



NATIONAL ENERGY TECHNOLOGY LABORATORY



Closeout: Program Status Update since July 15, 2009 Meeting

Roy Long, September 17, 2009

Review of Issues to Date

- **Tech Transfer – Progress Toward Integrated Program:**
 - PTTC Award Complete
 - RPSEA Project Summaries Complete
 - Latest “E&P Focus” and “Fire in Ice” to be published this month
 - RPSEA Forums Transitioning from Planning to Execution
 - KMD: Basic Search Capability Online by October 1st
 - Demo to be Feature at SPE, ATCE in New Orleans
 - Plans being executed for improvement to include GIS within next two months
 - Continuous Improvement Program being established
 - Benefits being quantified
 - Early Unconventional 2007 Program Results for 26 projects:
(Note: 9 projects not developed enough to estimate benefits)
 - 3.0 Billion Barrels / \$62 MM PV anticipated Royalties
 - 19.7 Tcf / \$140 MM PV anticipated Royalties

Timeline of Benefits Activities

March 2009	Unconventional Peer Review Conducted
June 2009	Unconventional Peer Review Report completed
September 1-2, 2009	Deepwater Peer Review Conducted
September 15-17, 2009	Briefing to FACA committee
November 2009	Submit both Peer Review Reports to HQ and Publish

Guiding Principles for the Benefits Analyses

- **Transparency**
 - embrace professional judgment
- **Technology-centered, not model-centered**
 - capture the story of each project
 - aggregate project level results to program level
- **Apply an appropriate level of rigor**
 - update/expand as research progresses
- **Finite time horizon (30 years)**
 - Longer and you start counting resources that might become available without the program

Review of Issues to Date

(Continued)

- **Process**

- NEPA requirements streamlined (paper study exclusion)
- Other topics in review

- **Complementary Program**

- ORD Merit and Technical Reviews Complete
 - Program declared non-duplicative by Technical Committee
- Synergies being established with RPSEA Program
 - Materials Research
 - Equation of State Studies
 - Complementary Portfolio Analysis

Program Elements

Technology Focus Areas

		Ultra-Deepwater	Unconventional Gas			Unconventional Oil (oil shale, oil sands, heavy oil)	Mature Fields (operated by small producers)
			CBM	Tight Gas Sands	Gas Shales		
Resource Development	Water Mgmt.	NA	1 project (2007)				
					2 Projects (2008)		
	Reduce Costs	15 Projects (2007) 9 Projects (2008)					2 projects (2007) 1 project (2008)
	Increase Recovery		5 projects (2007), 1 project 2008				
Resource Character.	Subsalt Seismic Modeling (2007)			Marcellus Resource Assessment	NA		
HPHT Resources	Drilling	Extreme Drilling Laboratory	NA	NA	NA	NA	NA
		HPHT Materials					
		Composite Risers (2007) Managed Pressure Drilling (2008)					
Modeling	EOS for HPHT						
Environmental Impact Assessment and Mitigation	Surface	NA	Ecological Impact of Oil and Gas Activities (EIOG)			Environmental Impacts of Unconventional Fossil Fuel Development (Oil Shale)	EIOG
			Environmentally Friendly Drilling (2008)				Low Impact Roads (2007)
	Air	Monitoring/Modeling Air Emissions from Oil and Gas E&P Activities					
Water	Produced Water Management						
Technology Transfer		Knowledge Management Database (KMD) and RPSEA 2.5% Tech. Transfer				KMD/RPSEA Oil shale archive	KMD/RPSEA

RPSEA-administered projects

Complementary projects

Program Elements

Technology Focus Areas

		Ultra-Deepwater	Unconventional Gas			Unconventional Oil (oil shale, oil sands, heavy oil)	Mature Fields (operated by small producers)
			CBM	Tight Gas Sands	Gas Shales		
Resource Development	Water Mgmt.	NA	1 project (2007)				
	Reduce Costs	15 Projects (2007) 9 Projects (2008)			2 Projects (2008)		2 projects (2007) 1 project (2008)
	Increase Recovery		5 projects (2007), 1 project 2008			Microwave heating Fractured media models Oil shale catalysts	CO2 EOR
	Resource Character.	Subsalt Seismic Modeling (2007)	2 projects (2007)	6 projects (2007) 2 project (2008)	5 projects (2007) 3 project (2008)		4 projects (2007) 5 projects (2008)
HPHT Resources	Drilling	Extreme Drilling Laboratory					
		HPHT Materials					
		Composite Risers (2007) Managed Pressure Drilling (2008)	NA	NA	NA	NA	NA
Modeling	EOS for HPHT						
Environmental Impact Assessment and Mitigation	Surface	NA	Ecological Impact of Oil and Gas Activities (EIOG)			Environmental Impacts of Unconventional Fossil Fuel Development (Oil Shale)	EIOG
			Environmentally Friendly Drilling (2008)				Low Impact Roads (2007)
	Air	Monitoring/Modeling Air Emissions from Oil and Gas E&P Activities					
Water	Produced Water Management						
Technology Transfer		Knowledge Management Database (KMD) and RPSEA 2.5% Tech. Transfer			KMD/RPSEA Oil shale archive	KMD/RPSEA	

RPSEA-administered projects

Complementary projects