US has almost 100-year supply of natural gas

06-17-09 The amount of natural gas available for production in the United States has soared 58% in the past four years, driven by a drilling boom and the discovery of huge new gas fields in Texas, Louisiana and Pennsylvania, a new study says.

The report, to be released by the non-profit Potential Gas Committee, concludes the US has more than 2,000 tcf of natural gas still in the ground, or nearly a century's worth of production at current rates. That's a 35.4 % jump over the committee's last estimate, in 2007, of 1,532 tcf, the biggest increase in the committee's 44-year history.

The report comes as rising oil prices have again made energy a hot topic in Washington. A Senate panel voted 15-8 in favour of an energy bill that would, among other things, open up new areas to offshore drilling. The House of Representatives may vote on a new climate-change bill that would cap emissions of the gasses that contribute to climate change.

The Senate must also approve the measure. The natural-gas industry has promoted gas as a more environmentally friendly, domestically produced alternative to coal and oil. Industry supporters said the new report could bolster their case by showing that the US can rely more heavily on gas without running out. “Natural gas is right now. The resource is here. The ability to develop it is here," said Chris McGill, managing director of policy analysis for the American Gas Association, an industry group.

The new study represents an authoritative confirmation of other recent estimates, including an industry-backed report last summer that concluded the US could have as much as 2,247 tcf of gas. Unlike that report, which was based on company estimates, the Potential Gas Committee's study was prepared by industry geologists who analyzed individual gas fields using seismic imagery and production data provided by gas producers.

The surge in gas resources is the result of a five-year-long drilling boom spurred by high natural-gas prices, easy credit and new technologies that allowed companies to produce gas from a dense kind of rock known as shale. The first big shale formation to be discovered, the Barnett Shale near Fort Worth, Texas, is now the country's top-producing gas field, and companies have made other huge discoveries in Arkansas, Louisiana and Pennsylvania. Together, the shale fields account for roughly a third of US gas resources, according to the Potential Gas Committee.

The sudden increase in supplies, combined with a drop in demand due to the recession, has led to a gas glut, pushing prices to about $ 4 per mm Btu down from more than $ 13 per mm Btu last July.

Source: http://www.rigzone.com / Dow Jones & Company, Inc.

Gas hydrates in Gulf of Mexico could be new energy source

05-29-09 Gas hydrates - a substance that scientists say could be a new source of energy -- exist in the US Gulf of Mexico in quantities big enough that they could possibly be used to produce gas using existing technology, the US Geological Survey said.

"Recent drilling...confirm[s] that the Gulf of Mexico is the first offshore area in the United States with enough information to identify gas hydrate energy resource targets with potential for gas production," the USGS said.

The US Department of Energy's National Energy Technology Laboratory, in a separate statement, called some of the areas explored "the most promising marine gas hydrate accumulations in the world."

The 21-day drilling project showed that gas hydrates, which are made up of natural gas and water, were found in saturations from 50 % to more than 90 % in "high-quality sands," the NETL said.

US oil major Chevron managed the drilling project, along with the DOE, USGS, the US Minerals Management Service and group of other US and international energy industry companies.

“We have also found gas hydrate in a range of settings, including sand reservoirs, thick sequences of fracture-filling gas hydrates in shales, and potential partially saturated gas hydrates in younger systems," USGS scientist Timothy Collett said. "These sites should provide a wealth of opportunities for further study and data collection that should provide significant advances in understanding the nature and development of gas hydrate systems."

Source: www.platts.com

Oil problems persist 20 years after Exxon Valdez spill in Alaska

03-20-09 Just minutes after midnight on March 24, 1989, the 986-foot Exxon Valdez oil tanker struck Bligh Reef in the Gulf of Alaska, sending some 11 mm gallons of crude oil toward the pristine shores of Prince William Sound.

Twenty years later, oil still remains on some of the sound's beaches, which has taught the scientific community a lot about the long-term effects of oil spills, says the dean of Duke University's Nicholas School of the Environment.

"People may assume that because the spill happened 20 years ago, the effects are long gone. But they persist -- and may continue for years to come," said William L. Chameides, who is also the author of the environmental issues blog, The Green Grok, www.thegreengrok.com.
During the first few years of cleanup, studies showed the oil was dissipating at a pretty good clip -- about 58% a year, Chameides said. At that rate, little oil was expected to remain past 1992. However, follow-up surveys in 2001 and 2005 revealed much lower rates of dissipation - 4% a year or less. At that rate, Chameides said, the oil will remain on Prince William Sound's beaches for decades, perhaps a century.

"The oil has proven to be remarkably persistent. Some has been pounded by the surf into a recalcitrant, emulsified, mousse-like substance that resists chemical degradation," Chameides said. "Other oil has seeped into subsurface sediments isolated from the elements that would otherwise promote degradation. The long-term impact of the spill might continue to be deliberated, but one thing is clear: the oil is still there. Dip a pail into the sand and you may very likely pull up a black oozy oleo of sand and oil."

In some places, oil on the sound's shore "is nearly as toxic as it was the first few weeks after the spill," according to the Exxon Valdez Oil Spill Trustee Council, set up as part of the court settlement between the United States and Alaska governments and Exxon to oversee the sound's restoration. Some species, including sea otters and Harlequin ducks, have yet to fully recover.

A silver lining from the Exxon Valdez spill, if there can be one, has been the intense scientific research that followed it, Chameides said.

As a result of this research, he said, "we have a much keener understanding of oil spills. Before the Exxon Valdez, oils spills were widely thought to present an acute, short-term environmental threat that would rapidly disperse and subside. Now we know it's not that simple. The oil lingers, just beneath the surface, threatening wildlife and transforming the lives of area residents."

Source: http://www.dukenews.duke.edu

US oil and gas firms owning federal drilling leases do not have to produce

by Tom Doggett

03-18-09 Oil and gas companies that have leased millions of offshore federal acres are not required to produce the energy supplies those tracts may hold, the Interior Department's Inspector General (IG) told Congress. The IG's finding could help support the argument made by environmental groups and many US lawmakers that the government should not open new offshore areas to drilling when companies are not using some 68 mm acres they have already leased.

"With respect to nonproducing leases, we found that oil and gas companies that own federal drilling leases have little obligation to actually produce," IG Mary Kendall told a House subcommittee conducting a hearing on the issue. "The Department has no formal policy to compel companies to bring these leases into production."

Kendall said existing regulations and policies promote energy exploration, but production activities are not required to occur during the life of the leases. To spur production, the Obama administration has proposed levying a $4 per acre annual fee on leases in the Gulf of Mexico that are designated as nonproducing. The fee is expected to raise $ 1.2 bn from 2010 to 2019.

However, Kendall warned that requiring companies to actually produce oil and gas supplies could backfire if companies become less interested in federal leases.

Oil companies point out that not every acre they lease will result in actual production as they focus on exploring the most likely areas to result in oil and gas discoveries.

“Seismic data for oil and gas inform industry as to the size of a potential reservoir," Kendall said. "Once exploration starts and the reservoir is better defined, the leases on the outer edges of the reservoir may not be developed and therefore remain nonproducing."

Kendall also criticized the department for its poor tracking of the status of leases. "From the beginning of our planning efforts for the evaluation, we were confronted with lease data availability and reliability issues that hinderedour progress," she said.

For example, the IG found almost 7,200 nonproducing leases with no expiration date, when only leases that produce oil and gas should have no expiration dates. Likewise, there were 528 producing leases that had expiration dates.

Other data errors included leases that had a life of 8,000 years, with an expiration date of January 1, 9999, the IG said.

Source: http://planetark.org

208 Central Gulf of Mexico lease sale sees diminished bids

03-18-09 Drastically lower than what the 206 Central Gulf of Mexico (GOM) Lease Sale netted just one year prior, the lease sale was stymied by markedly lower oil prices and a new US administration that is striving to increase taxes for petroleum companies operating in the country. While revenues collected from the lease sale will be less than stellar, US Interior Secretary Ken Salazar stressed the country's need for "energy independence."

"Today's lease sale will help us make a wise addition to our nation's energy supply," Salazar said. "The responsible energy development resulting from today's sale will be a part of our nation's comprehensive energy plan, which will include a renewed emphasis on conservation and an aggressive effort to develop our renewable energy resources, so we can move our nation toward energy independence."

In February 2009, the new administration submitted a budget proposal that rescinded long-standing tax breaks for oil and gas companies drilling in the country. Covering intangible drilling costs, the tax breaks are expected to net the US Treasury an additional $31.5 billion.
Critics of the proposal claim that smaller independent oil and gas companies are those that will be hurt by the change.

Adding it up
The Central GOM Oil and Gas Lease Sale 208 in New Orleans netted $ 703,048,523 in high bids, according to a statement from the US Department of the Interior. Conducted by the MMS, the sale attracted 70 companies, which submitted 476 bids on 348 tracts offshore Louisiana, Mississippi and Alabama. The total of all bids received was $933,649,315.

In contrast, the Central GOM Lease Sale 206 held in March 2008 saw high bids of $3,677,688,245 -- the highest amount in US history. Last year, the lease sale received 1,057 bids from 85 companies on 615 blocks in the same area.

The lease sale, in turn, netted only 45% of the bids that were received last year and $2.9 billion less in high bids.

While this year super-major Shell out bid the lot with nearly $154 mm in high bids; last year, Hess stole the show with the highest dollar amount of high bids in the 206 lease sale with almost $438 mm.

Source: http://www.rigzone.com

Forida stores zero natural gas, yet critically depends on it

by David Batt

01-29-09 Russia's recent decision to halt shipments of natural gas to Europe resulted in millions of people losing heat, light, and electricity. What they gained in return, though, was a better appreciation of how tenuous their energy security is -- and a renewed commitment to action.

Floridians don't have to worry about Russian temper tantrums denying residents of our state the energy we need to live. But other, significant concerns remain about the security and continuing reliability of our state's energy supplies.

By now, most Floridians know that our state is increasingly dependent on natural gas for its electricity -- and the city of Tallahassee almost exclusively so. In the first nine months of 2001, Florida used 270 billion cubic feet of natural gas for electricity compared to 625 billion cf the first nine months of 2008. That's more than double in just seven years.

With more gas-fuelled electricity plants coming online and the planned conversion of oil-burning plants to gas, this number is projected to leap another 87% in the next seven years.

When it comes to natural gas, Florida has gone "all in." And in many ways, that's a good thing. Natural gas, after all, is the cleanest fossil fuel available and can easily displace the need to burn more polluting and more expensive fuel oil. But as competitive on price as gas is nationally, the average cost Floridians paid for it in 2007 was $9.24 a unit -- the highest in the nation, and more than 25% higher than the national average ($7.31).

The fact that Florida imports nearly 100% of its natural gas isn't helping matters, either. Add to that the constant threat of hurricanes shutting down production and damaging transportation pipelines, and not only are Floridians paying a lot for their natural gas, we've also become increasingly vulnerable to the risk of running out of fuel. That's especially true on summer days, when the pipelines are full and cannot meet the peak demand.

Other states are well aware of this risk, and have taken stepsto remedy it. California, which uses slightly more natural gas than Florida, stores close to 500bn cf of natural gas each year within the state. Texas stores almost 700bn cf, Pennsylvania more than 750, Illinois over 984.

In total, 30 states store natural gas within their borders. Florida stores zero and yet our state is far more dependent on natural gas for electricity and far more vulnerable to pipeline shutdowns than anyone else.

When our state's demand for natural gas was half what it is today, the lack of storage capacity in Florida wasn't much of a concern. But those days are over, and our public policy needs to catch up with the reality of our current energy requirements.

Storage complements the existing pipeline system and allows us to more efficiently utilize the unused capacity we already pay for by bringing in more gas during the low-demand seasons, storing it and sending it out during peak times -- just like states and countries do around the world. Adding pipeline capacity that wouldbe under-utilized for years while waiting for demand to grow is far more expensive than utilizing storage facilities to meet incremental peak-day demand. In-state storage is a more efficient answer.

Florida's natural gas users paid approximately $ 700 mm for new pipeline capacity in 2008, and that number is projected to grow to over $ 1.2 bn by 2012. But approximately 43 %, or more than $ 500 mm, of this pipeline capacity will go unused. In-state storage allows utilities to use capacity that is wasted today. Since utility ratepayers pay for 100 % of pipeline costs regardless of how much gas is transported, we must better utilize our investment in these existing pipelines.

Storage allows our utilities to purchase gas when prices are low, store it and use it when prices are high -- something that can't be done with pipeline capacity. And if we store more gas, we might not have to pay the highest natural gas prices in the nation.

Having natural gas on-hand and at the ready within our state is essential to ensuring both the security and efficiency of our energy network.

It's critical that we take steps now to make certain our state's public energy policy reflects this new reality.

David Batt is Director of Consumer Energy Alliance of Florida, former CEO of the Florida Phosphate Council, a former member of the Governor's Council for a Sustainable Florida and past chairman of the Economic club of Florida. E-mail him at dlbatt@comcast.net.

Source: http://www.tallahassee.com

US refineries to continue running at reduced utilization rates for years

09-05-08 US refineries will continue to run at current reduced utilization rates in the next few years due to slowing demand for fuel, a ConocoPhillips executive said. “Utilization rates have come off from their highs of the last few years... we expect this trend to continue for the next few years," James L. Gallogly, Conoco-Phillips executive vice president of refining, marketing, and transportation, said in a presentation to market analysts.

With US demand for gasoline waning under the weight of high prices and a slowing economy, gasoline supply in the market will continue to be plentiful, Gallogly said. Refineries had been operating at an average above 90% of capacity, but this year refineries have been operating at much lower capacities nearer to an average of 85%, according to Gallogly.

Historically, utilization rates peak during the US summer driving season to meet demand, but this year, refineries failed to ramp up production due to poor profit margins and weak demand.

Utilization rates may sink even lower later this year as US refiners bring more units down for maintenance during the fall maintenance season to minimize losses from weak refinery margins, according to market analysts.

Source: http://www.reuters.com

US oil companies are finding more oil in old fields

by Greg Flakus

08-22-08 The price of oil has dropped around 20 % in recent weeks, but remains more than double what it was just a couple of years ago. The high price has given oil companies the incentive to revisit old fields long ago abandoned as unprofitable. New technology has made it possible to extract more oil from these old fields.

In a remote cow pasture near the small town of Dew, Texas, workers are operating around the clock to extract oil from a field that was considered depleted a few decades ago. Now, with high oil prices as an incentive, companies can use new techniques and equipment to extract still more petroleum from deposits thousands of meters below the surface.

In the School of Geo-Sciences at the University of Texas at Austin, former director of the US Geological Survey, Charles Groat, sees great opportunity for domestic oil companies in these old fields. "The old fields where people were comfortable with 20 or 30 % recovery, now they go back in with new technologies and get an extra 20 or 30 % out and expand the dimensions of the field," he said. "The drive for successful businesses will lead people into these fields as long as they can make money doing it and that has not shown any sign of abating."

One of the men putting together deals to re-enter old fields is Jim Baldauf of Austin-based Apex Resources. "Texas has a rich tradition of looking for Texas tea, black gold," he said. Baldauf says many parts of the lone star state were covered with oil derricks 80 years ago when it was relatively easy to drill down, tap a reservoir of oil trapped in subterranean rock and pump it out. But he says the easy oil is long gone and getting more out is difficult and expensive.

One problem, Baldauf says, is that oil tends to be in vertical fractures in the rock that are difficult to hit with a drill. “f you are trying to drill a vertical well bore, a vertical well bore trying to hit a vertical fracture, the odds are not in your favour," he said. "Odds are you are going to hit to one side or the other."

But Baldauf says new horizontal drilling techniques make these deposits accessible. "Instead of going down and having to hit one of these vertical fractures, what we can do is go down vertically and then start to build a curve and then kick out and go sideways and intersect four, five or six of these fractures," said Baldauf.

The United States produces more than 8 mm barrels of oil a day from its domestic wells, but the country uses more than 20 million barrels per day, importing oil from other countries to breach the gap. In spite of decades-long efforts to develop alternative energies, Charles Groat says people are likely to continue needing oil and natural gas for many decades to come. "The demand growth for traditional fuels, transportation fuels in particular, is substantial in the United States and globally as well," he said. "So the demand for traditional hydrocarbons is going to grow, not shrink. Even if we move more and more into alternatives, we still are going to need tofind more oil and gas, transport it and market it despite all the good things that might happen with alternatives and conservation."

But even a Texas oil man like Jim Baldauf recognizes that the country cannot continue to consume oil the way it does now for much longer. That's why he drives a small hybrid car. "Traditionally, a Texas oil man drives a Cadillac, right? But I think you will find that more and more of us are giving up the Cadillac to drive a more efficient vehicle," he said.

Baldauf is also co-founder of the Association for the Study of Peak Oil, USA. The theory behind peak oil is that world oil production is close to peaking, as domestic US production did in 1970.

Sceptics believe there is still much oil left to be discovered and developed around the world, but even they agree that getting that oil is going to be much more expensive. If the peak theory proves true, the intersection between rising worldwide demand and a decline in world production would likely drive prices much higher, giving drillers even more incentive to go after every last drop of oil they can find in old fields as well as new ones.

Source: http://www.voanews.com

The science of oil rigs: Surviving Gulf storms

by Kris Axtman

07-31-05 Just a day before hurricane Emily pounded into the Mexican coastline, BP's recovery team finished righting Thunder Horse, the world's newest and biggest oil and gas platform, located 150 miles southeast of New Orleans in the Gulf of Mexico. It had partially collapsed during hurricane Dennis -- just four months after US Interior Secretary Gale Norton declared in a dedication ceremony that it was an "anchor of energy stability," designed to "withstand the worst that winds and waves will throw against it."

The tipping of Thunder Horse, weighing more than 50,000 tons and capable of drilling in waters up to 6,000 feet deep, points up just how vulnerable the industry is to powerful storms -- even with the most advanced technology. But so far this season, offshore oil production has continued relatively unaffected. That's in part because the storms have not been as damaging as in past years. But it also has much to do with lessons learned from last year's hurricane Ivan, whichtore through the Gulf damaging more than 30 drilling platforms and shutting down 83 % of oil production at its peak.

Big-risk industry

That storm is unlikely to be repeated, experts say, but it usefully revealed the strengths and weaknesses of the growing US offshore industry, currently accounting for a quarter of US energy production. And since that September storm, perhaps the biggest to wreak havoc on infrastructure in the Gulf, oil companies have been working overtime to make sure their structures can survive even the most severe storm. It's an especially important issue since the Gulf is in a cycle of higher storm activity that began a decade ago and could continue for years, according to the National Oceanic and Atmospheric Administration. The most recent

hurricane to threaten the Gulf oil industry was Emily. Before landfall, more than 15,000 offshore workers on 112 US oil rigs and platforms were evacuated.

Currently, the number of US structures in the Gulf is roughly 4,000, with 819 manned platforms. And those numbers are only expected to grow, says Caryl Fagot, a spokeswoman for the federal Minerals Management Service (MMS), which regulates the oil industry in federal waters.
"History shows us progressing further and further offshore as technology improves," she says. MMS figures show that 94 exploratory wells were completed in the deep-water Gulf last year, up from 74 in 2003.

There are many reasons behind this boom in offshore oil production, says John Felmy, chief economist at the American Petroleum Institute in Washington.
"We've drilled a lot of holes in the rest of the continental US. That, coupled with real limitations to onshore areas and the development of incredible deep-water technology is making the Gulf a tremendous opportunity right now," he says. His organization will be co-sponsoring the Offshore Hurricane Readiness and Recovery Conference in Houston. The conference will bring together industry, academic, and regulatory experts to discuss lessons learned from hurricane Ivan.

What hurricane Ivan revealed
In May, the MMS commissioned six studies on everything from Ivan's impact on platforms and rigs to its effect on underwater pipelines. Rick Mercier has been overseeing the Offshore Technology Research Centre''s work at Texas A&M University in College Station. They have been commissioned to study rig fastening on offshore platforms, and their initial findings show a need for better moorings.
During Ivan, for instance, drilling units were hauled onto platforms and did quite a bit of damage during the storm because they were not properly secured. That particular problem has since been addressed. In addition, all rigs and platforms must now be equipped with a GPS device since several rigs went missing for a day or two after Ivan.

But the most lasting damage was done to hundreds of pipelines brought down by mudslides during hurricane Ivan. While not much can be done to prevent mudslides, more can be done to speed up repairs, research is showing. Still, Dr Mercier was pleased with how well platforms performed during hurricane Ivan. "The deep-water technology was designed to withstand 100-year conditions and, at times, we saw 1,000-year conditions out there," he said. "That's a pretty strong validation of our technology."

Floating mammoths
Indeed, the industry has been operating in the Gulf since 1947 and has plenty of experience handling such storms -- though experts agree that technology has improved dramatically in recent years. Take Thunder Horse, for instance, the $ 5 bn semi-submersible platform 150 miles southeast of New Orleans. It is about 50 % larger than the next largest such rig in the world and includes more than 100 technical firsts that will enable it to process 250,000 barrels of oil and 200,000 mm cf of natural gas per day -- enough to supply 6.5 mm American homes with energy.

It is one of only 30 floating platforms in the world and stays upright through a complex system of ballast tanks that pump water back and forth. It is held in position by 16 mooring lines anchored to the sea floor. And while it was tipping 20 % after hurricane Dennis, MMS findings have shown that rigs built before 1978 with lower decks and weaker joints are more susceptible to powerful storms.

During hurricane Andrew in 1992, for instance, 22 mostly older oil structures were felled as opposed to the seven structures during hurricane Ivan.

But while much is being learned about how to keep structures sound in storms, some say it is simply part of the high-risk business.
"It's a hostile environment and hurricanes are just one of the things the industry has to live with," says Mark Baxter, director of the Maguire Energy Institute at Southern Methodist University in Dallas.

Source: The Christian Science Monitor

US has up to 50 % more natural gas than once thought

07-30-08 US natural gas reserves are far more plentiful than previously estimated, says an industry study -- a discovery that heralds a potential remedy to the energy crisis. The report says the US has up to 50% more natural gas reserves than earlier projections because of higher-than-expected yields from 22 shale formations in 20 states. The industry says the findings should prod policymakers to provide incentives to wean the nation from $4 per gallon gasoline and move to compressed natural gas as a standard fuel in many cars and trucks.

"Everyone knows natural gas is clean and made in America," says Aubrey McLendon, chairman and CEO of Chesapeake Energy, the largest natural gas producer. "The only question was is there enough to go around to run cars and trucks. This proves that there's plenty of natural gas."

The US has enough natural gas resources to last up to 118 years, or 2,247 trillion cf, says the study by Navigant Consulting for the American Clean Skies Foundation. That group is largely funded by natural gas companies. The Potential Gas Committee, an independent research group, estimated in 2006 the US has 1,530 trillion cf of gas, an 82-year supply.

The increase stems from greater production in the Marcellus Shale in the Appalachians and the Haynesville Shale in Louisiana and Texas, says Kenneth Medlock, an economics professor at Rice University who worked on the Navigant study. In recent years new drilling techniques have allowed companies to extract gas deeply embedded in formations of shale rock. The new study is based on estimates by Navigant, state records and a survey of more than 60 large natural-gas producers.

John Curtis, the committee's executive director, would not comment on the new estimates. But he questioned the new report's reliance on his group's study, which did not estimate shale reserves, to reach its higher projections.

Medlock says actual resources are likely less than the 118-year supply estimated by industry but much more than the current 82-year projection.

Oil tycoon T. Boone Pickens recently unveiled a plan to replace 20% of natural gas-fired power plants with wind energy and divert that gas to cars. But McClendon says gas is so abundant there's no need to channel it from power plants. Yet to jump-start the industry, he says, Washington must provide incentives to automakers, service stations and consumers.

Source: http://www.usatoday.com

Offshore drilling is not the answer for America

by Margee Ensign, University of the Pacific's School of International Studies

06-22-08 Stocktonians are struggling with increasing prices for food and fuel. Sales in many stores are down except, it seems, for bicycles. On a visit to a bike store in Lincoln Centre earlier, I was amazed at the number of adults buying bicycles. "I am going to ride this one to work," said a middle-aged woman purchasing a sturdy bike with a basket. Several men in the store gave the same answer.

The reasons are obvious: Stockton was ranked by the Lundberg survey this month as having the highest gas prices in the nation. That has combined with increasing prices for food and other commodities to leave many residents few options. In response to the high price of gasoline, presidential candidate John McCain and President Bush earlier called for lifting the ban on offshore oil drilling. "Oil and gasoline are the most vital of all commodities in a modern economy... America's dependence on foreign oil is a matter of large and far-reaching consequences, none of them good. ... The jobs, family budgets and futures of the American people should not depend on the whims of foreign powers," McCain said.

He is right in one respect: By enriching the Saudi and Iranian treasuries, we are supporting authoritarian governments that support intolerant versions of Islam. That is not in our national security interests. "Soaring oil prices are poisoning the international system by strengthening anti-democratic regimes around the globe," said Thomas Friedman, a New York Times columnist and author.

Energy dependence is a major national security issue. James Woolsey, a former CIA director, is more direct: By putting money in the hands of oppressive governments, "We are funding the rope for the hanging of ourselves."

Where McCain and Bush are wrong is in thinking that offshore drilling is a solution. According to the federal Energy Information Administration, "lifting the offshore drilling moratorium would have a minor impact onproduction and prices: The projections in the (Outer Continental Shelf) indicate that access to the Pacific, Atlantic, and eastern Gulf regions would not have a significant impact on domestic crude oil and natural gas production or prices before 2030."

Moreover this same agency has concluded, "At America's current consumption rates (20.8 mm barrels of oil per day), the oil resources made available from lifting the moratorium would last this country less than 21/2 years."

What are our alternatives?
Conservation and rapid expansion of alternative, renewable energy are the only solutions to our energy and climate change crises. Instead of supporting short-term fixes that could seriously damage our coasts and the tourism industry, the presidential candidates should be laying out clear, specific plans for how they will respond to these challenges. And business leaders should focus on how America can create the technologies needed around the world that won't destroy our environment.

The challenge, as Friedman says, is how green becomes a part of the red, white and blue.

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Source: www.recordnet.com

America’s coastlines attract energy producers

04-07-05 Oil and gas companies, closer than ever to drilling in an Alaskan wildlife refuge, want to explore another frontier: America's coastlines.

The Atlantic and Pacific coasts and the eastern Gulf of Mexico are protected by a federal ban on new oil and natural gas extraction. But with rising worry about the country's dependence on fuel imports and soaring prices, energy producers feel they now have a unique opportunity -- and a more effective strategy -- to relax or eliminate the restrictions.

"Part of the solution has to be opening more access," whether it's off the coast of California or the Carolinas, said Duane Radtke, head of the natural gas production unit at Dominion Resources of Richmond, Virginia.

Environmentalists say the industry has been emboldened to seek offshore drilling because of the Senate vote to open the Arctic National Wildlife Refuge. They also worry that the public may mistakenly take the 24-year-old offshore ban for granted, if they even know it exists.

Proponents of expanding offshore drilling rights do not expect big changes overnight, but they say the idea has recently gained momentum:
-- The Bush administration indicated earlier that it intends to give the industry access, starting in 2007, to a protected area off the Florida coast that is twice the size of the Arctic refuge and rich in natural gas.

-- Sen. Lamar Alexander (R-Tenn.) proposed legislation that would give governors the power to open some or all of their states' offshore lands restricted by federal moratoria. The proposal comes as Congress seeks to pass a broad energy bill.

-- Virginia's general assembly passed a bill earlier urging the state's representatives in Congress to push for an exemption from the federal offshore-drilling ban.

Trade groups that represent energy-intensive industries are throwing significant weight behind the oil and gas producers' campaign. They are lobbying legislators in individual states, where they believe the future

decision-making power on offshore drilling belongs.

"The approach to individual states signals a new and more serious effort to try and open up some of these areas," said Lisa Speer, a New York-based senior policy analyst at the Natural Resources Defence Council. The group opposes any attempt to repeal or weaken the ban on offshore drilling out of concern for the impact on marine life. "We have our work cut out for us to address these efforts," Speer said. But she is confident that coastal communities and the tourism and fishing industries will put up a formidable fight once the industry's plan becomes more widely known.

Roughly 90 % of America's coastal acreage is federally protected. Congress enacted the first moratorium on new offshore leases in 1981, expanding its reach on several occasions and renewing it every year since. There is a separate ban put in place by President George H.W. Bush in 1990 and extended by President Bill Clinton in 1998; it expires in 2012.

An estimated 16 bn barrels of oil and 78 tcf of natural gas lie in offshore areas currently off-limits, according to government and industry statistics. That's enough oil to meet total US demand for more than two years and enough natural gas to supply the country for three and a half years.

Charles Davidson, chairman and CEO of Noble Energy, a Houston-based producer of oil and natural gas, said the industry is struggling to keep domestic production from declining any faster and that expanded offshore access will help, but not fix, the problem.

"Clearly, there are areas of the country where they don't want to see oil and gas development offshore," Davidson said. "It's up to policy makers to look at what's the appropriate balance." In the Bush administration, that balance appears to be shifting in favour of more offshore drilling.

Interior Secretary Gale Norton sent a letter on March 16 to Sen. Mel Martinez (R-Fla.) signalling her agency's intention to sell oil and gas leases in 3 mm acres off the Florida coast that are off-limits through 2006.

The acreage is notcovered by the federal moratorium, which Norton said the administration would continue to support, but it was promised special protection by the Bush administration in 2001 after protests from environmentalists and the president's brother, Gov. Jeb Bush. Because of term limits, Gov. Bush will be out of office by the time the new lease sales would begin in 2007.

Mark Ferrulo, director of Florida's Public Interest Research Group, fears the expansion is just a first step to end the moratorium in the eastern Gulf of Mexico, an area the industry is keen on in because much of the necessary infrastructure is already in place nearby.
"Once they get their toe in the door, they won't be happy until they bust the door down," said Ferrulo.

In Virginia, legislators passed a bill seeking help from its representatives in Congress to exempt the state from the federal moratorium. "It's a jobs issue," said state Sen. Frank Wagner (R-Virginia Beach), who authored the bill out of concern for the impact of high natural gas prices on manufacturers and consumers. Wagner said he also does not like the fact that "ever since 9/11, a lot of our foreign policy has been driven by the need for foreign energy." Gov. Mark Warner, a Democrat, vetoed the bill last week, but on technical, not ideological, grounds, and said he would "keep an open mind" on the issue.

Aside from the oil and gas producers themselves, the most forceful advocates for removing restrictions on offshore drilling are a handful of trade groups that represent industries that consume large quantities of energy, particularly natural gas. The groups are promoting draft legislation that would end the federal ban. In exchange, states would be given the authority to reject exploration within 100 miles of their coasts and those that allowed offshore drilling would receive a greater percentage of the revenues from federal lease sales.

"It would be a fair and open debate in each state on the merits of opening their coasts for exploration," said Tom Moskitis, managing director of external affairs at the American Gas Association. Radtke, the Dominion Resources executive, agreed. But he sympathized with opponents. "If I owned land in Florida, I might have a different opinion myself," he said.

Source: Associated Press

Water quality officials enact new rules for small oil and gas drilling sites

13-04-05 State water quality officials enacted new regulations to regulate polluted storm- water runoff from small oil and gas drilling sites. The move was immediately criticized by industry officials as unnecessary and expensive. The Colorado Water Quality Control Commission will require oil and gas operations that disturb between 1 and 5 acres to apply for a storm-water discharge permit by June 30. The permits set limits on the amount of runoff that leaves a site. That June 30 deadline is about a year earlier than what the US Environmental Protection Agency intends to impose on the nation's oil and gas operators, which join a growing list of industries required to have storm-water permits.

Citing US Department of Energy studies, oil and gas officials estimate the new federal rules could impact the national economy by between $ 2.7 bn and $ 7.8 bn per year. Ken Wonstolen, attorney with the Colorado Oil & Gas Association, said the group had hoped the state would adopt regulations that more closely mirror the new federal rules. "You'll see in our documents that the state is required to have sound science to support its position," he said. "The Colorado Oil & Gas Association believes that standard was not met."

Water commission members, however, felt the industry didn't prove its activities were any different from those that already require storm-water permits.
"I think, in the end, it was very difficult for us to see why they needed an exemption," said Chris Wiant, the commission's chairman. "The bottom line is that if these aren't done right, there could be significant environmental harm. And that's not something we want to play catch-up on."

As storm water flows over a construction site, it picks up pollutants like sediment, debris and chemicals. That soup of contaminants often ends up in nearby waterways, killing fish, ruining wildlife habitat and often causing bank erosion. "All the scientific evidence and technical data points to increased runoff from construction sites," said KenNeubecker, Western Slope organizer for Trout Unlimited. "To say there's no such thing at oil and gas sites is just laughable. The soil doesn't care who owns the bulldozers."

Signs of such stream degradation are apparent on Little Henderson Creek in Gunnison County, where there's been a flurry of new oil and gas development, according to documents submitted to the state on behalf of the county's commissioners. Gunnison County Attorney David Baumgarten said that for years, local officials have wanted some control over oil and gas activities that have an impact on water, wildlife and recreation.
"If resource development has an impact, those impacts ought to be mitigated," he said.

Source: The Denver Post

Drilling ban on US coastal acreage to expire in 2012

04-14-05 Roughly 90 % of America's coastal acreage is federally protected from offshore oil and gas drilling. Congress enacted the first moratorium on new offshore leases in 1981, expanding its reach on several occasions and renewing it every year since.

There is a separate ban put in place by President George H.W. Bush in 1990 and extended by President Bill Clinton in 1998; it expires in 2012.

An estimated 16 bn barrels of oil and 78 tcf of natural gas lie in offshore areas currently off-limits, according to government and industry statistics. That's enough oil to meet total US demand for more than two years and enough natural gas to supply the country for three and a half years.

Source: Lincoln Journal Star

Recoverable oil may add 43 billion barrels to US supply

04-22-05 A series of reports indicate there is a potential to meet the demand for an energy thirsty nation by recovering over 43 billion (bn) barrels of additional oil from currently "stranded" oil resources in six regions of the United States, according to an announcement by the Department of Energy's Office of Fossil Energy. Developing these resources would provide significant revenues to state treasuries, provide thousands of additional domestic jobs, and improve the US trade balance by reducing imports.

The studies address a series of basin-oriented, carbon dioxide enhanced oil recovery assessments prepared by Advanced Resources International for the Office of Fossil Energy's Office of Oil and Natural Gas. "State-of-the-art" practices successfully applied today in a few US basins were defined and their feasibility was assessed in the basins studied. These assessments were performed in response to Congressional budget language for DOE/FE directing basin-wide strategies be examined that identify ways to lower costs and accelerate commercial adoption of carbon dioxide enhanced oil recovery. "These findings are indicative of the progress being made to preserve our nation's energy future," said Mark Maddox, principal deputy assistant Secretary for Fossil Energy. "This is just another example of how advanced technology is helping to meet the goals of the President's National Energy Policy."

The reports reveal the potential for technically and economically recovering crude oil from mature domestic oil fields using available CO2-EOR technology. In addition, the reports address the performance of CO2-EOR projects conducted in these regions during the past 30 years and include both successful and unsuccessful efforts. The six regions have a technically recoverable potential of 43 bn barrels using the latest CO2-EOR technologies.

Using CO2-EOR techniques to deplete oil reservoirs is steadily becoming one of the most efficient methods for additional domestic crude oil production. The process was first attempted in 1972 in large scale at the SACROC unit of the Kelly-Snyder field located in Scurry County, Texas. Today, CO2-EOR is only used in a few regions of the United States -- primarily in West Texas and Southern Wyoming.

A summary of the resource potential associated with the application of state-of-the-art CO2-EOR practices in the six regions follows:
-- Onshore California contains 22 bn barrels of stranded oil (oil left in the ground following the use of traditional oil recovery practices) in 88 large oil reservoirs amenable to CO2-EOR. State-of-the-art technology may lead to recovery of an additional 5 bn barrels.
-- Onshore Gulf Coast contains 18 bn barrels of stranded oil in portions of the Texas and Louisiana Gulf Coast basins and the Mississippi Salt basin. There is an opportunity to recover an additional 6 bn barrels in the reservoirs assessed, and potentially up to 10 bn additional barrels when the results are extrapolated to all oil reservoirs in the Gulf Coast area.
-- Offshore Louisiana -- the use of CO2-EOR in offshore state and federal waters could extend the productive use of existing offshore oil platforms that might otherwise be prematurely abandoned. An additional 6 bn barrels may be recovered from 99 large offshore (shallow water) reservoirs using state-of-the-art technology.
-- Oklahoma contains 63 large oil reservoirs favourably-screened for CO2-EOR with the potential to provide 5 bn additional barrels of oil in the reservoirs assessed, with growth to 9 bn recoverable barrels when extrapolated to all reservoirs throughout the state.
-- Alaska contains 43 bn barrels of stranded oil resource with an additional 12 bn being recoverable through carbon dioxide enhanced oil recovery.
-- Illinois contains nearly 2 bn barrels of stranded oil in 46 reservoirs with nearly 1 bn additional barrels recoverable.

Source: US Department of Energy

New gas reserves could be tapped under proposed rules

by Richard Slawsky

04-26-05 A proposed Senate bill giving states the right to opt out of the federal moratorium on new offshore drilling could increase natural gas production in the Gulf of Mexico by 20 % or more. Opponents consider the bill part of a stealthy strategy of bribing cash-strapped states to overturn a 23-year ban on new offshore drilling along much of the country's coastline.

The bill, introduced by Sen. Lamar Alexander, R-Tenn., and Tim Johnson, D-S.D., will provide the US Department of the Interior with the authority to issue natural gas only leases. The measure is specifically meant to open Lease 181 to drilling in the Gulf, a 1.5-million acre rectangular tract south of the Florida Panhandle in the eastern Gulf. Alexander and Johnson are members of the Senate Energy Committee along with Sen. Mary Landrieu, D-New Orleans. "High natural gas prices are threatening our jobs, our farms and hurting Americans who are trying to heat and cool their homes," Alexander said. "Only an ambitious, comprehensive approach that both increases supply and controls demand can lower the price of natural gas and keep our growing economic recovery from becoming recent history."

The bill instructs the Department of the Interior to draw the state boundary between Florida and Alabama with regard to Lease 181. Drilling is banned off the coast of Florida but allowed off Alabama's coast. Portions of the lease not in Florida, which are more than 20 miles offshore, would be open to drilling for natural gas only. The Minerals Management Service, which regulates oil and gas drilling in federal waters, estimates area reserves at 1.25 tcf of natural gas. About 4.45 tcf of natural gas is produced annually in the Gulf.

"Both the exploration companies and the service companies will be very happy with any additional areas that are opened up in the Gulf," said Al Petrie, president of Al Petrie Media and Investor Relations, which represents energy interests.

Public interest groups are already protesting plans to open Lease 181 to drilling. "We are absolutely opposed to any further eastward expansion into the Gulf of Mexico by the oil and gas industry," said Mark Ferullo, director of the Florida Public Interest Research Group. "The oil industry has carte blanche in the entire central Gulf and western Gulf. We are saying there should be one area that is left free from industrialization."

The bill would also give states the right to opt out of the federal moratorium on new offshore drilling. Bans on offshore drilling off the East and West coasts have been in place since 1982. The bill directs states interested in opting out of the drilling moratorium to request a survey be conducted by the Department of the Interior Minerals Management Service of the oil and gas resources off their coast. A boundary would be defined for royalty purposes. The states would receive all lease payments for the first five years after the first lease sale. States would also receive 12.5 % of production revenues and an additional 12.5% of production revenues would go into a fund for conservation projects.

Tax credits for alternative energy research are included in the bill. Also included: oil demand reduction targets, incentives for utilities to make power plants more efficient and higher efficiency standards for appliances using natural gas. Increased royalties from new gas drilling on Lease 181 could pay the bill's estimated $6 bn cost. Bans on offshore drilling were enacted in 1982 during the Reagan administration and President Bill Clinton extended the prohibition until 2012. "The administration has been adamant in their assertion that the drilling moratorium will remain in place," Ferullo said. "We will see whether or not they have been paying lip service to that position."

Source: New Orleans City Business

Heavy spending on exploration and production projected for this decade

05-06-05 The nation's economy may be cooling off, but the energy sector is just gaining more speed, energy analyst John Olson said. Speaking to potential investors at the Southern Hills Country Club, Olson said spending in virtually every facet of the energy business will soar over the next several years. "The next five years in this country are going to be absolutely great for anyone in the energy business," Olson said. "I have never seen spending cycles this big."

Olson and his partner, Stephen Pouns, left Sanders Morris Harris last year and launched an energy hedge fund called 2003 Houston Energy Partners. Most big energy investments move through Houston, the epicentre of the energy industry, and Olson is one of the city's best-known energy analysts, with powerful contacts and access to information. "We're sitting on a booming economy in Houston," Olson said.

Tight oil supplies, geopolitical uncertainties, a lack of sufficient US refining capacity, declining production and growing demand have placed upward pressure on energy prices and created new opportunities for investors, Olson said. For example, spending on exploration and production averaged $ 29 bn a year in the 1990s. That figure is expected to rise to $ 55 bn a year this decade, he said. "We're importing now 650,000 bpd of crude and refined products simply because our production is declining and our demand is going up," Olson said.

Tight oil supplies will become even tighter as oil imports to China and the United States continue to rise, he said. "Between the United States and China, we'll have a tight market for long time to come," he said. "China wants to grow its economy about 9 % a year for the next 15 years." What's more, an oil refinery has not been built in the United States since 1974. The prospects of seeing a new one are slim because of what Olson described as an "environmental blockade."

The problem is that most refineries are running near full capacity, he said. Wellhead revenues totalled $200 bn last year and are expected to rise to $253bn this year, he said. The construction of new energy infrastructure is at hand as the United States and the rest of the world work to meet growing demand, Pouns said. "We think we're in the secular upturn in this business," Pouns said. "It's been 25 years since we've built infrastructure in the energy business. We're going to do a whole lot of that over the next five to 10 years."

Source: Tulsa World

Study to assess Hurricane Ivan's impact on offshore oil

05-09-05 Six studies have been funded to assess the impact of last September's Hurricane Ivan on offshore oil and gas operations in the Gulf of Mexico. The US Minerals Management Service, which regulates offshore production, awarded the contracts totalling more than $ 600,000, the agency said. Changes in industry standards and federal regulations may be recommended.

In spite of 140 mph winds, there was no loss of life or major pollution in the gulf's production area from Ivan, but 31 platforms were seriously damaged and several were destroyed. There was also damage to underwater pipelines. "Studies like these will help MMS continue to ensure that the safe, clean operation of the offshore industry will be able to withstand even hurricanes like Ivan," said Johnnie Burton, MMS director.

The Gulf of Mexico produces 30% of the nation's oil and 23% of its natural gas.

Bill supports offshore natural gas exploration along Virginia’’s coast

03-26-05 Of the many bills awaiting Gov. Mark Warner's signature is one that would urge a return to offshore natural gas exploration along Virginia's coast. The bill got scant attention during the General Assembly, but it easily cleared the Senate in a 37-0 vote, and the House of Delegates 54-43. The bill directs state officials to ask Virginia's congressional delegation to push for an exemption to the federal moratorium on offshore natural gas exploration.

It's the first step, some environmentalists and beach town officials argue, toward drilling and possible oil spills that could have devastating economic and environmental consequences. "Although this bill supports natural gas development, if they drill and find oil, we know the drilling will not be limited to only gas," said Michael Town, director of the Virginia Chapter of the Sierra Club.

Virginia would become the first state to seek an exemption from the federal moratorium, he said. Congress enacted the moratorium on oil and gas exploration and drilling in 1982. It covers both the Atlantic and Pacific coasts and part of the Gulf of Mexico. "We're the first one," Town said. "We wouldn't be surprised if another state tries the same thing."

Since the US Senate signalled it has the votes for drilling in the Arctic National Wildlife Refuge, environmental groups are pointing to a national effort to open up both coasts to oil and gas exploration. Virginia's two Republican senators, George Allen and John Warner, both declared their support for allowing oil companies into the 1.5 mm-acre coastal plain of the Alaskan refuge. An informal draft proposal now circulating through Congress known as SEACOR, or State Enhanced Authority for Coastal and Offshore Resources, would expand states' rights to prohibit or approve drilling activity up to 12 miles or more from shore. Town said a request from Virginia for offshore exploration could give more impetus to SEACOR.

Richard Charter, a marine conservation advocate for Environmental Defence, told this is a "stealth strategy." Politically, Virginia is the first "domino in a room full of dominoes that stretches around the East and West coasts," he said. "Virginia turned out to be a crime of opportunity for the oil and gas industry. They couldn't succeed in overturning the offshore drilling moratorium with Republican presidents, Democratic presidents and many sessions of Congress, and they latched onto a vulnerable state legislature."

Virginia Beach Mayor Meyera E. Oberndorf is opposed to the bill. "The legislation flies in the face of long-standing positions painstakingly developed at the local and regional level," she said earlier. "I feel we cannot stand by silently."

State Sen. Frank W. Wagner and Del. Harry R. Purkey, both Virginia Beach Republicans, introduced the bills that push for natural gas exploration. Wagner has said the high cost of gas merits a look off the coast. Wagner said there may be offshore gas fields worth $ 3.5bn over 20 years, though Wall Street estimates put the value much lower -- at $1.2 bn over 30 years.

Donald Swift, a professor of geology and oceanography at Old Dominion University, said energy firms conducted offshore exploration in the 1960s and 1970s, but found little. "It was all pretty much of a big disappointment," he told. Bottom material in much of the mid-Atlantic didn't get heated enough to generate petroleum, he said.

The richer oil fields in Florida are the real aim of the gas and oil industry, said Charter of Environmental Defence. But Town said rising energy costs may have changed gas and oil companies' views of the Virginia coast. "The higher the cost of natural gas, the more they're willing to spend to go get more," he said.

Town said his organization is urging Warner to stop the effort to bring back natural gas exploration. "We're encouraging him to do the right thing by vetoing the bill," Town said.

Ellen Qualls, the governor's spokeswoman, said that Warner has not yet made a decision on the controversial bill.

Huge oil spill covers Louisiana marsh

09-03-05 Two oil storage tanks damaged by Hurricane Katrina have spilled millions of barrels of oil into a marsh and wildlife refuge south of New Orleans, according to officials. The Louisiana Department of Environmental Quality (DEQ) believes the two tanks, located in an oil storage, each contained 2 mm barrels of oil, said spokesman Rodney Mallett.

The spill occurred near Venice, 120 km south of New Orleans, in a peninsula that includes a wildlife refuge. "We flew over in a plane and noticed an oil lake near Venice," said Rodney Mallett, a DEQ spokesman. The oil spilled into a marsh between the Mississippi River and the Gulf of Mexico.

The site is not accessible, making it impossible to clean up, Mr Mallett told. There are no people near the spill, but it is "an environmental risk," he said. "Nobody can get there," he said. "We can't get there by boat, we can't get there driving, so all we can do is fly over and say, 'damn, look, there's an oil lake'."

Source: AFP

Storms destroyed mostly old rigs in Gulf of Mexico

by Brian P. Nanos

10-01-05 Interior Secretary Gale Norton compared the country's reliance on oil and natural gas from the Gulf region to having all of one's eggs in one basket and, she said, "we've now dropped the basket." According to the Department of the Interior, 3,050 of the 4,000 platforms that the government Minerals Management Service administers were in the path of last month's hurricanes.

Norton said that before the hurricanes damaged both the region's ports, and the on- and offshore facilities, natural gas prices had been high enough to cause some jobs and industries to move overseas. She expects the cost of natural gas to be even higher when demand increases this winter. She does not expect oil prices to be affected as strongly because the country can tap into strategic oil reserves. The initial effects of Katrina and Rita were felt mainly by the states most directly in the paths of the hurricanes, Norton said, "The reverberations will continue to be felt in our oil and gas supply in every state."

Recently, the MMS reported that 90 % of Gulf oil production and 72 % of Gulf natural gas production remained shut down. Repairs on facilities with substantial damage may not be complete for months, Norton said. The rebuilding has been slowed by the cumulative effects of having two hurricanes in one region and by the high demand for the construction materials and equipment needed to get the system back up and running.

Although 109 platforms in the Gulf were destroyed by the storms, all but one were older rigs, accounting for only 1.7 % of the region's oil production and 0.9 % of its production of natural gas. The newer platform destroyed by the hurricane may have been damaged not by winds but by a collision with an offshore drilling unit which the storms had torn from its moorings.

Source: www.sunherald.com/

Gulf of Mexico loses more than 95 % of oil production

08-30-05 As oil prices flirted with the $ 70 per barrel mark, more than 95 % of the Gulf of Mexico's normal daily oil production was shut in because of Hurricane Katrina, a federal agency said. The US Minerals Management Service said 645 of the 819 staffed production platforms in the Gulf were shut down, delaying production of 1.43 mm barrels of oil. On a normal day, the Gulf produces 1.5 mm barrels. The shutdowns also delayed production of 8.8 bn cf of natural gas, or 88 % of the Gulf's normal daily gas production of 10 bn cf, the MMS reported from a survey of 68 companies.

Since Katrina first threatened Gulf platforms, 4.63 mm barrels of oil and 25.4 bn cf of gas have been delayed from reaching market. Storm-related production delays in the Gulf, which accounts for about a third of nation's domestic oil production, have figured increasingly into energy price jumps. In July, three Gulf storms interrupted production.

Hurricane Emily delayed production of 240,024 barrels of oil and 1.58 bn cf of natural gas. Hurricane Dennis interrupted the production of 5.29 mm barrels of oil and 23.3 bn cf of gas. Tropical Storm Emily delayed production of 312,127 barrels of oil and 1.7bn cf of natural gas, the MMS said.

Last autumn's Hurricane Ivan damaged seven platforms, 100 underwater pipelines and resulted in the loss of nearly 44 mm barrels of oil production between September 2004 and February 2005.

The Gulf normally produces 547.5 mm barrels of oil and 3.65 tcf of gas a year. The MMS also said 90 drilling rigs exploring for petroleum in the Gulf were evacuated.

Source: US Minerals Management Service

New US energy probes will harm sea life

by Mark Clayton

08-02-05 Faced with its biggest energy challenge in more than 20 years, the United States is poised to look for offshore reserves of oil and natural gas as never before. By using the latest techniques, government officials hope to update surveys more than two decades old and, perhaps, discover new pools of oil and gas hidden miles under the ocean floor. Such discoveries could boost US production and lessen reliance on foreign oil.

But not everyone is pleased. Many legislators fear that such surveys will boost political pressure to begin offshore drilling in areas where it has been banned for decades. Even without drilling, the new survey -- which involves blasting the ocean floor with sound waves -- could threaten marine life, environmentalists say. "There is an increasing body of evidence indicating that the intense blasts of sounds from seismic air guns can injure, kill, and otherwise harm marine mammals and fish," says Michael Jasny, senior policy consultant to the Natural Resources Defense Council.

The prospect of drilling off the coasts of tourist havens, such as California and Florida, has stirred the most vocal opposition to the new survey, contained in the energy legislation passed recently. "The inventory itself would constitute a slippery slope toward further drilling that is both unnecessary and unwarranted," US Rep. Katherine Harris (R) of Florida said. She voted against the bill with 21 of Florida's 25 congressional representatives and both US senators.

While most opposition centres around the potential ramifications of the survey, environmentalists are sounding an alarm over the seismic survey itself. A typical seismic air gun array pulled by a ship might fire its compressed air bubbles into the ocean five or six times a minute -- more than 7,000 shots in 24 hours. Some researchers worry such testing would pummel sea creatures with a barrage of sound pulses 200 decibels and higher -- equivalent on land to listening to an artillery gun being fired 500 feet away.

Studies have documented the impact of seismic exploration on fish catches off Norway, which diminished in the 1990s. Some scientists think surveys were connected to dead giant squid floating onto Spanish beaches in 2003 and whales beaching themselves in the Sea of Cortez in 2002. But little is known about the long-term impact of such testing, especially on larger animals like whales, scientists say.

"I would say not only is the jury out, it's not even impounded yet," says Arthur Popper, a University of Maryland biologist. But a 2004 study by the Minerals Management Service (MMS) of the US Interior Department found "no significant impact" on marine life from geological and geophysical exploration. A National Research Council also noted that "no scientific studies have conclusively demonstrated a link" between the two.

But that finding doesn't satisfy Jonathan Stern, a marine biologist who advises the American Cetacean Society of San Pedro, California. Such findings typically look at short-term effects of testing such as the absence of marine life floating dead on the surface, he says. What if dead fish and mammals killed by sound explosions sink rather than float? Does chasing fish and whales away from feeding areas cost them vital energy that results in premature death? Does creating an ocean din keep whales from finding mates and food? "You don't want to disrupt their ability to take in food, because if their eating is disrupted, they can starve to death," Dr. Stern says.

Still, the dearth of dead fish floating in the western and central Gulf of Mexico where seismic testing has been used is good news for the oil and gas industry, which wants the survey to get going soon. Less than 20 % of the nation's coastal shelf has been mapped with modern tools, MMS officials say. Today about 26 % of oil and 31 % of natural gas produced in the US comes from offshore. That's just 7 % of the nation's overall oil consumption and 14 % of its natural-gas consumption.

But increasingly sophisticated computer modelling will allow geophysicists to walk through three-dimensional "virtual" displays of undersea oil and gas deposits trapped in layers of sediment. "Doesn't it make sense to make decisions based on sound science and actual fact rather than turning your head and saying: 'I don't

even want to know,' " asks Mike Kearns, a spokesman for the National Ocean Industries Association, a trade group representing companies that do offshore energy production and exploration. Mr Kearns also notes healthy whale and fish stocks in the Gulf of Mexico where seismic testing has been extensive. Even so, it's impossible to know if whale populations would have been healthier without testing.

For instance, a recent finding last year from the second year of an ongoing federal study of seismic testing's impact on sperm whales in the Gulf of Mexico raises new questions that suggest the potential for damage to both the animals' hearing and behaviour patterns, researchers say. And while most concerns about the impact of ocean noise have focused recently on Navy sonar, which has been linked to several whale beachings, researchers say seismic surveys are almost as loud as Navy sonar and far more prevalent in ocean waters. Stern suggests that future seismic testing should be conducted with cumulative impact of sound in the ocean in mind.

Because sound can travel hundreds or even thousands of miles under water, maybe its not surprising that seismic airguns can be heard at great distances, says Jim Cummings of the Acoustic Ecology Institute in Santa Fe, New Mexico. He says whale researchers listening in the middle of the Atlantic Ocean recently reported that all they could hear at times was the repetitive booming of seismic testing along the coast of South American 3,000 miles away -- drowning out the plaintive call of whales.

Source: The Christian Science Monitor

Natural Gas and Technology

Source: ChevronTexaco Corporation

Over the past thirty years, the oil and natural gas industry has transformed into one of the most technologically advanced industries in the United States. New innovations have reshaped the industry into a technology leader, in all segments of the industry. This section will discuss the role of technology in the evolution of the natural gas industry, focusing on technologies in the exploration and production sector, as well as a few select innovations that have had a profound effect on the potential for natural gas.

In recent years, demand for natural gas has grown substantially. However, as the natural gas industry in the United States becomes more mature, domestically available resources become harder to find and produce. As large, conventional natural gas deposits are extracted, the natural gas left in the ground is commonly found in less conventional deposits, which are harder to discover and produce than has historically been the case. However, the natural gas industry has been able to keep pace with demand, and produce greater amounts of natural gas despite the increasingly unconventional and elusive nature. The ability of the industry to increase production in this manner has been a direct result of technological innovations. Below is a brief list of some of the major technological advancements that have been made recently:

Advances in the Exploration and Production Sector

Technological innovation in the exploration and production sector has equipped the industry with the equipment and practices necessary to continually increase the production of natural gas to meet rising demand. These technologies serve to make the exploration and production of natural gas more efficient, safe, and environmentally friendly. Despite the fact that natural gas deposits are continually being found deeper in the ground, in remote, inhospitable areas that provide a challenging environment in which to produce natural gas, the exploration and production industry has not only kept up its production pace, but in fact has improved the general nature of its operations. Some highlights of technological development in the exploration and production sector include:

- 22,000 fewer wells are needed on an annual basis to develop the same amount of oil and gas reserves as were developed in 1985.
- Had technology remained constant since 1985, it would take two wells to produce the same amount of oil and natural gas as one 1985 well. However, advances in technology mean that one well today can produce two times as much as a single 1985 well.

- Drilling wastes have decreased by as much as 148 million barrels due to increased well productivity and fewer wells.
- The drilling footprint of well pads has decreased by as much as 70 percent due to advanced drilling technology, which is extremely useful for drilling in sensitive areas.
- By using modular drilling rigs and slimhole drilling, the size and weight of drilling rigs can be reduced by up to 75 percent over traditional drilling rigs, reducing their surface impact.
- Had technology, and thus drilling footprints, remained at 1985 levels, today's drilling footprints would take up an additional 17,000 acres of land.
- New exploration techniques and vibrational sources mean less reliance on explosives, reducing the impact of exploration on the environment.

Some of the major recent technological innovations in the exploration and production sector include:

= 3-D and 4-D Seismic Imaging - The development of seismic imaging in three dimensions greatly changed the nature of natural gas exploration. This technology uses traditional seismic imaging techniques, combined with powerful computers and processors, to create a three-dimensional model of the subsurface layers. 4-D seismology expands on this, by adding time as a dimension, allowing exploration teams to observe how subsurface characteristics change over time. Exploration teams can now identify natural gas prospects more easily, place wells more effectively, reduce the number of dry holes drilled, reduce drilling costs, and cut exploration time. This leads to both economic and environmental benefits.

= CO2-Sand Fracturing - Fracturing techniques have been used since the 1970s to help increase the flow rate of natural gas and oil from underground formations. CO2-Sand fracturing involves using a mixture of sand propants and liquid CO2 to fracture formations, creating and enlarging cracks through which oil and natural gas may flow more freely. The CO2 then vaporizes, leaving only sand in the formation, holding the newly enlarged cracks open. Because there are no other substances used in this type of fracturing, there are no 'leftovers' from the fracturing process that must be removed. This means that, while this type of fracturing effectively opens the formation and allows for increased recovery of oil and natural gas, it does not damage the deposit, generates no below ground wastes, and protects groundwater resources.

= Coiled Tubing - Coiled tubing technologies replace the traditional rigid, jointed drill pipe with a long, flexible coiled pipe string. This greatly reduces the cost of drilling, as well as providing a smaller drilling footprint, requiring less drilling mud, faster rig set up, and reducing the time normally needed to make drill pipe connections. Coiled tubing can also be used in combination with slimhole drilling to provide very economic drilling conditions, and less impact on the environment.

= Measurement While Drilling - Measurement-While-Drilling (MWD) systems allow for the collection of data from the bottom of a well as it is being drilled. This allows engineers and drilling teams access to up to the second information on the exact nature of the rock formations being encountered by the drill bit. This improves drilling efficiency and accuracy in the drilling process, allows better formation evaluation as the drill bit encounters the underground formation, and reduces the chance of formation damage and blowouts.

= Slimhole Drilling - Slimhole drilling is exactly as it sounds; drilling a slimmer hole in the ground to get to natural gas and oil deposits. In order to be considered slimhole drilling, at least 90 percent of a well must be drilled with a drill bit less than six inches in diameter (whereas conventional wells typically use drill bits as large as 12.25 inches in diameter). Slimhole drilling can significantly improve the efficiency of drilling operations, as well as decrease its environmental impact. In fact, shorter drilling times and smaller drilling crews can translate into a 50 percent reduction in drilling costs, while reducing the drilling footprint by as much as 75 percent. Because of its low cost profile and reduced environmental impact, slimhole drilling provides a method of economically drilling exploratory wells in new areas, drilling deeper wells in existing fields, and providing an efficient means for extracting more natural gas and oil from undepleted fields.

= Offshore Drilling Technology - The offshore oil and gas production sector is sometimes referred to as 'NASA of the Sea', due to the monumental achievements in deepwater drilling that have been facilitated by state of the art technology. Natural gas and oil deposits are being found at locations that

are deeper and deeper underwater. Whereas offshore drilling operations used to be some of the most risky and dangerous undertakings, new technology, including improved offshore drilling rigs, dynamic positioning devices and sophisticated navigation systems are allowing safe, efficient offshore drilling in waters more than 10,000 feet deep. To learn more about offshore drilling, click here.

The above technological advancements provide only a snapshot of the increasingly sophisticated technology being developed and put into practice in the exploration and production of natural gas and oil. New technologies and applications are being developed constantly, and serve to improve the economics of producing natural gas, allow for the production of deposits formerly considered too unconventional or uneconomic to develop, and ensure that the supply of natural gas keeps up with steadily increasing demand. Sufficient domestic natural gas resources exist to help fuel the U.S. for a significant period of time, and technology is playing a huge role in providing low-cost, environmentally sound methods of extracting these resources.

U.S. Court approves Gulf of Mexico oil drilling plan

Wed Jul 29, 2009 2:30pm EDT Reuters

WASHINGTON (Reuters) - In a big win for oil companies, a federal appeals court said it will allow the U.S. Interior Department to move forward with oil and natural gas leasing plans for the Gulf of Mexico that were drawn up by the Bush administration.

The department in May sought clarification of a court decision that struck down the Bush administration's five-year (2007 to 2012) offshore oil and gas drilling plan based on the court's findings that a proper review had not been done on how the drilling would affect the environment.

The initial dispute focused on offshore drilling in Alaskan waters, but the department wanted to know whether leases in the Gulf of Mexico would also be affected.

In a ruling on Tuesday, the U.S. District Court in Washington said leasing plans for the Gulf could continue, as could drilling off Alaska, but the department would have to conduct a review of the environmental risks before approving significant energy development activities.

If the department fails to carry out the risk analysis, the court said it may throw out the leasing plan.

Interior Secretary Ken Salazar said he was pleased with the court's decision and will go forward with a Gulf of Mexico lease sale planned for August 19.

"President Obama has made clear that a comprehensive energy plan that reduces America's dependence on foreign oil must include domestic production, and the Court's ruling allows us to move forward in a balanced way," Salazar said.

"The court made the right decision by allowing the continued production of oil and natural gas from Gulf of Mexico," said the American Petroleum Institute, which sued to allow drilling in the Gulf to continue. "The nation's energy security depends upon these resources."

The trade group encouraged the department to quickly conduct new environmental reviews of offshore leases in Alaska so future exploration and production of the state's vast oil and gas resources can take place.

The Alaska Wilderness League said the court will keep "strict oversight" of the department as it conducts a new environmental analysis.

"This drilling plan and the associated seismic testing, increases in vessel traffic, proposed large onshore and offshore infrastructure projects, and projections of oil spills in our unindustrialized homelands is extremely stressful," said Caroline Cannon, president of a native Alaskan village who sued to block the five-year drilling plan.

(Reporting by Tom Doggett; editing by Jim Marshall)

Enormous Oil Seepage in the Gulf of Mexico
June 20, 2007

Oil enters the marine environment from human activity and natural seeps. A National Academy of Science study recently estimated that about 47 percent of the oil entering the marine environment is a result of natural seepage from subsurface reservoirs. The Gulf of Mexico is an area where such natural seepage occurs at a very high rate. Of the 200,000 metric tons of oil seepage that is thought to occur each year, about 150,000 metric tons escapes from the floor of the Gulf of Mexico.

Natural Oil Seeps in the Gulf of Mexico Geology.com
A NASA Earth Observatory news release from February 3, 2009

Although accidents and hurricane damage to infrastructure are often to blame for oil spills and the resulting pollution in coastal Gulf of Mexico waters, natural seepage from the ocean floor introduces a significant amount of oil to ocean environments as well. Oil spills are notoriously difficult to identify in natural-color (photo-like) satellite images, especially in the open ocean. Because the ocean surface is already so dark blue in these images, the additional darkening or slight color change that results from a spill is usually imperceptible.

Remote-sensing scientists recently demonstrated that these “invisible” oil slicks do show up in photo-like images if you look in the right place: the sunglint region. This pair of images includes a wide-area view of the Gulf of Mexico from the Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA’s Terra satellite on May 13, 2006 (top), and a close up (bottom) of dozens of natural crude oil seeps over deep water in the central Gulf.

The washed-out swath running through the scene is where the Sun is glinting off the ocean’s surface. If the ocean were as smooth as a mirror, a sequence of nearly perfect reflections of the Sun, each with a width between 6-9 kilometers, would appear in that line, along the track of the satellite’s orbit. Because the ocean is never perfectly smooth or calm, however, the Sun’s reflection gets blurred as the light is scattered in all directions by waves. The slicks become visible not because they change the color of the ocean, but because they dampen the surface waves. The smoothing of the waves can make the oil-covered parts of the sunglint area more or less reflective than surrounding waters, depending on the direction from which you view them.

The usual technique for mapping oil slicks from space uses radar, which bounces pulses of radio waves off the wave-roughened surface of the water and detects the amount of backscattered energy. The downside of using space-based radars to map oil slicks is that they don’t provide routine coverage of large areas, and oil slicks may evaporate or disperse significantly within a day. The researchers suggest that tracking oil slicks in the wide sunglint region of daily Terra and Aqua MODIS images may be a better avenue for comprehensive, near-real-time monitoring of large oil spills and natural seeps in marine ecosystems.

Satellite images prepared by Jesse Allen of NASA using data obtained from the Goddard Level 1 and Atmospheric Archive and Distribution System. Captions by Rebecca Lindsey of NASA.

BP’s Tiber Find May Signal Oil Revival in U.S. Gulf of Mexico
By Joe Carroll Bloomberg

Sept. 2 (Bloomberg) -- BP Plc’s discovery of the biggest U.S. oil find in three years may spur an exploration revival in the Gulf of Mexico, a region thought by some industry executives to be played out after output slumped.

London-based BP said today it identified a “giant” prospect called Tiber more than six miles (9.7 kilometers) beneath the surface of the Gulf. The find confirms there are more large reservoirs of crude off the coasts of Louisiana and Texas, said Matt Snyder, lead analyst for Gulf of Mexico research at consulting firm Wood Mackenzie Ltd. in Houston.

"This is definitely good news for the Gulf," Snyder said. "When a supermajor like BP uses a term like 'giant' to describe a discovery, people sit up and take notice."

The announcement brings new attention to a region where offshore oil exploration was pioneered more than six decades ago. The former Kerr-McGee Corp. drilled the world's first commercial oil well out of sight of land in the Gulf of Mexico. It struck crude in October 1947, Daniel Yergin, chairman of IHS Cambridge Energy Research Associates Inc., wrote in "The Prize," his book on the industry's history.

The region has lost favor among some producers. Exxon Mobil Corp., the biggest U.S. oil company, hasn't emphasized Gulf of Mexico exploration because most discoveries haven't been large enough to justify the expense, Chief Executive Officer Rex Tillerson told reporters in March 2008.

Exxon Looks Elsewhere

The Irving, Texas-based company paid $8.6 million for rights to explore 17 blocks in last month's federal auction of Gulf leases. Tillerson is focusing his $20 billion drilling budget on places such as Brazil and Qatar that he believes will yield bigger returns.

BP, whose partners at Tiber are Petroleo Brasileiro SA and ConocoPhillips, said its discovery may hold 3 billion barrels of crude and natural gas. Of that total, the companies may be able to extract the equivalent of 450 million barrels of oil, said Leta Smith, a director at IHS Cambridge in Houston. At current prices, that amount of oil would be worth more than $30 billion.

Tiber is BP's second discovery in three years in a geological formation in the Gulf known as the lower Tertiary, which consists of a layer of rocks created 24 million to 65 million years ago. It's the 18th discovery to date in the lower Tertiary, which is deeper than any existing producing fields.

BP Chief Executive Officer Tony Hayward is spending $115 million a week in the U.S. to find new prospects and boost output. Before Tiber begins pumping oil, Hayward's scientists must figure out how to coax crude from delicate seams of stone where temperatures can exceed 250 degrees Fahrenheit (121 Celsius), said Smith, a former Amoco Corp. geologist.

Six Miles Below Seabed

Tiber was drilled 250 miles southeast of Houston in 4,132 feet (1,259 meters) of water, reaching almost 31,000 feet beneath the seafloor. The total length of the drill stem from the floor of the rig to the terminus of the well was more than a mile longer than Mount Everest is high.

BP, which operates Tiber and owns a 62 percent stake, plans more wells to assess the expanse and characteristics of the field, according to a company statement. BP said it doesn't yet know if Tiber will prove commercially viable.

If future tests confirm the field holds the equivalent of 450 million barrels of recoverable oil and gas, Tiber will be the largest U.S. find since at least August 2006, when BP discovered Kaskida, another lower Tertiary prospect.

"This proves it's a very prolific trend," said Chris Ross, a vice president specializing in oil at consulting firm Charles River Associates in Houston. "That's good news for people with leases and good news for the U.S."

Chevron's Jack

Geologists and engineers didn't know if oil that far beneath the seafloor could be tapped until 2006, when Chevron Corp. completed the first successful test well at those depths.

The well, drilled into Chevron's Jack prospect about 175 miles southwest of the Louisiana coast, showed that energy companies could keep a hole open down to 60 million-year-old rocks amid shifting layers of salt and blistering temperatures.

Other discoveries in the same formation as Tiber and Jack include Buckskin, which Chevron announced in February, as well as Great White, Silvertip and Tobago, which comprise the Royal Dutch Shell Plc-led Perdido project scheduled to commence production next year. BP and Chevron also own stakes in Perdido.

"The question is what is the quality of the reservoir, what is the quality of the oil, whether it will flow and what will be the cost of getting it out," said Ross, a former BP chemist. "A lot of technology has yet to be developed that will be necessary to exploit this discovery."

Gulf Output Slows

Oil production in federal waters of the U.S. Gulf fell 9.8 percent last year to 1.15 million barrels a day, the lowest since 1997, as new finds failed to keep pace with declining output from fields discovered in the 1970s and 1980s. Production in the region peaked in 2003 at 1.56 million barrels a day, according to the Energy Department in Washington.

Even before announcing the results of the Tiber well, BP was laying the groundwork to expand its search for crude in the Gulf. The company was the high bidder last month in a U.S. government auction of leases on a pair of blocks in Keathley Canyon, the same area that includes Tiber, according to the federal Minerals Management Service.

BP paid $28.1 million and $5.1 million, respectively, for the rights to explore the blocks, according to the MMS, which oversees oil production in federal waters. Petroleo Brasileiro paid $9.1 million in the Aug. 19 auction to explore a separate Keathley Canyon block, MMS data showed.

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Last Updated: September 2, 2009 16:11 EDT

Increasing day rates don't stop jackup rigs from leaving Gulf

New Orleans CityBusiness, Aug 2, 2004 by Richard Slawsky

Day rates for jackup rigs operating in the Gulf of Mexico are on the rise but the increase is a mixed blessing for Louisiana companies operating in the Gulf.

Companies reporting day rate increases of up to 10 percent for jackups over last year. The number of jackups operating in the Gulf continues to fall, however, as drilling remains soft compared with other parts of the world.

One of the reasons that Gulf day rates are so high is that most companies are moving a lot of jackups out of the Gulf, said Mike Drickamer, analyst with Hibernia Southcoast Capital. A lot of the companies are looking to areas where they can find bigger reserve beds and therefore they are going to West Africa, to Russia and to Southeast Asia.

Jackup rigs, a vessel commonly used in offshore exploration, are generally triangular in shape with three long legs and a drilling rig on top. The vessels are towed to a drilling site and the legs are extended downward, lifting the vessel out of the water to create a platform. Depending on the size of the rig and the depths in which it can operate, jackups can command daily rates of between $30,000 and $100,000 per day. The largest jackups can operate in more than 300 feet of water.

Houston-based Diamond Offshore Drilling, which operates 11 jackups in the Gulf, says rates have increased close to $1,000 per day or 2.8 percent to a company average of $37,000 over the last several months. Dallas-based Ensco International, which operates 20 jackups in the Gulf, reported an increase in day rates of $3,700, or 7.8 percent, to $51,200 compared with $47,500 at the same time last year.

Houston-based Rowan Companies Inc. reported an average Gulf of Mexico day rate of $42,200 for the 17 jackups the company operates there, an increase of $2,500, or 6 percent from the first quarter of 2004, and of $6,500, or 18 percent from the same time last year.

However, the number of rigs available for hire in the Gulf has fallen to 116 compared with more than 140 at the same time last year. Of those 116, only 84 are in use.

If there hadn't been a decrease in supply of jackups in the Gulf we'd be dead right now, said William Provine, vice president of investor relations for Rowan Cos. The only thing that has kept the remaining rigs from leaving the Gulf is day rates improving.

Rates still pale in comparison to what companies netted in the oil heydays of the late 1970s and early 1980s, Provine said. Rigs that cost $8 million to build then were commanding essentially the same rate as rigs that cost $100 million to build today, he said.

Jackup operators have been losing money this year thanks to the rig reshuffling. Rowan reported a net loss of $2.1 million for the quarter ending June 30, and Houston-based Todco, operator of 20 jackups in the Gulf, reported a net loss of $7.4 million for the same period.

People are moving rigs and unfortunately, while those rigs are moving they aren't earning revenue, Drickamer said.

The improved day rates did help soften the blow. For the same period in 2003, Rowan lost $6.6 million and Todco lost $101.7 million.

Why Gulf drilling activity remains soft while oil and gas prices approach record levels continues to stump industry officials, although many place much of the blame on Wall Street.

The independents are still drilling the majority of the wells in the Gulf, Provine said. If you look at what they've done over the past couple of years with the high oil and gas prices; they've bought back stock, reduced debt and improved their balance sheets.

Years ago, Provine said, those companies would have spent 100 percent or more of their cash flow on exploration.

The effect of jackup operators leaving the Gulf is carrying over to other areas of the oil and gas industry, industry officials said. Fewer jackups operating in the Gulf means less work for service companies that supply the rigs.

The greatest impact may be to some of these smaller private oilfield service companies, Drickamer said. It costs money to move internationally and not everybody has the capital.

In the ongoing jurisprudence of defining what is a "vessel" for purposes of applying the Jones Act. The following article is a great explanation of this part-time boat and part-time fixed stationary object.

Jackup

A jackup drilling rig is a bottom-supported MODU consisting of a triangular hull and three legs and a jacking system. Very early versions of jackups were square or rectangular and could have a number legs ranging from four to as many as six, or in one case, eight legs.

Briefly, a jackup rig is towed to the wellsite, its legs are lowered by the jacking system to the seafloor and the hull is elevated (or jacked up) until it is above the water, providing a stable work platform for drilling or other operations. The jackup provides a stable work platform because they are supported by the seafloor and waves pass underneath the hull.

Jackups have been a part of the offshore mobile drilling fleet since the 1950s. In addition to their original purpose of exploration, jackups have been used variously as production units, tender-assisted units, accommodation platforms and work, repair and maintenance platforms.

The Ensco 105 is a modern independent-leg jackup drilling unit.

The Scorpion, built in 1956 by LeTourneau for Zapata Off-Shore Co., was the first electric self-elevating jackup drilling rig.The first jackups were built for fairly shallow water but have evolved as the offshore industry has moved toward deeper water exploration. Their practical water depth limitation is around 500 ft, although a few jackups are rated to drill in up to 550 ft of water. Most, however, generally are capable of drilling in water depths ranging from 250-350 ft of water. Beyond that water depth, floating rigs become more economical and more efficient.

Jackup rig legs

Jackup rigs come in several varieties and can include cylindrical or lattice type legs, with spud cans or mat-supported footings that support the hull and provide stability when the rig is jacked up. Jackups with cylindrical legs usually are also mat-supported units in which the leg is attached to large mats below the hull that provide stability for the rig. Jackups without mats are typically referred to as independent-leg jackups

because each leg can be lowered at different rates of speed and rest at different lengths when on the seafloor. Independent-leg jackups also typically have lattice-type legs. Virtually all modern and newly built jackups presently will have lattice-type legs with spud can footings.

Mat-supported and independent-leg jackups

The main purpose of the spud cans or the mat is to increase the soil bearing area, which enables to jackup to work in relatively weak soil areas. The mats on mat-supported jackups are usually rectangular structures that are flat on top and bottom. The mat contains buoyancy chambers that are flooded when it is submerged to help provide stability. Mat-supported jackups are useful when the seafloor is soft or muddy or where the seafloor can't support high bearing loads since the large area of the mat reduces the bearing pressure on the seafloor.

Mat-supported jackups are primarily used in certain areas of the Gulf of Mexico. However, because the mat is a large flat structure, it is difficult to use a mat-supported jackup on uneven seafloors or in areas where there are pipelines, boulders or debris on the seafloor.

Lattice-type legs almost always have spud cans at the bottom of each leg to help support the rig. Independent-leg jackups with spud cans are more versatile than mat-supported jackups in that they can operate in more diverse areas, in soft and hard seafloor areas, and in areas with a sloping seafloor. They are also more versatile when it comes to operating in areas with pipelines, boulders and other debris

Slot-type jackups and cantilever jackups

In addition to two types of bottom supported methods (mat-supported and independent-leg), jackup rigs also are divided into slot-type and cantilever units. Slot-type jackups are typically built when also utilizing a mat-support. Slot type jackup rigs are configured for the drilling operations to take place through a slot in the hull below the rig substructure that supports the drilling equipment. The primary reason for using a slot-type rig is that the jackup can be positioned around a small fixed structure to drill additional development wells or to work over existing wells. The rig's substructure can be moved over the slot to drill different wells without moving the jackup itself.

A cantilever jackup has a feature that permits the drilling platform, or drilling substructure, to be extended out from the hull and over small platforms rather than positioning the jackup's hull around the platform. This method also allows the jackup to perform drilling or workover operations over pre-existing platforms or structures. However, a cantilever jackup is more versatile than a slot-type unit for several reasons. First, some recent cantilevers can extend up to 75 ft from the rig's hull, allowing the jackup's rig to drill over a larger area of the platform. This is useful if a platform's well bay is near the center of the platform. Additionally, cantilever jackups typically can be positioned closer to a platform, providing a further advantage when drilling or working over wells on a platform.

Cantilever jackups became so popular that few slot-type units were built during the 1990s. In fact, numerous jackups that were built as slot-type units originally were converted to cantilever jackups. Another development was pioneered by Rowan Companies when they developed skid-off technology utilized with their slot-type jackups. In this case, the entire substructure and drilling equipment can be skidded off of the jackup and onto a platform, thus allowing a slot-type jackup to be used on certain platforms that would have required a cantilever unit or a platform rig.

Australia to Probe Timor Sea Oil Spill, Minister Says

By Madelene Pearson and Jason Scott

Sept. 7 (Bloomberg) -- Australia plans to investigate an oil spill off the country's northwest Kimberley wilderness region in a bid to prevent a repeat of the incident, Energy Minister Martin Ferguson said.

Ferguson will seek "broad-ranging major incident investigation power" through a change in legislation before announcing the terms of the enquiry, he told parliament in Canberra today.

Oil, gas and condensate started seeping into the Timor Sea from a rig at PTT Exploration & Production Pcl's Montara development on Aug. 21. The company said yesterday a rig sent to halt the spill will be delayed by two days and is now expected to arrive on Sept. 10. It may take 50 days to plug the leak from the well alongside the West Atlas rig about 250 kilometers (155 miles) off Australia's coast, PTTEP said Aug. 23.

"We want to learn from this incident and take any measures that are necessary to stop it happening again," Ferguson said. "If the regulatory framework needs to be improved, the government will act decisively to do that."

The Montara incident is the first well blowout in offshore Australia since 1984, Ferguson said. Around 1,500 wells have been drilled safely in the last 25 years, he said.

'Human, Regulatory Factors'

"Once the well has been safely shut in and the flow of oil and gas has been stopped, the West Atlas will be inspected and there will be a full investigation into the operational, human and regulatory factors surrounding the incident," Ferguson said.

The investigation requires changes to the Offshore Petroleum and Greenhouse Gas Storage Act 2008, he said.

The Kimberley coast is described by Tourism Australia as "one of the world's last true wilderness areas." The Australian Greens have said the area is a "marine superhighway," with populations of baby turtles this time of year and a migratory route for whales.

"It's a huge concern that there's still an uncontrolled leak of oil," Gilly Llewellyn, who heads the Australian marine division of the World Wildlife Fund, said today. "The oil might well be heading toward Indonesian waters or to Timor. This is one of the most important parts of the planet for marine wildlife."

The oil spill from Montara is 170 kilometers from the shore, the Australian Maritime Safety Authority said Sept. 4. The authority has been spraying dispersant to help break up the slick.

"The urgent need is to cap the well-head so we stop the flow and then manage to minimize the impact of the oil that's already been released," Llewellyn said.

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Last Updated: September 7, 2009 03:10 EDT

Timor Sea Oil Spill May Worsen, Australian Conservationists Say

By Ben Sharples

Sept. 18 (Bloomberg) - An oil spill from a leaking well off Western Australia that has polluted the Timor Sea with 1,200 metric tons of oil may worsen and is a “major ecological disaster in the making,” a conservation group says.

“This is a disaster that risks blowing out further in terms of its scale and impact on the ocean,” Darren Kindleysides, director of the Australian Marine Conservation Society, said in an e-mailed statement today. The spill has covered 15,000 square kilometers (5,800 square miles), with 400 barrels a day leaking from the Montara field, the group said.

Oil, gas and condensate started seeping into the Timor Sea Aug. 21 from a leak 3,500 meters below the ocean floor during drilling by the local unit of Bangkok-based PTT Exploration & Production Pcl. The Thai company said today halting the flow by drilling a relief well to plug the leak with mud is expected to take a further three-and-a-half weeks to complete.

Australian Maritime Safety Authority observations indicate the size of the spill is reducing, Lauren Tindale, Perth-based spokeswoman for PTTEP Australasia, said by phone. The authority is coordinating the clean up effort and PTTEP has said it will cover the cost.

The government’s response to the spill is insufficient, Australian Greens party Senator Rachel Siewert said in a separate statement today. The spread of oil may affect commercially important fish stocks, the marine ecosystem and coral colonies around Ashmore Reef, about 840 kilometers west of Darwin and 610 kilometers north of Broome, Siewert said.

The relief well is expected to reach a depth of 1,622 meters on Sept. 20, PTTEP said in its statement.

Experts approve oil spill response: AMSA

By Aleisha Preedy, AAP August 25, 2009, 7:49 pm

International experts have endorsed the government's response to an oil spill off Western Australia's Kimberley coast, the Australian Maritime Safety Authority (AMSA) says.

An oil slick remains floating in the Timor Sea, near the West Atlas drilling rig, where a nearby wellhead began leaking oil and gas on Friday. Aircraft are continuing to spray dispersant over the slick, containing the spill, AMSA said in a statement on Tuesday.

AMSA said oil spill experts from the UK had endorsed its response to what could be an environmental disaster....

The cause of the leak, which began on Friday morning, remains unknown.

Seadrill, the company that contracts the West Atlas rig to PTTEP, said it wanted to emphasise the leak did not emanate from the rig. "The hydrocarbon discharge originates from a well on the Montara wellhead platform," Seadrill spokesman Simon Johnson said. "There has not been any stability issue or incidents on the West Atlas drilling unit before or after the evacuation of personnel."

Mr Johnson said the wellhead was metres away from the drill rig but the problem was likely to be sub-surface and several kilometres below it. "We can't rule it out 100 per cent but it is almost certainly unconnected to the activities we were doing," Mr Johnson told AAP.

The Montara wellhead is a separate structure to the rig, which works over the top of it.

PTTEP works on Montara clean-up

Thailand's PTT Exploration & Production is working hard to clean up the oil slick and control the leaking well at its Montara oil project off Western Australia.

The company said the oil slick covers an area of eight nautical miles long (15 kilometres) and 30 metres wide has not shown signs of expanding since the 21 August blowout from a well on the Montara platform.

The Seadrill-owned jack-up West Atlas was drilling through the platform on an adjacent well at the time of the incident.

PTTEP repeated that its plan to control the well is to drill a relief well to intersect the existing well and stop its oil and gas flow. Seadrill's jack-up, West Triton, a sister rig to West Atlas, is expected to arrive at Montara in two weeks' time to carry out the relief mission.

The drilling contractor said the jack-up rig West Atlas has sustained an unknown amount of damage and will have to undergo repairs when it is deemed safe to do so.

Seadrill also issued a statement this morning stating that the leak did not emanate from the West Atlas. It added that the leak has been traced to a well on the Montara wellhead platform.

PTTEP spokesman Mike Groves confirmed Seadrill's statement, telling Upstreamonline: "The West Atlas was not working on the well that sustained the leak."

The oil spill “does hurt the industry, clearly, and it does hurt Australia at the end of the day”, Voelte said after addressing a business gathering. “We’d like to see it managed and repaired as soon as possible.”

The affected area is dubbed as a “marine superhighway”, providing a nursing ground for baby turtles during this time of the year and serving as a migratory route for whales and other marine life, Australian Greens marine spokeswoman Senator Rachel Siewert was reported as saying on Saturday.

Update: On Sep. 28, 2009 The Oil & Gas Journal reported that the release of oil continues at a rate of 400 barrels per day and that PTTEP is still two weeks away from completing the relief well to stem the oil leak.

US Minerals Management Service

Q. What is the Minerals Management Service (MMS)?

A. The MMS is the Federal agency responsible for managing the mineral resources (such as oil and natural gas) in Federal waters offshore the United States and for collecting and disbursing the revenues from the production of these resources. In managing the offshore oil and gas resources, the MMS conducts environmental studies, issues leases, and regulates operations conducted on the Outer Continental Shelf (OCS). The regulatory responsibilities include issuing permits for oil and gas exploration, development, and production and inspecting operations during all of these activities. The MMS manages the offshore mineral resources in concert with other Federal, State, and local agencies and in consultation with the public.

Q. What is the OCS?

A. Under United States law, the term Outer Continental Shelf (OCS) refers to all submerged lands lying seaward of State offshore lands. Generally referred to as "Federal waters," the OCS encompasses the seabed and subsoil in which natural resources of vital importance to the Nation are found: nearly 17 percent of our oil reserves, 25 percent of our natural gas reserves, and resources of commercially important minerals including manganese, gold, phosphorite, and construction aggregates. In 1945, because of the potential value of such minerals, President Truman proclaimed that the Federal Government had jurisdiction over all offshore resources, from the coastline seaward, and a 1947 Supreme Court case essentially upheld the Truman Proclamation and the claims of the Federal Government.

However, in 1953, Congress passed and President Eisenhower signed the Submerged Lands Act which established natural resource jurisdiction seaward out to 3 geographical miles for practically all coastal States, including California. The seabed and subsoil resources landward of this offshore State/Federal boundary are managed by the State. Offshore mineral resources in the 3-mile band of California State waters (or Tidelands, as it is referred to in the State) are managed by the California State Lands Commission and the California Division of Oil, Gas, and Geothermal Resources. In the cases of Texas and the Gulf of Mexico coast of Florida, because those States had established larger offshore submerged land areas before achieving statehood, State waters extend to 3 marine leagues (about 9 miles).

A few months after enactment of the Submerged Lands Act, the Outer Continental Shelf Lands Act (OCSLA) was passed and signed into law. The OCS law provides the Secretary of the Interior, on behalf of the Federal Government, with authority to manage the mineral resources, including oil and gas, on the OCS and defines the OCS as all submerged lands lying seaward of the State/Federal boundary. The seaward extent of the OCS was not made clear by the OCSLA. However, it is limited by international law which extends the OCS to 200 nautical miles seaward from the coastline but does not take into consideration the State/Federal boundary. In effect, therefore, under the OCSLA and international law, the Federal OCS begins at the State submerged lands line and extends seaward at least another 197 nautical miles. This overall 200 mile legal definition of a coastal Nation's OCS is referred to as its Exclusive Economic Zone (EEZ).

However, the OCS may extend beyond 200 miles if the outer limits of the coastal margin, as measured by certain geological concepts, go past that boundary. Depending on factors such as sediment thickness and water depth, the geologic continental margin can extend for hundreds of miles from shore. There are about a dozen nations, including the United States, which have continental shelves that extend beyond 200 miles. In the U.S., broad geological margins extend beyond 200 miles north of Alaska, on the Atlantic coast, and in the Gulf of Mexico. In the Pacific, however, the continental margin is narrow and thus the U.S. claims natural resource jurisdiction only to the seaward extent of its west coast EEZ, 200 nautical miles from California, Washington, and Oregon.

Q. How much oil is spilled or "leaked" from OCS natural gas and oil operations?

A. In 1969, a Federal platform offshore Santa Barbara experienced a blowout in one of its wells; an estimated 80,000 barrels (3,360,000 gallons) or oil was released into the ocean. The result of this incident was at least twofold: (1) the environmental conscience of the Nation was raised and the National Environmental Policy Act and other environmental legislation was passed and (2) requirements for safety devices imposed by the Federal Government forever changed offshore operations. There has not been a spill of this size from OCS operations since the Santa Barbara spill.

OCS operations are carefully conducted and regulated to ensure safe and environmentally sound operations. Since the tragic oil spill in Santa Barbara in 1969, about 833 barrels of oil have been spilled as a result of OCS natural gas and oil operations offshore California. This spillage represents the cumulative loss from cups or a barrel at any given time, but for a 150 barrel spill from a pipeline in State waters carrying exclusively OCS production to shore. The California nearshore and coastal areas are replete with natural seeps. It is estimated that over 1,000 barrels of oil each week are released into the environment from these seeps. (From the Coal Oil Point seeps alone, almost 200 barrels a day may be entering the ocean.) There is some evidence that commercial production of the reservoirs offshore has reduced the amount of oil that would naturally seep into the marine environment by reducing pressure in the reservoirs.

Q. Who makes sure that the oil companies operate safely and do not pollute?

A. The companies are held responsible for safety to the environment and employees. Nevertheless, every day of the year, MMS inspectors are offshore scrutinizing drilling and production operations to ensure that the operations are being conducted safely and that the environment is protected. The MMS inspectors conduct unannounced inspections on each facility on a routine basis and inspect each facility offshore California at least once a week. Furthermore, there is an extensive annual inspection of each facility sometimes lasting 2-3 weeks, depending on the complexity of the facility.

Any violation found is reported and resolution pursued to ensure that corrective action is taken. The MMS has broad powers of enforcement and can require extreme measures, such as facility shutdowns and civil penalties, if warranted. Any violation which does or could result in loss of life or environmental damage is considered serious and is reviewed for civil penalty assessment.

Q. Why not move the platforms further offshore where they cannot be seen?

A. The platforms have to be located where the oil is. Oil occurs and accumulates where there are thick sedimentary rocks. Off California, this occurs in the nearshore basins. In recent years, the extended-reach well technology has improved markedly, resulting in the ability to use fewer platforms for the recovery of resources. In the Santa Barbara Channel, for example, ExxonMobil is using this technology to produce oil from 4 1/2 miles away from the wellhead on Platform Hondo. ExxonMobil is now producing the Sacate field using extended-reach well technology, obviating the need for an additional platform. As this technology improves, additional production from existing facilities becomes more promising.

Q. What is a geophysical/seismic survey?

A. Geophysical/seismic surveying is a method of mapping below the sea floor using sound waves. The sound waves, typically made with bursts of air or combustion similar to a car's piston, are reflected back from rock layers below the sea floor and are recorded. Geophysicists use these data to look for potential oil and gas resources.

One of the concerns expressed in the past when seismic surveys are proposed are effects on marine mammals. At this time, information on the effects of noise on marine mammals is limited and is not conclusive one way or the other about significant effects on marine mammals. While there are only limited data available to evaluate the effects from this noise on marine mammals, seismic surveys cover thousands of survey miles yearly throughout the world oceans, with no reported effects on marine mammal numbers or distribution in the surveyed areas. The National Marine Fisheries and other marine mammal researchers continue to study this issue. In the interim, to reduce the chance of impacts on marine mammals, proper precautions are being taken. In a recent survey in the California Santa Barbara Channel, for example, the survey company included several precautionary measures in their operations to provide additional assurance that the animals would not be harmed. One such measure was shutting down the survey operation when marine mammals were in the vicinity.

Q. What is drilling mud? Is it toxic?

A. Drilling mud is literally a mud which is pumped down the hole when a well is drilled. The mud serves several important functions including providing a way to remove displaced rock fragments (called drill cuttings) from the hole

and keeping the equipment in the hole cool while drilling. Because mud is typically disposed of into the ocean, the components (ingredients) of the mud are carefully monitored and their effects studied.

Drilling mud is not poisonous, but it is referred to as "toxic." Mud is made up primarily of clay, barium sulfate, and water, with water making up about 90% of the mixture. Because the materials used to make the mud are taken from onshore sites, they can contain minerals and impurities that are not commonly found on the ocean floor where it is disposed. Additives that once were added to mud and found to have been harmful, such as chromium, have been banned. Animals and plants in the water column adjacent to a drilling operation may be adversely affected by the increased turbidity of the water caused by the mud.

Extensive studies have been conducted to monitor the potential impacts to the environment from discharge of drilling muds. To date, these studies have found that effects are short-lived and confined to a localized area around the platform. Studies to determine subtle, long-term effects caused by drilling muds have been inconclusive; effects of muds cannot be distinguished from other changes in the environment.

Q. How do OCS activities affect commercial fishing?

A. OCS activities can interfere with commercial fishing in two ways, both of which have financial ramifications for the fishermen: (1) by precluding traditional fishing grounds with exploratory drilling vessels or with platforms and (2) through loss of income either through gear loss on underwater obstructions or lack of access to an area. Potential economic losses are mitigated through direct compensation to fishermen, in most cases, and through enhancement programs. (Enhancement programs are measures undertaken to build up the fishery of concern or to enable the fishermen to operate more profitably. These out-of-kind enhancement programs might include more storage for gear, etc.) The MMS works with the fishermen to define and address the potential concerns early in any permitting process. Furthermore, a fisheries liaison office has been established in Santa Barbara to provide fishermen an avenue to effectively resolve conflicts with the offshore oil and gas industry.