Hunting Elephants can be a dangerous pastime
Reversing the growth in dependence on imported oil is a major objective that underpins the Obama administration’s emerging energy strategy. Achieving this objective has potentially become more complicated by the recent Deepwater Horizon incident on the BP operated Mississippi Canyon Block 252 in the US Gulf of Mexico (GoM). Although the seriousness of the incident in the Gulf should not be under-estimated, the fact remains that oil sourced from deepwater production has been playing an increasingly significant role in supplying the US, the world’s largest oil market, with its energy needs.

Luke Davis and Dr. Roger Knight of Infield Systems Ltd discuss the impact of the Macondo disaster on US energy policy, and also on the near-term investment decisions relating to deepwater oil and gas (O&G) projects in the United States.

The GoM and US Oil Needs
The United States is the largest consumer of oil in the world, with the US Energy Information Administration (EIA) expecting demand to be approximately 20 million barrels per day in 2010. While the EIA, in its Annual Energy Outlook 2010, states that US demand for petroleum-based liquids will remain relatively flat over the next two decades, the size of the US oil market is such that the requirement to boost domestic production in order to help prevent further growth in the share of oil imports is still substantial. Indeed approximately 57% of the US’ petroleum needs are supplied by oil imports and reversing the trend of growing import dependence is a key priority for the Obama administration.

In this respect the GoM is crucial to this policy objective as deepwater plays in the region are one of the few forecasted growth areas in terms of domestic production in the United States. We therefore expect to see the GoM becoming increasingly important in meeting the US’ petroleum needs for the foreseeable future. Nevertheless, as a possible outcome of the GoM oil spill, the Obama administration will face a delicate balancing act between seeking to reverse rising dependence on oil imports and meeting environmental concerns related to offshore oil and gas development.

Deepwater Holds the Key
Up until relatively recently the GoM was mainly a shallow water region with the vast bulk of production stemming from waters of less than 200 metres. However, with improvements in drilling and production technology the region’s Majors – including BP – have moved further offshore in search of more lucrative plays in the Lower Tertiary. The discovery of the Tiber prospect by BP in September 2009, located on Keathley Canyon block 102, is a case in point. Estimated to contain between 4-6bn bbls of oil Tiber has illustrated the potential of deepwater exploration, incentivising operators to sustain their deepwater Capex commitments in spite of a period of depressed oil prices and global recession.

Indeed, it is deepwater discoveries such as this that have enabled the GoM to reverse its production decline seen since the early part of the last decade, and, according to EIA data, output in the region reached a record monthly peak of 1.715 million bpd in December 2009. This has been due in no small part to the impact of new deepwater production from fields such as Shenzi, Atlantis, Blind Faith, Tahiti and Thunder Horse.

Given the production growth of deepwater oil regions in the GoM there has been steadily rising pressure on the US government to end moratoriums placed on offshore exploration and development of O&G reserves located elsewhere in the US Outer Continental Shelf (OCS). This pressure was heightened by concerns over a rising reliance on crude imports and escalating oil prices that peaked at $147 per barrel in the summer of 2008. As a result, in July 2008, President Bush lifted a presidential ban that had prevented leasing on the OCS except for the Western GoM, parts of the Central and Eastern GoM, and Alaska. Just two months later US Congress allowed its own ban on offshore drilling to expire.
Then in late March 2010 the Obama administration decided to open up certain parts of the US OCS to offshore oil and gas exploration and development. According to a statement from Ken Salazar, Secretary of the Interior, the announcement of a new strategy for the OCS included opening up for development new areas in the Eastern GoM as well as increasing the potential for oil and gas exploration in frontier regions such as the Arctic Ocean and the Mid and South Atlantic seaboard. Specifically, the strategy called for four more lease sales in the GoM by 2012, and after that year the opening up of two-thirds of the oil and gas resources in the eastern gulf for development. It also included plans for two further lease sales, one off the coast of Virginia and one in the Cook Inlet in Alaska.

But barely three weeks after the Obama administration announced its OCS Strategy disaster struck in the GoM when the Transocean semi-submersible rig Deepwater Horizon, on contract to BP, experienced an explosion and subsequent fire. With the rig destroyed the resultant oil spill into GoM waters is estimated, at the time of writing, to be at a rate of 5,000 barrels a day.

Set Back
An incident such as this is bound to have an impact on the debate concerning the direction of US energy policy. For now the Obama administration has put a hold on new offshore oil drilling leases being awarded, and it also announced a pause on scheduled discussions to explore drilling offshore Virginia on the US East coast. However the OCS strategy in its entirety as announced in late March has not yet been revoked. Instead, Robert Gibbs, the White House press secretary has been quoted as saying that the review of the Macondo incident could delay the next OCS lease round, the Western Gulf of Mexico Lease Sale 215, currently scheduled for August 18th, 2010.

It seems that the Obama administration’s response will not be clear until such a review has taken place. White House Senior Advisor David Axelrod also stated on the ABC Network’s Good Morning America that President Obama “Is not going to continue the moratorium on drilling [but that] no domestic drilling in new areas is going to go forward until there is an adequate review of what's happened here and of what is being proposed elsewhere."

An early indication that the Obama administration will likely take a more hands on role in its response to the GoM spill is the announcement by Secretary of the Interior Salazar that the Minerals Management Service (MMS) would be restructured. The US government now aims to separate the MMS’s inspection, investigation, and enforcement activities from its leasing, revenue collection, and permitting operations; provide additional resources for federal inspectors; enable the National Academy of Engineering to conduct an “independent, technical investigation” to determine the cause of the Deepwater Horizon incident; and finally to expand from 30 to at least 90 days the congressionally-mandated deadline for the MMS to act on exploration plans that oil and gas companies submit.

Given the impact of the Deepwater Horizon incident, if there is still to be an expansion of offshore drilling in the US it will likely come under a more stringent regulatory environment, something which would in turn increase the costs of offshore exploration and development, especially in deepwater plays. As an example Democrats in Congress are reported to be pushing for an increase in the corporate liability cap for oil companies for oil spills to $10 billion from $75 million. Additionally, further inspection and testing of equipment on board rigs and new training initiatives designed to increase operational safety may also increase development costs.

Is Deepwater E&P now in Jeopardy of Slow Down?
Offshore drilling is an inherently risky in business. Over the years the industry has become better equipped to deal with the risks involved but with such a rapid move into deeper waters, as witnessed over the last decade, operators have taken a step into an environment where the risks associated with exploration and production are magnified. The high temperature, high pressure fields that characterise deeper waters only serve to make operations more difficult. Whilst at the time of writing we do not know exactly what caused the Macondo disaster, the challenges of mobilising emergency and spill prevention measures over such extreme distances and into such extreme water depths has been demonstrated.

However, the importance of deepwater GoM to both the operators exploring and developing the region and to the US economy itself should not be underestimated. From the perspective of International Oil Companies (IOCs) the
GoM region, and in particular the Lower Tertiary Trend, offers the prospect of giant oil finds in a politically stable operating environment in which private investment is actively encouraged. Indeed, as reserves of easily recoverable oil become increasingly rare outside the domain of OPEC member states, IOCs have been forced into deeper and harsher operating environments in which to find opportunities for production growth. Consequently the risks associated with that exploration have grown.

In the US GoM this has led to record setting lease sales as oil companies jostle for operatorship of the most promising blocks. The latest round, MMS Lease Sale 213 for the Central GoM, attracted US$949 million in high bids for 468 blocks. This total is greater than the figures recorded at last year’s central gulf sale which attracted US$703 million in high bids. In the latest sale the highest bid was placed by Anadarko and Mariner Energy for the deepwater Walker Ridge Block 793, whilst Keathley Canyon Blocks 62, 76 and 77 attracted the highest number of individual bids. It is the now proven potential of these areas, particularly the Lower Tertiary and Lower Miocene trends, which have driven bidding competition in the GoM and made the region central to many IOC growth strategies.

Indeed, a brief inspection of the deepwater Capex figures directed towards the GoM reveals the emphasis operators place upon the region. On a global level, the deepwater region of the GoM is forecasted to attract 23% of total deepwater Capex between 2010 and 2014 – equating to over US$40 billion of investment on platforms, subsea infrastructure, pipelines, control lines and single point moorings. Moreover, when we look at spend by region, less National Oil Company (NOC) Capex, we see that the GoM attracts almost a third of global total deepwater expenditure - highlighting the importance of the region to IOCs. Indeed, the US is forecast to attract more deepwater non-NOC Capex than any other country, and as a region is second only to West Africa where the Majors have invested heavily in Angola, Nigeria and Ghana.

Such heavy investment has paid off and the discovery of new reserves located in deepwater has progressively increased since the turn of the millennium. Indeed, there has been a distinct trend towards deepwater for many years, and, as the graph below shows, the larger fields have increasingly been found in areas where water depths are over 1,000 meters for some years now. At the same time offshore Capex has steadily increased in water depths of over 500 meters of water.

![Graph showing US Gulf of Mexico Oil Discoveries by Water Depth and Discovery Year](image)

However, in light of the Macondo incident, and the knock on effect this will likely have on the regulatory environment in the GoM, and indeed further afield, legitimate questions have arisen regarding the future development of deepwater reserves.

In the short term the incident has the potential to slow exploration and appraisal (E&A) activity. Firstly, from a purely supply perspective, the region has lost an asset: Transocean’s Deepwater Horizon. Secondly, three other deepwater rigs, including the Discoverer Enterprise, Development Driller II and Development Driller III have been earmarked for relief work at the Macondo spill site. In addition Diamond Offshore’s semisub Ocean Endeavour, currently working on ExxonMobil’s Mica field, was evacuated - although it is now operational again. This has effectively taken four rigs
out of action in the GoM, and, with an expected two to three month completion time for the Macondo interception well, the Development Driller III, currently drilling this relieving well, will be tied up for some time.

Figure 2: BP’s Gulf of Mexico Interests, deepwater rig locations and the Macondo oil spill (ISL)

For BP, the Deepwater Horizon tragedy is costing the company an estimated US$6-8m per day and is jeopardising the major’s position as number one operator in the GoM. As the accompanying map shows, BP has a huge swathe of undeveloped deepwater blocks in the region and it is in precisely these areas that the company is seeking to expand its production portfolio. But with all of its GoM deepwater capable rigs now completing relief work at Macondo, BP’s 2010 E&P strategy is bound to be setback.

Indeed, looking further ahead, the disaster at the Macondo well could potentially delay the final investment decisions on many BP operated interests through 2010-11. In the US alone, developments such as Tubular Bells, Mars B, Atlantis Phase 2, Galapagos, Na Kika Phase 2 and 3, and Horn Mountain Phase 2 – which were due for final investment decisions in 2010 – could all be at risk of delay. Furthermore, in 2011 two projects that BP planned to sanction – Mad Dog Phase 2 and Na Kika Phase 4 – could also be at risk of delay. Much of this will depend on the size of BP’s war chest after the cost of the spill cleanup has been deducted.

As one of the largest spenders in the GoM, with a forecast deepwater Capex of US$7,700 million over the 2010-2014 period, a potential withdrawal or even slowdown of BP deepwater activity would have serious ramifications for the region. To date operator comments suggest that project timings are unlikely to be affected, however we remain conservative.

Away from BP, other deepwater projects around the GoM could also be adversely impacted. Petrobras for example has already come out to say that it intends the development timeline for Cascade Chinook to be unaltered. However, the Brazilian national oil company is working on the assumption that the current pause on further development drilling will have been lifted by August 2010. Looking more broadly, with the prospects of increasing...
legislation and restrictive measures on drilling activity, the GoM deepwater market may see some price inflation, and this in turn may render more marginal fields uneconomical.

Much of the media spotlight which has identified longterm impacts of the spill on the GoM have focussed on the US fisheries or coastal industries. However we need to be acutely aware of the potential impacts of this unfortunate accident on the development prospects of the GoM. Here we may see deadlock develop between the Oil companies which have invested so much in deepwater acreage and technology, and the legislators whose job it is to prevent accidents similar to Macondo from occurring again.

Turning attention back again to BP, which, understandably, is likely to be the most affected of the Majors operating in the GoM; delays, deferrals and cancellations could have a major impact on total deepwater production. Indeed, as detailed by the graphic below, BP looks to be one of the key players going forward. Should any BP operated fields be cancelled a significant drop in production should be expected. Furthermore, if ongoing deepwater development was severely affected, such as in our worst case scenario presented below, then we would expect production growth to be dramatically eroded. This would have a substantial impact on how achievable the Obama administration’s plans are to make the US less reliant on imported hydrocarbons.

![Figure 3: US GoM Deepwater Production Forecast (ISL Offex™)](image)

The eventual impact that the Macondo incident has on BP will be naturally dependent on the outcome of the myriad of investigations and law suits which are currently underway, not to mention the policy and legislative response from the Obama administration and US Congress. The three parties under most scrutiny; BP the field operator, Transocean the rig manager and Halliburton the oilfield services provider are blaming one another for the incident. In all likelihood the process of identifying responsibility for the Deepwater Horizon incident will be a protracted one.

While the US policy response to the Deepwater Horizon incident may slow the pace of growth of the deepwater sector in the US, we believe that a prolonged ban on new drilling activity is unlikely. The GoM is one of the major O&G basins in North America and it now accounts for 28% of total US oil production. However, the push to open up more offshore regions to exploration and development may be delayed as the regulatory environment tightens and project costs rise, and this in turn may slow the rate of any production growth in deepwater regions.

Furthermore, the Macondo incident has highlighted the fact that deepwater operations involve considerable technological risk. While we believe it is possible that short term delays in exploration and development may occur in order to facilitate a safer offshore operating environment we also expect that in the GoM, as well as offshore Brazil and West Africa, that efforts to develop deepwater prospects will still be made given the size and importance of these regions’ reserves.

In the meantime all efforts will naturally be focussed on stemming the flow oil from the Macondo well and also on the cleanup operation across the GoM. Ascertaining the exact cause of the accident will be a key priority over the next few months as governing bodies, oil companies, and rig managers alike seek to learn from this tragic incident, so that the deepwater industry can move forward in a safer operating environment.