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Offshore

World Trends and Technology for Offshore Oil and Gas

NOIA | National Ocean Industries Association

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Special Report

Offshore energy: uncertain future made bright with right federal policies

RANDALL LUTHI, *PRESIDENT, NATIONAL OCEAN INDUSTRIES ASSOCIATION*

TO THE SURPRISE of energy and political pundits, the United States leads the world in discovery and production of oil and natural gas. Technological advancements, like horizontal drilling and hydraulic fracturing, have revolutionized American energy production. Now, US consumers are reaping the benefits of an energy revolution spearheaded by the US oil and natural gas industry. Offshore, the energy industry continues at the forefront of technological advances rivaling the space industry, making it possible to produce energy in previously impossible areas. America's offshore oil production is at an all-time high and we are just scratching the surface of what is possible. The right federal policies can truly unleash an offshore energy renaissance.

SAFETY

The rise in technological innovations have generated advances in safety. After the 2010 blowout in the Gulf, the industry and federal regulators launched a robust safety review, resulting in more than 100 new or strengthened safety and environmental standards. Where old regulations set up the usual bureaucratic roadblocks against deploying new technologies and effectively preserved the status quo, industry reforms have prioritized innovation, efficiency and safety.

The Bureau of Safety and Environmental Enforcement (BSEE) is revamping safety regulations to better align with technology. Reforms include: a new inspection program that identifies facilities and operations that have a high-risk profile; increased inspection time for offshore facilities, not just paper records; an expanded reporting program that includes confidential reporting of near-miss episodes, and early equipment failure, identifying risks before they turn into problems.

BSEE reviewed the 2016 Blow Out Preventer (BOP) and Well Control Rule, addressing concerns that certain requirements were overly prescriptive, did not increase safety, and in some cases could instead actually increase risk. Industry recommended that BSEE replace the prescriptive drilling margin requirement with a performance-based standard, align its proposed BOP revisions with the 21-day testing interval outlined in API Standard 53 4th Edition, and that Real Time Monitoring be applied to operations using subsea BOPs and surface BOPs from a floating rig defined by API Standard 53.

ACCESS

Today, offshore energy development is safer than ever and US oil and natural gas operations are the world's gold standard for safety and environmental protection. And yet the US is one of the only nations to keep the majority of our offshore energy resources off limits to development.

Currently, a full 94% of the US outer continental shelf (OCS) is locked away and, with it, up to 90 Bbbl of oil and 327 tcf of natural gas. This short-sighted policy leaves the US energy dependent on a small area of our outer continental shelf. The Trump administration's proposed five-year leasing plan, the centerpiece of the America First Offshore Energy Strategy, seeks to unlock that potential and unleash hundreds of thousands of jobs.

While the United States has an abundance of oil and gas and industry has the technology and the know-how to tap these valuable resources, we are still years away from any new leasing under a final version of the 2019-2024 National Oil and Gas Leasing Program. Meanwhile, other countries are reacting to the demand for energy. Large new oil and gas discoveries off Canada, Brazil, Guyana, and Mexico are a result of those countries promoting offshore oil and natural gas exploration and development. For example, Nova Scotia sponsors its own offshore geological surveys and studies, and passes the data to industry free of charge.

SEISMIC

By contrast, the last surveys made of the Atlantic seaboard's offshore oil and gas resources were conducted in the 1980s. However, last year, after a ridiculously long wait of more than 1,200 days, Incidental Harassment Authorizations (IHAs) were finally issued to five companies eager to conduct the first seismic surveys in US Atlantic waters in more than 30 years. It now appears that four of the five companies that filed requests with BOEM for permits to survey the mid-Atlantic OCS could soon proceed.

Those 1980s surveys of offshore resources in the Atlantic resulted in estimates of 4.7 Bbbl of oil and 37.5 tcf of natural gas. However, since today's surveying technology is exponentially more sophisticated than technology used 30 years ago, there is good reason to believe those projections were far too low. That certainly was the case in the Gulf of Mexico, where the oil and natural gas produced from the region far surpassed estimates made in the 1980s.

REGULATORY AND ROYALTY REFORM

With companies looking globally for exploration opportunities, the United States must continue to evaluate how to keep the Gulf of Mexico and the remainder of the OCS attractive in light of competition from Brazil and Mexico. In addition to increased access to the OCS and more lease sales, the US needs a regulatory regime that encourages offshore energy development. Companies need a clear and stable regulatory environment to turn raw resources into the energy that powers our daily lives.

A first step has been taken. In 2017, the Trump administration lowered the shallow water royalty rate from 18.75% to 12.5%. The deepwater royalty rate, special case and end-of-well life royalties should be re-evaluated in light of recent studies comparing other countries total government take and incentives.

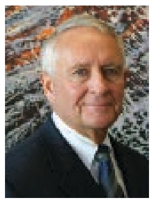
Other federal policies that should make a difference in 2019 include a round of discussion on the new air quality permitting; another stab at a consistent logical supplemental bonding and financial assurance program; and continual improvement in the rigs-to-reefs process.

WINDS OF CHANGE

Global energy demand is expected to increase by 28% by 2040, driven by economic growth in the developing world, and studies have projected that traditional energy sources will meet about 77% of this demand. The US Energy Information Administration (EIA) estimates that the world will need nearly $40 trillion in new energy investment by 2035 to keep up with demand.

The US oil and gas and industry has the technology and the know how to tap these valuable resources. To keep up with growing energy demands, we need all forms of energy, including offshore wind. With strong winds, a shallow continental shelf and close proximity to population centers, the Atlantic seaboard is driving strong interest in offshore wind development, and the offshore oil and gas supply chain stands to benefit. As we saw with Deepwater Wind's Block Island Wind Farm, the participation of companies that traditionally service the offshore oil and gas industry is a win-win for everyone involved. Wind companies get the unrivaled expertise and skill of companies operating in the Gulf of Mexico, and in turn these service companies tap a new, and much needed, revenue stream.

The face of the offshore energy industry is changing. New technologies are driving efficiency and safety gains and furthering linkages to other forms of energy production. NOIA believes that the right federal policies can benefit both consumers and the offshore energy industry and that is the message we deliver to Washington every day: the offshore industry can provide the energy certainty our nation needs.



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Can royalty reform kickstart the offshore industry?

RICHARD CLARK, *CHAIRMAN, NATIONAL OCEAN INDUSTRIES ASSOCIATION*

THE PAINFULLY SLOW recovery of the offshore oil and gas market – which has been glacial for service companies – is still trudging stubbornly along. The impact of the market crash was massive, and much work has gone into getting the industry back to where it is today with companies regaining profitability in a new and more competitive seascape. However, the US must continue to find new ways of remaining the premier destination for offshore energy investment and development. Deepwater royalty reform could kick start further recovery in the market and for offshore energy companies.

The devastating impact of the commodity price slide to the energy industry operating in the Gulf of Mexico cannot be overstated. Between 2014 and 2018, offshore development investment dropped by 30%, offshore exploration investment dropped by 80% and the offshore rig count fell by 50%. In the face of the lingering market downturn, offshore energy companies determined to survive cut costs and improved efficiency, and remarkably, the industry pushed offshore oil production to record highs.

Today, with oil prices hovering between $50-60/bbl, the offshore industry is showing renewed signs of life around the world. More than 100 offshore projects are expected to come online in 2019 – more than double the number of new projects from 2016. An additional $127 billion in new offshore projects globally could also be sanctioned in 2019. However, the location of these projects will not be the same as had been planned prior to the price collapse.

Countries like Mexico, Brazil and Guyana, hungry for economic growth and new energy production, have adopted competitive royalty policies to attract investment dollars. Billions of dollars are flowing to their offshore projects. The days of the US being the premier offshore player at the table, even in the Gulf of Mexico, are over.

The US Department of the Interior is slowly adapting to the changing offshore world. In July 2017, intending to attract investors to a mature segment of Gulf of Mexico production, Interior lowered the shallow-water royalty rate from 18.75% to 12.5%, bringing it on par with onshore royalty rates. The initial results are encouraging, with the number of bids for shallow-water blocks increasing in subsequent lease sales.

However, Interior's attitude toward deepwater has been cooler. Interior has not acted upon recommendations from the Royalty Policy Committee to bring deepwater royalty rates in line with the royalty rates for shallow-water and onshore projects, even though the 18.75% deepwater royalty rate is anachronistically uncompetitive.

Yet, there is room for optimism. Interior's Royalty Policy Committee (RPC) commissioned an update of the 2011 Comparative Assessment of the Federal Oil and Gas Fiscal System, a comprehensive report that examined the global competiveness of US royalty rates. Since the release of the original report in 2011, there have been several seismic shifts affecting the competitiveness of global offshore energy markets. Three major changes reflected in the updated study are Mexico's constitutional amendment allowing foreign companies to develop its oil and gas resources; massive oil and natural gas finds offshore Guyana and Brazil; and changes to the US corporate tax rate. Each of these changes dramatically changed the offshore market, which US royalty policy should accurately reflect.

In March 2019, BOEM released the first part of the updated study, which looks at both shallow water and deepwater royalty rates in the US Gulf of Mexico. The study shows that the deepwater plays in the Gulf of Mexico currently offer lower rates of returns than other producing margins throughout the world. High deepwater royalty rates are causing producers to turn away from the capital-intensive high-pressure/high-temperature (HP/HT) plays in the deepwater US Gulf of Mexico and instead focus their investments in areas offshore Guyana, Brazil, Angola, the United Kingdom, and Mexico.

It appears that current federal deepwater royalty rates are drying up US offshore investments.

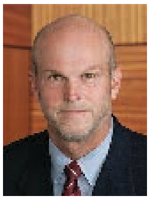
NOIA, through its work on the Royalty Policy Committee, is a strong advocate for deepwater royalty rates that are competitive with shallow water and onshore royalty rates. Unfortunately, Interior's current royalty framework is arbitrarily picking winners and losers. Part II of the royalty report, expected to be published later this year, should underscore the need for royalty reform and give the Department of the Interior the impetus to adopt smarter royalty rates.

The challenges facing the offshore industry have not lessened the need for offshore production; in fact, the US needs access to more areas for offshore exploration and development. The US Energy Information Administration (EIA) predicts that even by 2050, nearly 70% of US energy demand will still be met by oil and natural gas. New deepwater technologies and new efficient practices, combined with onshore shale production expected to plateau by the mid-2020s, are bringing investment dollars back to the US Gulf of Mexico.

The pendulum is swinging back toward offshore, and the

US must seize this opportunity by incentivizing investments in new offshore oil and gas projects.

As long as the US, and the world, need affordable and reliable energy, oil and natural gas will be vital components of a responsible and balanced "all of the above" American energy portfolio. Deepwater royalty reform can help the US reclaim its competitive edge in the offshore world and drive new job creation, economic growth, and increased energy security at home. Wise decisions by policy makers can ensure that U.S. producers are able to answer the call.



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Richard Clark is President of the Gulf of Mexico Business Unit for Kosmos Energy and Chairman of the National Ocean Industries Association (NOIA). He was previously the President of Deep Gulf Energy, which he formed in 2004. Kosmos Energy purchased Deep Gulf Energy in August 2018. Prior to forming Deep Gulf Energy, he served in a variety of engineering and operational positions including Chief Engineer, Operations Manager, Production Manager, Vice President–Production, and Executive Vice President of Mariner Energy, Inc. and its predecessor companies from 1984 to 2002. Clark was one of the four founders of Mariner Energy, Inc., and a member of the Board of Directors from 1988 until leaving the company in 2002. Clark began his career as Production Engineer for Shell Offshore from 1979 to 1984. He graduated with a Mechanical Engineering Degree from the University of Tennessee at Chattanooga in 1979.

NOIA represents all phases of offshore energy

THE NATIONAL Ocean Industries Association (NOIA) is the only national trade association representing every segment of the offshore energy exploration and production industry.

Comprising around 250 companies, NOIA represents offshore drillers, producers, supply vessels, air transport, geophysical survey, shipyards, offshore construction, wind power, equipment manufacture and supply, telecommunications, financiers, insurers, and much more.

NOIA focuses on two core issues:

1. Securing reliable access to the nation's valuable offshore energy resources in order that they may be developed, produced, and supplied in an environmentally responsible manner
2. Improving the economic climate for NOIA members to conduct business in the United States.

ABOUT NOIA

In 1972, industry leaders joined together to form NOIA – a unique organization interested in expanding the federal offshore leasing program by promoting the safe and efficient development of outer continental shelf lands.

NOIA's advocacy relies on the guidance of the entire spectrum of the offshore energy and related industries. Today, around 250 companies have united in support of reliable access to offshore energy resources, forming a powerful coalition that achieves positive results in Washington, D.C.

NOIA's staff wields the combined clout of every one of the member companies as it advocates before Congress and the Executive Branch, and influences industry-related policy decisions. NOIA:

- Facilitates member access to regulatory and legislative processes, provides customized advice on policy issues, and works to favorably impact policy decisions relating to the offshore industry
- Engages the media and the general public in a constructive dialogue on energy issues, showcasing the industry's technological pioneering and environmental performance
- Hosts the two largest annual gatherings of senior executives in the offshore oil and gas industry
- Legislative Strategy Group facilitates the cooperative development of industry-wide strategies for effectively impacting legislative and regulatory decision-making
- Promotes and supports outreach programs that educate the public about energy issues and help the nation make informed decisions concerning the use of energy, such as the National Energy Education Development project.

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