AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

An International Geological organization

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Jason Grumet
Bipartisan Policy Center
1225 I Street, NW, Suite 1000
Washington, DC 20005

Dear Mr. Grumet,

Thank you for the opportunity to provide input and perspective as the Bipartisan Policy Center (BPC) assists the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (Commission) in evaluating "the use of moratoria as a method for mitigating future harm in the immediate aftermath of a spill."

I am writing on behalf of the American Association of Petroleum Geologists, the world's largest scientific and professional geological association. Our nearly 34,000 members in 116 countries are the professional geoscientists in industry, government, and academia who practice, regulate, and teach the science and process of finding and producing energy resources from the Earth.

The purpose of AAPG is to advance the science of geology, foster scientific research, and promote technology development. The association strives to increase public awareness of the crucial role that the geosciences, and particularly petroleum geology, play in energy security and modern society.

As the Commission conducts its review and assessment of the Gulf oil spill, offshore drilling practice, and the role of moratoria, AAPG hopes to provide useful geological context.

Exploration and production of oil and natural gas is an exercise in risk management. Effectively managing risk requires access to data, which is why operators spend significant resources collecting and monitoring data throughout the exploration and production process. Data collection and evaluation is essential to identifying an exploration prospect. And it continues through development drilling, field production and reservoir management.

When looking at different types of wells – exploration versus development – there is variability in geologic knowledge. An exploration well is appropriately named: the operator is exploring for

petroleum, but won't know whether it is there until the well is drilled. As a result, these wells typically have greater geologic uncertainty than development wells, regardless of water depth.

The operator minimizes this uncertainty using technology and data. Seismic data and regional well data permits development of a geologic model and inference of expected pressures that the drill bit will encounter. These data have direct impact on the casing design and the drilling mud used during drilling.

A properly designed drilling mud program is essential to controlling the formation pressures encountered in the well bore to prevent a blow out. Because geologists work with analogs based on data from nearby wells, it is a safe and relatively simple practice to use projections of formation pressures from these nearby wells to design a mud program. Where nearby wells do not exist or have not drilled into the formation of interest, the best predictor of formation pressure is a velocity profile – that is the speed that sound travels through the geologic rock formations – generated from processed seismic data. The quality of the prediction is directly related to the quality and density of the seismic data.

Throughout the drilling process, the operator is not just evaluating how the drilling is proceeding, but also how the data collected matches expectations from the geologic model. Significant divergence between predicted/modeled conditions and measured conditions in the well bore could warrant additional consideration.

If the exploratory well results in a commercial discovery, the development of an oil field usually requires the drilling of additional wells to delineate the field and optimize oil and gas production from the reservoir. Because these wells are drilled through the same formations as the exploratory well, the operator has a better idea of the expected conditions the drill bit will encounter. And as more wells are drilled the regional geological knowledge improves, further reducing uncertainty.

When considering geological uncertainty, it's important to remember that none of these risk factors – well depth, pressure, geologic formation or well type (exploration, development, or production) – appear to have been at play in the BP Macondo well explosion.

The failure of key blowout prevention (BOP) technology on the BP Macondo well is one focus of the investigations analyzing the causes of the oil spill. The location of BOPs is a difference between shallow and deep water wells.

In shallow water, depths accessible by jackup rigs and rigs mounted on fixed platforms, the BOP is mounted below the rig floor and above the water line where it is accessible for human intervention. In deep water, the BOP and the associated well head are located on the seafloor in water depths often beyond the reach of divers. Otherwise, drilling operations below the seafloor are virtually the same in shallow and deep water.

As the Commission conducts its investigation and evaluates the use of moratoria as a policy tool, it should consider that over 60 years there have been more than 53,000 wells drilled in the U.S. Gulf of Mexico (GoM). Over 4,000 of these wells are in more than 500 feet of water, and over 500 in more than 5,000 feet of water.

Before BP Macondo there had only been two GoM blow outs/spills over 50,000 barrels, both in 1970 (MP 41-C at 65,000 barrels and ST 26-B at 53,000 barrels), and none over 100,000 barrels, according to

an analysis of oil spillage conducted by Environmental Research Consulting on behalf of the American Petroleum Institute.[1] Viewed against the historical safety record in the GoM, the BP Macondo oil spill is a dramatic and tragic aberration.

Imposing a drilling moratorium in response to such a massive oil spill, while perhaps understandable, is not an optimal policy response. In fact, the disruption to on-going operations by imposition of a moratorium can increase the risk of additional spills by requiring rigs to suspend operations "mid-stream," and set the stage for loss of trained personnel due to layoffs.

Immediately conducting inspections of offshore drilling facilities to ensure compliance with current regulations is the appropriate first response to such an event. In the aftermath of BP Macondo it occurred within a matter of days/weeks.

Absent a moratorium, such inspections would have permitted continued safe offshore drilling operations, while the Commission and others investigated the causes of the spill. The outcome of these investigations should then guide any necessary regulatory changes.

An offshore drilling moratorium is a blunt policy tool that is more destructive than beneficial. Its high cost has been evident this year, as the moratorium imposed in May exacerbated the already substantial economic harm experienced along the Gulf coast from this tragic event. Consequently, AAPG believes that future federal plans for spill response preparedness should not include the use of moratoria.

Please contact me with additional questions, or for clarification.

Sincerely,

David Rensink
AAPG President

[1] Etkin, Dagmar Schmidt (2009) Analysis of U.S. Oil Spillage, American Petroleum Institute Publication 356, 86p. http://www.api.org/Newsroom/safetyresponse/upload/Analysis_US_Oil_Spillage.pdf (accessed August 6, 2010)