

LEGISLATIVE RESEARCH COMMISSION ADVISORY SUBCOMMITTEE ON
OFFSHORE ENERGY EXPLORATION

Wednesday, April 15, 2009

Jim Graham Building, Raleigh, NC

The Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration met on Wednesday, April 15, 2009 at 10:00 a.m. in the Jim Graham Building, N.C. State Fairgrounds, Raleigh, NC.

The following Subcommittee Members were present:

Dr. James R. Leutze, Co-Chair, Dr. Douglas N. Rader, Co-Chair, Dr. Lawrence Cahoon, Dr. Orlando Hankins, Edward S. Holmes, Dr. Jamie Brown Kruse, Jane R. Lewis-Raymond, Dr. Christopher S. Martens, John M. Monaghan, Mayor Mac Montgomery, Dr. Michael K. Orbach, Walter D. Phillips, M. Paul Sherman, Dr. Laura O. Taylor, W. Hugh Thompson, Paul Tine, Dr. Jeffrey D. Warren, William Weatherspoon, Dr. Nancy White.

Attached is the Visitor Registration Sheet that is made a part of the minutes. (See Attachment No. 1)

Dr. James R. Leutze, Co-Chair, presided over the meeting. After calling the meeting to order, he welcomed the Subcommittee members. Dr. Leutze told the committee that since the final report was due May 1st they must work diligently in order to meet the deadline. However, they have asked for an extension of time and a broadening of the scope of the Subcommittee to include alternative offshore energy projects. He said this issue is serious enough that in order to do it right, the Subcommittee would need an extension of time, with a reporting deadline at the opening of the Regular Session of the General Assembly next year.

Dr. Rader said that as North Carolina goes forward, they want to make the best decisions, in order to provide a secure energy plan for North Carolina that is also environmentally friendly and meets the needs of the coastal community.

Dr. Leutze said that he had no preconceived position and wants to provide the Legislature with the best information so they can make the most informed decision for the State. Dr. Leutze then said that he wanted to make sure that the committee was balanced and fair in looking at the issues. He said there has been a lot done on this subject already, but there were also new technologies, so they should be open-minded.

Dr. Leutze asked the Subcommittee members to introduce themselves and raise any questions they were interested in.

Some of the questions/concerns/interests expressed by the Subcommittee were:

- Economic development of the coast without harming the environment
- Economic impact to the coast of North Carolina – Tourism
- Making sure that information from scientists gets gathered and dealt with
- Land use policies
- Science related policies
- Explore energy options for the future
- Protect the natural resources of the ocean
- Long term energy policy
- Rural economic development/suppliers
- Revenue Sharing
- Natural and Social Science
- Vision for the future of coast communities
- Hidden factors (ex. concern for bacteria in water which will result in sending people home and resulting in fishermen being unable to fish, which in turn, affects the economy)

Duke Chen, Counsel for the Subcommittee, explained the authorizing legislation that created the Subcommittee and then reviewed the proposed budget with the Subcommittee. A motion was then made by Mayor Montgomery to accept the Budget and it was seconded by Dr. Orbach and the budget was approved.

All PowerPoint presentations can be found at:

<http://www.ncleg.net/gascripts/DocumentSites/browseDocSite.asp?nID=53>

Michael Lopazanski, Coastal & Ocean Policy Manager of the N. C. Division of Coastal Management made a presentation on the history of North Carolina offshore drilling (See Attachment No. 2). Mr. Lopazanski described the components of the N.C. Coastal Management Program, which included consistency components to ensure consistency between state and federal actions. Then he goes on to give a summary on the existing laws and authorities that are given to various State entities in the consistency review process. Mr. Lopazanski then moves onto a timeline of offshore drilling in North Carolina. He began with Mobil and moves onto Chevron, explaining each step of the process and their significance. He then gave a quick overview on what sorts of resources might be found offshore and then he moves on to talk about the moratorium on offshore drilling and the ban being lifted. Finally, Mr. Lopazanski concluded his presentation by talking about the current state of offshore drilling. He presented the current MMS 5-year lease plan, as well as, the proposed 5-year lease plan that includes a sale off the coast of Virginia.

David Marin, Regional Supervisor for Resource Evaluation, Minerals Management Service (MMS), made a presentation on the resources off the coast of North Carolina (See Attachment 3). Mr. Marin's group oversees offshore lease sales, does evaluations and makes sure the public gets fair market value on those leases. They do resource assessments and then start a reserve inventory program once there is development. Mr.

Marin said that companies that wish to drill have to go through MMS to get permits, and once they do, MMS has access to all of their data. Mr. Marin then talked about how the assessment of undiscovered oil and gas resources helps make policy and provides an independent estimate of the Nation's resources. Mr. Marin then asked why Nova Scotia, which is 1,000 miles away, is of interest. It is because Deep Panuke, a discovery on the "carbonate margin," represents the most recent discovery in an area of the Atlantic margin where oil and gas exploration and production are on-going. It provides a reasonable analog for one of the potential oil and gas plays off the coast of North Carolina. Mr. Marin then stated that there was limited prospectivity for nearshelf drilling, but in the Carolina Trough Salt Basin and Carbonate Margin, it is more prospective; but since it is undrilled, it is speculative at this point. Mr. Marin concluded his presentation by saying the risks of drilling vary depending on the geology, but North Carolina does have moderate to high potential for oil and natural gas offshore.

James Coleman, Director, Eastern Energy Resources Science Center, USGS also made a presentation on resources off the coast of North Carolina (See Attachment 4). The U.S. Geological Survey (USGS) is currently conducting an oil and gas resource assessment study of the Mesozoic basins located in the onshore area and state waters of the eastern United States. (the status of Investigations into the Oil and Gas Resource Potential of the Onshore Lands and State Waters in North Carolina is available at:

<http://energy.cr.usgs.gov/oilgas/noga/>) Mr. Coleman said they are going to look primarily at Albemarle and the Pamlico Sound in the State waters area. They are conducting an active resource assessment study for all of the Mesozoic basins located in the onshore area and state waters of the eastern United States. In the case of North Carolina, this boundary is three miles offshore. This study is part of the long term National Oil and Gas Assessment (NOGA) project of the USGS to assess the oil and natural gas endowment and the reserve growth potential of the United States, exclusive of Federal waters. Although no commercial accumulations of petroleum have been found to date under the coastal plain and state waters, the suggestion that there might be economic quantities of oil or natural gas present in the eastern part of the state in the vicinity of the nine wells that reported shows deserves an investigation. If it can be determined that the oil and gas shows are valid reports, then the ongoing study will seek to explain the origin of these shows.

Michael Saucier, Regional Supervisor of Field Operations, Minerals Management Service, made a presentation on Technologies for Offshore Drilling (See Attachment 5). Mr. Saucier gave an overview of drilling technology and the types of rigs being used. He explained in times of emergency, the rigs are automatically shut off due to the automatic mechanical systems. He also added that, typically, most of the fuel evaporates before it hits the beach when they have a spill due to hurricanes or storms. Mr. Saucier informed the Subcommittee that when a hurricane is forecasted, the rigs will be detached and has the ability to be moved to a safer location. Mr. Saucier then said that MMS drills three to four hundred wells a year and inspect over 12,000 platforms a year in the Gulf of Mexico. In total, he estimates they have drilled over 30,000 wells in the Gulf of Mexico without any major incidents. Mr. Saucier also explained that not all drilling is done vertically; in fact, a lot of offshore drilling is done horizontally. As technologies improve, the

distances from the drilling location has increased. Currently, the longest gas well tieback is 77 miles and the longest oil well tieback is 17 miles. Mr. Saucier concluded his presentation by giving a brief overview on what sorts of onshore infrastructure would be needed to produce oil and natural gas; he included such things as port facilities, helicopter hubs, processing facilities, pipeline facilities, and construction facilities.

Andy Radford, Senior Policy Advisor, American Petroleum Institute also made a presentation on the Technologies associated with Offshore Drilling (See Attachment 6). Mr. Radford began his talk by stating the need for additional sources of oil and natural gas and where to find the reserves. He said there were a lot of other countries actively promoting the production of oil and gas off their shores and they do it in an environmentally friendly manner and in conjunction with fishing and tourism industries. Mr. Radford then presented the technological advances in offshore drilling. He said that the equipment used today has the ability to withstand higher temperatures and pressures, the computing power used for detection and reaction is also vastly improved, and finally the waste management practices greatly limit fluid discharge associated with drilling. He goes on to state the oil industry has an environmental track record that is enviable and they are continuously working to improve their safety. Mr. Radford concluded by presenting future advances in offshore drilling technology. These improvements would include lighter and stronger material, which would allow for greater drilling distance; advances in computer technology, which would allow for increased accuracy and resolution of subsurface images; and nanotechnology, which would enhance recovery by 10 percent.

Steve Ross, Research Associate Professor, UNC-W, Center for Marine Science then gave a presentation on the Marine World and Hydrocarbon Exploration (See Attachment 7). Dr. Ross began his talk by presenting the major soft and hard bottom resources of concern in North Carolina; he said the biggest issue facing these resources is degraded habitats and overfishing. He then moved on and talked about deep-sea coral habitats, which are home to a variety of fish. Dr. Ross then talked about North Carolina's large estuaries and extremely long coastline; he also said the Gulf Stream has a major influence on our environment, climate and ecology of this region. Dr. Ross went on to say that he believed the oil industry could drill wells successfully in deep water with minimal environmental impact. It is what comes afterwards that is a concern, for example, he has concerns about what pipelines might do to the environment.

Cindy L. Van Dover, Harvey W. Smith Professor of Biological Oceanography, Nicholas School of the Environment, Duke University gave a presentation on Methane Hydrate Settings off North Carolina and Hydrate Dependent Habitats (See Attachment 8). Dr. Van Dover began her presentation by giving some quick facts about methane hydrates, which has the largest reservoir of organic carbon on the planet. She described it as the "ice that burns." Dr. Van Dover then talked about the studies she had been involved in, which resulted in her diving and studying these habitats. But the distribution and variety of these habitats is not known in this area and there are many un-described species. Dr. Van Dover concluded by saying we need to start thinking about restoration if there was drilling in these habitats.

Dr. Leutze said that about 10 years ago UNC-W was visited by someone from the Department of Energy and they wanted to do research on methane hydrates. There was not a lot of interest at that time but Geologists projected that there was enough energy potential in the methane hydrates off the coast of North Carolina to fulfill the State's natural gas needs for 15 years. Dr. Leutze said that it is an enormous potential resource but it is highly volatile.

Dr. Leutze announced that the next meeting will be held at the Carteret Community College in Morehead City on April 27, 2009 at 10:00 a.m. They plan on public comment in the afternoon and may well go into the evening.

Meeting was adjourned at 4:35 p.m.

Dr. James Leutze, Co-Chair

Joyce Miles, Committee Clerk

Dr. Douglas N. Rader, Co-Chair