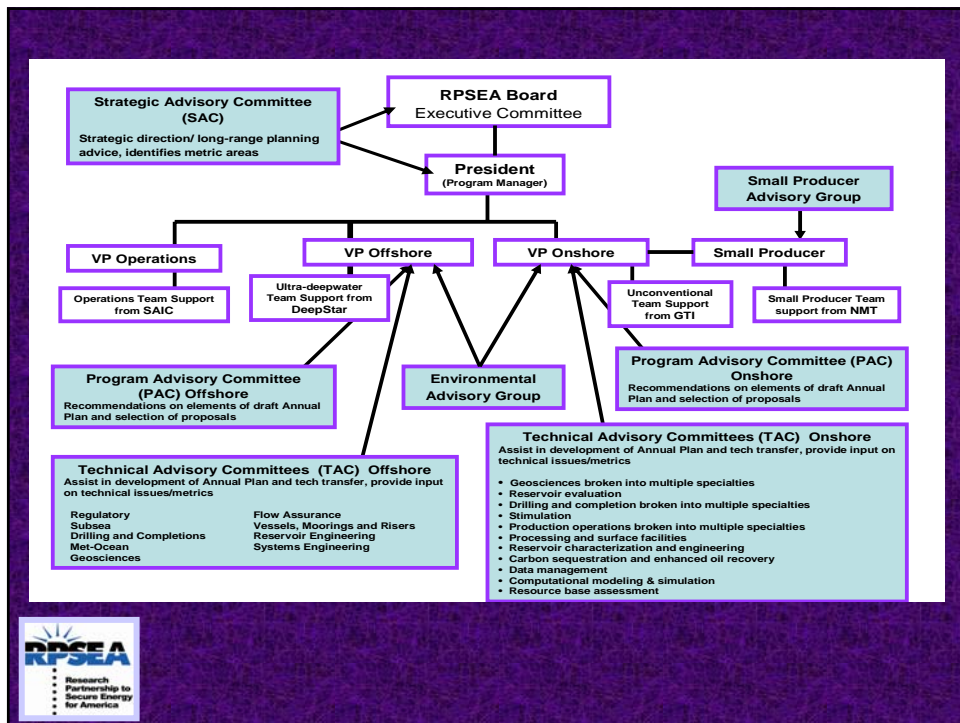
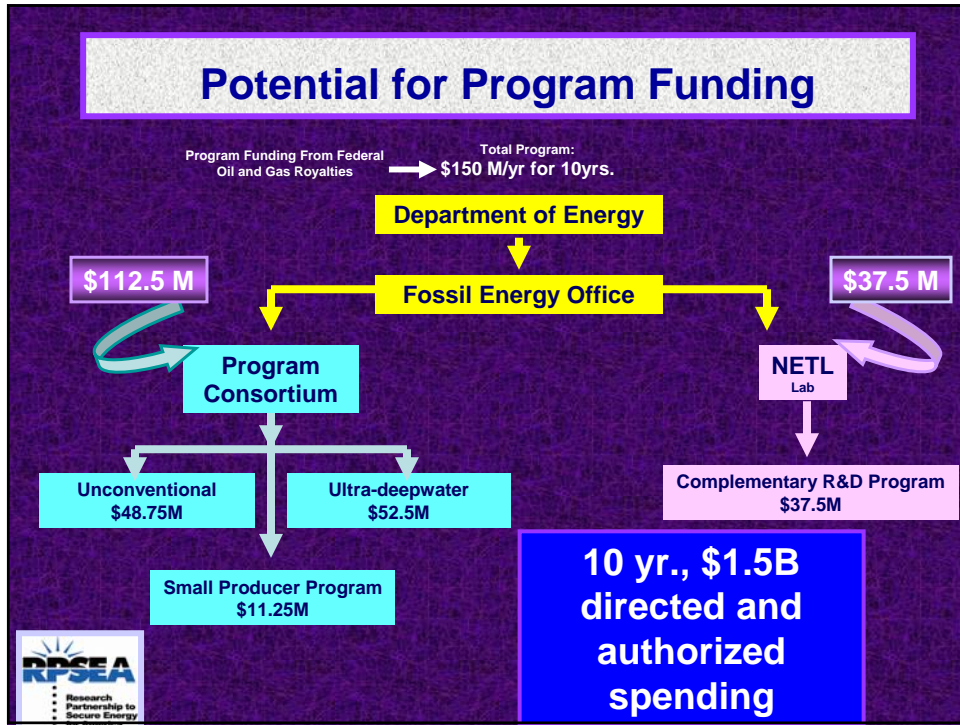


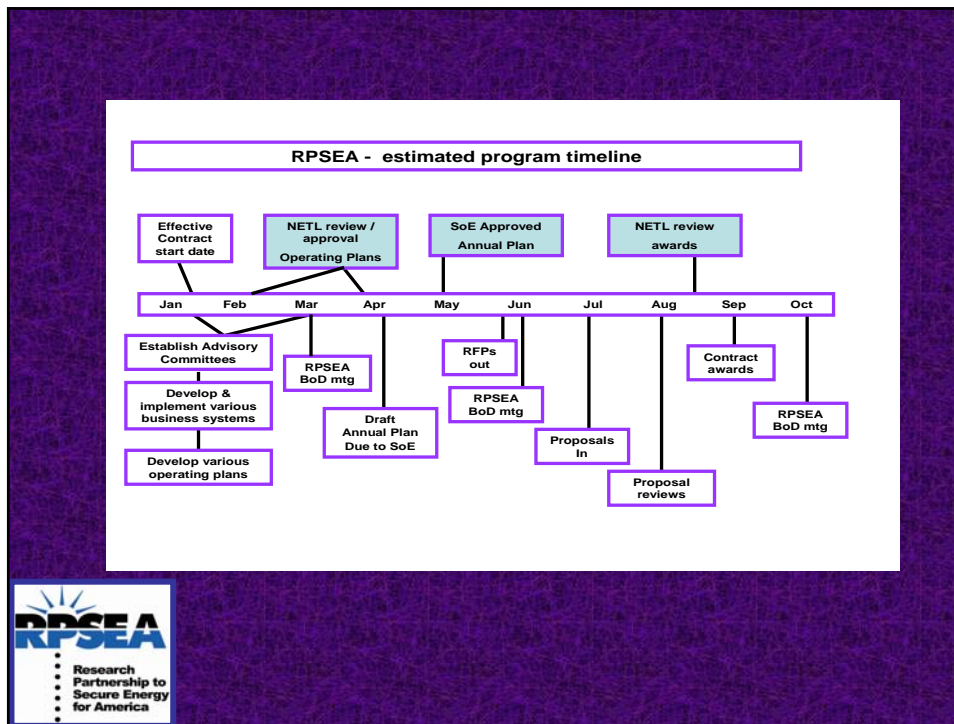
Responsibilities of the Program Consortium?

- Prepare draft annual plan for the SOE
 - Recommend award recipients
 - Develop project specifications
- Oversee implementation of awards, including monitoring activities to ensure compliance with conditions of awards
 - Disburse funds to awardees
 - Manage technology transfer







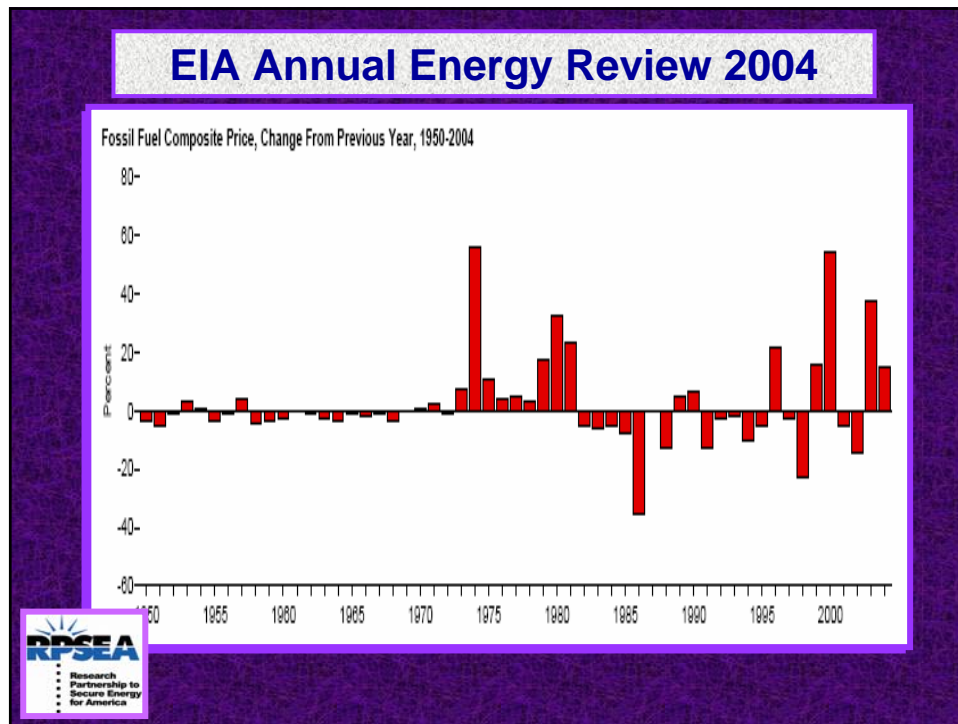


Why Does Industry Need This?

- Significantly increased E&P costs
- Continued price volatility
- Increasing personnel constraints
- Rig & service availability
- Environmental opposition & scrutiny
- Lack of research infrastructure
- Broad need for technology transfer

It's a very challenging business environment and it's getting even more so.





Rigs & Equipment

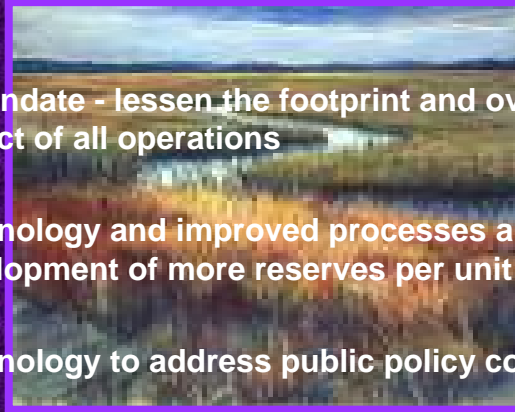
- Has your rig(s) been short handed lately? (And more new rigs are being built or reassembled)
- Technology and improved understanding of processes must generate leverage on the existing fleet by extracting more footage and productive wells per rig
- Improved reservoir characterization leverages the rig fleet by optimizing the value of every well bore




RPSEA
Research Partnership to Secure Energy for America

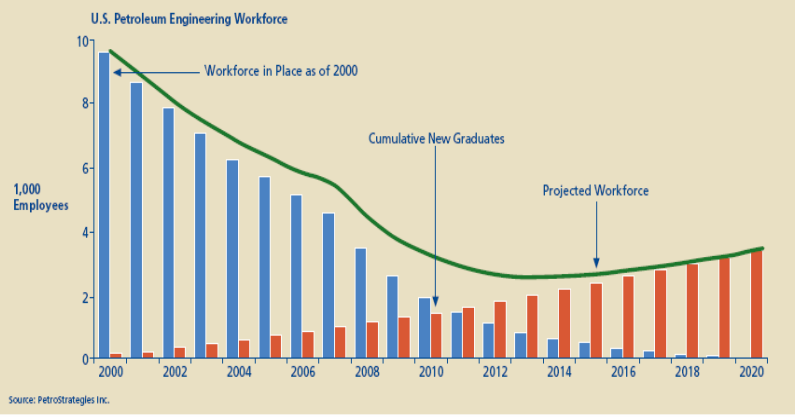
Environmental Constraints

- A mandate - lessen the footprint and overall impact of all operations
- Technology and improved processes allow the development of more reserves per unit of activity
- Technology to address public policy concerns



Workforce Constraints

Exhibit 2. Oil & Gas Workforce Projections



From "Deloitte Research – The Talent Crisis in Upstream Oil & Gas"

Solutions, not Rhetoric

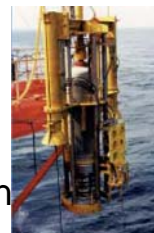
- It starts with commitment - \$50M per year in stable directed spending with potentially an additional \$100M per year plus industry matching funds.
- Unique publicly funded opportunity to determine industry's needs and then utilize industry's leadership in partnership with universities, researchers, and technologists to develop solutions for the American consumer.
- Generate multiples by forging new partnerships and leveraging the value of new supplies with, for example, end use efficiency.



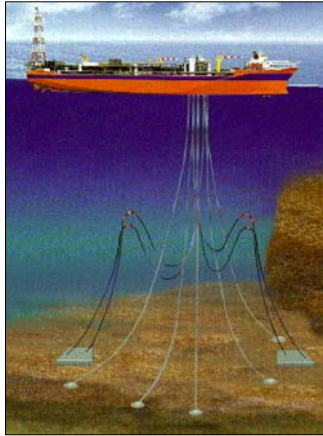
■ The time for action is now!

1300 – Subsea Facilities TAC

- Subsea Production Equipment Enhancements
- Subsea Processing Technologies
- Pipeline, Flowline and Umbilical Technologies
- Subsea Well Intervention Technology



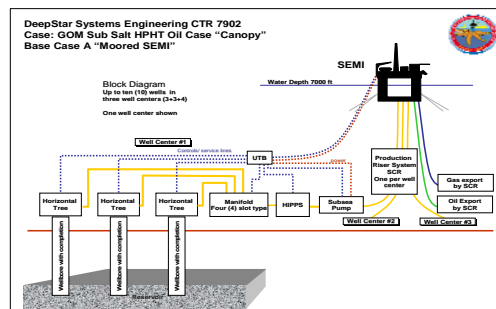
1400 – Floating Facilities TAC



- Optimized Field Development Concepts for Improved Economics
- Material Science for Risers and Moorings
- Mooring and Riser Integrity Management
- Improved Design and Analysis Methods

1900 – System Engineering TAC

- Base Case Design Criteria and Technical Coordination.
- New Technology Impact on Development Scenarios.
- Grand Challenge Projects (Novel Initiatives)



**“You miss 100% of the shots
you don’t take.”**

Wayne Gretzky

