



Ultra-Deepwater Advisory Committee

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Ultra-Deepwater Advisory Committee

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U.S. DEPARTMENT OF
ENERGY

Fossil
Energy

A complete history of recommendations by the Ultra-Deepwater Advisory Committee can be found at:

<http://energy.gov/fe/services/advisory-committees/ultra-deepwater-advisory-committee>

Research Focus

Recommendation:

Focus on Health, Safety and Environmental Issues

Greater attention should be devoted to environmental issues including how the environment affects infrastructure, and how infrastructure affects the environment.

➤ Response:

This strong focus is communicated in RFPs, and the current portfolio of projects has a wealth of projects which will improve the safety and decrease the environmental impact of ultra-deepwater drilling.

In all RFPs from 3/9/2011 through 8/14/13 (RFP years 2010-2012):
“Permeating all categories is a focus on improving environmental performance, reducing environmental risk, and enhancing safety”

Research Focus

Recommendation:

Focus on Hazards, Risk Assessment and Smart Systems

- Determine the present scope of expert (case-based) systems that alert operating personnel to potential drilling hazards, including the human factors related to these systems, and continue work on hazards and risk analysis.
- Addition of and/or improvement to instrumentation at the wellhead and in the well to measure key parameters.

➤ Response:

These research areas were included in subsequent RFPs, and the current portfolio includes a project on the human-machine interface (near-miss database) and sensing instrumentation projects.

Technical Areas of Interest that fall within this topic were included in RFPs released in 2010, 2011, and 2012 RFPS

Research Focus

Focus on Hazards, Risk Assessment and Smart Systems

➤ Response:

Example Projects include:

- Gulf of Mexico Ultra Deepwater Drilling Risk Management Study
- Human Factors Evaluation of Deepwater Drilling including Literature Review
- High Resolution, 3D Laser Imaging for Inspection, Maintenance, Repair, Operations
- Intelligent BOP RAM Actuator Sensor System
- Smart Cementing Materials and Drilling Muds for Real Time Monitoring of Deepwater Wellbore Enhancement
- Intelligent Casing-Intelligent Formation Telemetry (ICIFT) System

Research Focus

Gulf of Mexico Ultra Deepwater Drilling Risk Management Study

This study provided a ranked order of risk-important technologies:

1. Real-time data transfer (testing and deployment stage with limited band-width)
2. VSP Look ahead with PAB in the target region (early deployment stage; mixed industry buy-in)
3. Automated Early kick detection system (in use, but not mandated with QA and surveillance requirements and standards). Following additional capability will improve performance
 - MWD with “Positive” HC detection
 - Sensors for flow, temperature and pressure in the well at different locations
 - Direct pore pressure measurement
4. Improved operator training & controls assisted by automated MWD systems (in use, but not mandated with QA and surveillance requirements and standards)
 - Connection, hole cleaning and lost-circulation repair
 - Casing run and Cementing (location of casing pipe versus BOP)
 - Tripping/Swabbing (along with PBL drill-pipe bypass tool & improved procedures and controls)
5. Reliable multiple drill-pipe blowout preventers (in addition to modern Kelly stab-safety valve)
6. “Emergency containment and production” infrastructure (Reliable LMRP disconnect, etc.)
7. Robust BOP with double annular preventer, minimum 3 pipe rams and shear ram. Improved closure reliability and operability
8. 3-D/4-D Seismic & Improved pore pressure prediction during planning and after salt region
9. Improved well control and response modeling to aid reliability based well design



Research Focus

Recommendation:

Focus on Spill Prevention

Mitigate leakage in and around boreholes, investigate long-term borehole stability, plugging and abandoning technology, and long-term monitoring systems

➤ Response:

DOE has a unique capability in spill prevention, while other government agencies and stakeholders focus on spill response. The current portfolio will continue to reflect that expertise.

Research Results

Recommendation:

Improve Technology Transfer and Communicative Strategies

Sunset: Research should continue to be archived, searchable, and accessible. A compendium of research ideas by RPSEA should be distributed to a wide variety of universities and made available to industry and public. DOE should review research results and how they advance overall system of drilling and production, as well as progress made and remaining gaps.

General: Appoint a technology transfer officer at NETL, publicize portfolio of projects and make sure complete project summaries are widely available for each project, foster collaborations with broad stakeholder group, and explore synergies between UDW and UCR.

➤ Response:

The historical and current project information, including summaries, is currently available to the stakeholders and the public through the DOE and NETL websites, the RPSEA website, and within the Annual Plan.

Research Results

- NETL Integrated Technology Transfer Program
 - Structure
 - Publications
 - Knowledge Management Database (KMD)
 - Energy Data eXchange (EDX)

Research Results

NETL Integrated Technology Transfer Program Structure

Information to be Delivered

	Program Consortium	NETL	Contractors	DOE-HQ
Project Reports		Complementary program	Interim and final reports	
Project Data Sets		Complementary program	Spreadsheets, GIS, other	
Project Software			Models and online tools	
Presentations/papers	Program and project level	Program and project level	Project level	High Level Program
Program Information	RFPs, deliverables, metrics, feedback	Program updates, benefit assessments		Program activity, FAC reports, mandated info.

Delivery Vehicle

Project websites			Selected projects have websites	
Program websites	RPSEA site with links	KMD Portal on NETL site with links		Pages on DOE site
Publications	Newsletter, articles in trade press	Newsletter, Techlines, articles in trade press	Technical papers, articles	Press releases, Techlines
Forums/Workshops	Forums/Workshops	PTTC Workshops		
Public meetings	SPE papers, other technical meetings	SPE papers, other technical meetings	SPE papers, other technical meetings	



Research Results

Technology Transfer Program-Publications Currently Available

E&P Focus

Dear E&P Focus Readers:

I would like to welcome our past and new readers to the Spring 2009 issue of E&P Focus, one of a number of technology publications that the Department of Energy's Oil and Natural Gas Technology Laboratory (NETL) publishes to keep oil and natural gas industry stakeholders informed about the research and development activities at the Department. A lot has happened since the last issue, and we have more research and development activities in progress than ever before. In this issue, we focus on the following:

- **Research and Development:** A look at the progress of our research and development activities in the oil and natural gas industry.
- **Technology Transfer:** A look at the progress of our technology transfer activities.
- **Industry News:** A look at the latest news in the oil and natural gas industry.

NETL

the ENERGY lab
Where energy challenges converge and energy solutions emerge

Home > Technologies > Oil and Natural Gas Supply

Technologies
Oil and Natural Gas Supply

Oil and natural gas are the lifeblood of our economy, accounting for more than 90 percent of the energy consumed in the United States. To meet projected demand, our nation has a vital interest in ensuring that competitively-priced domestic natural gas and oil remain part of the U.S. energy portfolio for decades to come. [Read More](#)

Announcements
New Online Database of Oil and Natural Gas Research Results Now Available

The U.S. Department of Energy plans to introduce a new, user-friendly online repository of oil and natural gas research results at the Society of Petroleum Engineers' Annual Technical Conference and Exhibition, to be held in New Orleans, La., October 4-7, 2009. By providing easy access to the results of nearly four decades of research supported by the Office of Fossil Energy's Oil and Natural Gas Program, the knowledge management database could ultimately help boost recovery of the nation's oil and gas resources. [Access the NODD](#)

NETL: Oil and Natural ...

OIL & GAS JOURNAL

SEARCH KMD

NEWS

EVENTS CALENDAR

PUBLICATIONS

KEY LINKS

- Detailed DOE Project Info
- Ultra-Deepwater and Unconventional Resources
- Methane Hydrates
- Produced Water Mgt
- Environmental Solutions
- Deep-Tank
- Microhole Drilling
- Stripper Wells
- Energy Infrastructure
- Arctic Energy Office
- Balance Sheet
- Newsletters
- Detailed DOE Project Info
- Project Reports
- CCS
- Software Databases

Trusted Sites

RPSEA Resource

March/April 2009 Volume 3, Number 5

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- Join RPSEA at the Clean Technology Conference & Expo 2009
- RPSEA Supports Energy Ahead at the 2009 Gas Processing Business Plan Competition
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- Technology Transfer Program Reopens Spotlight
- 2009 International Business and Small Producers Project Selections Announced
- Small Producers Project Spotlight
- 2009 International Business and Small Producers Project Spotlight
- Ultra-Deepwater Project Spotlight
- Columns of Interest

President's Perspective

While we have been going on at RPSEA, I'd like to highlight just a few events. First is the selection of our 2009 International Business and Small Producers projects. The quantity and quality of the proposals made for a grant challenge for our Program Advancing Cooperation (PAC) and Research Advancing Energy (RAE) selection committees. These 13 highly selective projects, chosen from a total of 52 proposals, exemplify the collective efforts of everyone involved in this innovative public/private partnership and, with their results at our 2009 state-of-the-art program project review complete and final selection process well underway, we have more selections to announce soon.

Second is the date of activities we have coming up including OTC 2009 and Clean Tech 2009. Our "Virtual Organization" status at OTC is a testament to the support we've received from the oil and gas industry and the support we've received from our members. We're looking forward to the opportunity to have our members and industry visitors from our state-of-the-art facility. In this column, one of the opportunities I've been able to participate in as an advisory board member is a grant challenge for our 2009 International Business and Small Producers Project Selections. This grant challenge, which started in the fall of 2008, will provide federal policymakers with information on natural gas similar to the previous widely acclaimed NETL studies on nuclear power and coal.

One of the enlightening events I've attended recently was Hart's Developing International Gas (DIG) Conference in Fort Worth, where I was able to give a presentation to about 30 attendees on the state of the RPSEA research and development program. The requests and results of the development efforts presented by multiple operators in gas fields across the country is truly extraordinary and will require our continued collective process improvement to drive down cost, increase efficiency and enhance integrity.

Finally, we just completed our first full-scale review of the progress of our 2007 International Business projects. Each project had a unique set of challenges and progress reports. The overall results were impressive, and the dialogue was good and frank to ensure these projects stay on track and deliver the maximum benefits. Our regular Cooperative (CO) selection process is a similar role, and I encourage you to attend on topics of interest to you, in conjunction with all these continuous project management activities. RPSEA recently met with our partners at NETL for the first full-scale analysis review of our 2007 portfolio to ensure our public funding is producing results.

Despite the continuing challenges the industry faces, we are pushing ahead with our strong support in advancing technology to maximize the value of our abundant domestic resources.

Mike King
President

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Lower Tertiary focal point of RPSEA R&D Initiatives

By [Author Name]

In the Gulf of Mexico, the oil and gas fields are becoming increasingly difficult to produce. The Lower Tertiary (LT) fields are the focus of a new research and development program. The program is focused on the development of new technologies to improve the recovery of oil and gas from these fields. The program is a joint effort between the U.S. Department of Energy and the oil and gas industry. The program is a key part of the U.S. Department of Energy's research and development program for the oil and gas industry. The program is a key part of the U.S. Department of Energy's research and development program for the oil and gas industry.

Benefits

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Goals to Develop

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E&P

SUBSEA OPERA

Energy Solutions



Research Results

KMD: What is it?

FE's First
"One Stop Shopping" for all
Current and Historical DOE
Oil & Gas R&D

More than 30,000 records
and reports of R&D in
upstream oil and gas

The screenshot shows the NETL website header with the logo and the text "the ENERGY lab" and "Where energy challenges converge and energy solutions emerge". A navigation menu on the left lists categories such as "ABOUT NETL", "KEY ISSUES & MANDATES", "ONSITE RESEARCH", "TECHNOLOGIES", "ENERGY ANALYSIS", "NETL-RUA", "TECHNOLOGY TRANSFER", "SOLICITATIONS & BUSINESS", "EDUCATION", "AWARDS & RECOGNITION", "NEWSROOM", and "CONTACT NETL". The main content area is titled "Knowledge Management Database (KMD) Portal" and contains several sections: "KMD Portal" (with a sub-header), a paragraph describing the KMD's purpose, a circular "Knowledge Management Database" logo, a "Section 999 Project Information" section, an "Oil & Natural Gas Document Repository" section, a "CD/DVD Library" section, and "SCNGO Project Summaries (1990 - present)". A "Subscribe to Oil and Natural Gas News Releases" link is also present.

Research Results

How Do I Use the KMD?

1. Accessing SPE's One Petro Website Portal

(www.onepetro.org)

- It is now possible to search all DOE oil and gas published papers via SPE's archival library

2. Or, just enter at the NETL Portal

(www.netl.doe.gov/kmd)

- This allows access to papers in addition to all other publications, including CD's and DVD's

Research Results

EDX is NETL's online system for accessing reliable information and data relevant to research within NETL portfolios.

The EDX can be accessed at :

<https://edx.netl.doe.gov/>