Legislative Research Commission
Advisory Subcommittee on Offshore Energy Exploration

STATE OF NORTH CAROLINA
LEGISLATIVE RESEARCH COMMISSION
LEGISLATIVE BUILDING
RALEIGH 27601-1096

May 5, 2010

Senator Marc Basnight
Senate President Pro Tempore
Legislative Building Room 2007
Raleigh, NC 27601

Representative Joe Hackney
Speaker of the House of Representatives
Legislative Building Room 2304
Raleigh, NC 27601

By strange coincidence, within a week after this report was approved by the Subcommittee, the *Deepwater Horizon* drilling rig exploded, burned, and sank into the Gulf of Mexico off Louisiana, generating a still-growing oil spill. This event, the full consequences of which are still unknown, immediately rendered outdated important elements of this report. Some of the factual information we were provided – the technological sophistication of drilling, the fail safe functions built in, etc. – proved unduly optimistic. Further, important federal policy changes have now occurred, inconsistent with this report.

One incident does not – of course – undermine the whole concept of offshore drilling, but it is certainly a wake-up call and a reminder of the risks involved. It also re-emphasizes the importance of incorporating offshore drilling into a state energy policy. The risks and the rewards are hard to balance, absent a comprehensive understanding of the state's energy needs and plans to meet them.

We had hoped to turn over to the Governor's Scientific Advisory Panel a nearly complete study that, while requiring important follow up work, would nonetheless constitute a major step toward determining state policy. Unfortunately, these recent developments, including President Obama's reconsideration of his decision to consider opening the mid-Atlantic region to offshore drilling, and the looming catastrophe in the Gulf, may require a more extensive reevaluation of our findings, at least as regards to oil drilling.

Consequently, we deliver this report to the Legislature with regrets that we cannot be more definitive at this time. And in the same vein, pass on our work to the Governor's Scientific Advisory Panel, recognizing there is now even more work to be done.

Dr. James R. Leutze, Co-Chair

Dr. Douglas N. Rader, Co-Chair

NORTH CAROLINA GENERAL ASSEMBLY

LEGISLATIVE RESEARCH COMMISSION ADVISORY SUBCOMMITTEE ON OFFSHORE ENERGY EXPLORATION

FINAL REPORT TO THE LEGISLATIVE RESEARCH COMMISSION

APRIL 13, 2010

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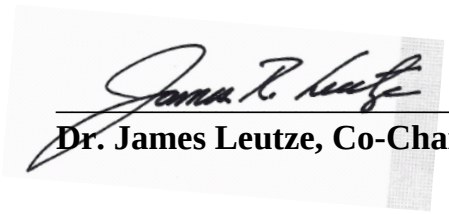
LIST OF ACRONYMS

CAMA	North Carolina Coastal Area Management Act
CZMA	Federal Coastal Zone Management Act
CRC	Coastal Resources Commission
DOI	Department of the Interior
EIS	Environmental Impact Statement
GOMESA	Gulf of Mexico Energy Security Act
MMS	Minerals Management Service
LWCF	Land and Water Conservation Fund
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
POE	Plan of Exploration

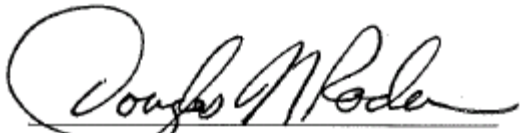
TRANSMITTAL LETTER

TO THE MEMBERS OF THE LEGISLATIVE RESEARCH COMMISSION:

Attached for your consideration is the final report of the Advisory Subcommittee on Offshore Energy Exploration established by the President Pro Tempore of the Senate and the Speaker of the House of Representatives pursuant to G.S. 120-30.10(c). The Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration, respectfully submits the following report.



Dr. James Leutze, Co-Chair



Dr. Douglas N. Rader, Co-Chair

PREFACE

Pursuant to North Carolina General Statute 120-19.6 (a1), the President Pro Tempore of the Senate, Marc Basnight, and the Speaker of the House of Representatives, Joe Hackney, established the Offshore Energy Exploration Study Committee on January 16, 2009. The 24-member committee was composed of members of the public, with 12 appointments made by Senator Basnight and 12 made by Speaker Hackney. On February 11, 2009, the 24 public members of the Committee were re-appointed to the Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration. Appointments were set to expire upon the filing of the Subcommittee's final report to the Legislative Research Commission or May 1, 2009, whichever occurred first. On April 28, 2009, Senator Basnight and Speaker Hackney extended the duration of the Subcommittee to the filing of its final report or on the convening of the 2010 Regular Session of the 2009 General Assembly, whichever occurred first. At that time, in addition to studying petroleum exploration and development, the Subcommittee received the authority to study the potential impacts of alternative offshore energy projects on the nation's energy supply, including energy generated from wind, waves, ocean currents, the sun, and hydrogen production.

Since its creation, the Subcommittee has held the following eleven meetings:

April 15, 2009 - Jim Graham Building, North Carolina State Fairgrounds, Raleigh
April 27, 2009 - Joselyn Hall, Carteret Community College, Morehead City
May 13, 2009 - Legislative Building Auditorium, Raleigh
July 28, 2009 - Computer Information Systems Building, UNC-W, Wilmington
August 24, 2009 - Diane Baum Technology Center, College of the Albemarle, Manteo
October 7, 2009 - Legislative Office Building, Raleigh
November 19, 2009 - Legislative Office Building, Raleigh
January 12, 2010 - Legislative Office Building, Raleigh
February 23, 2010 - Legislative Office Building, Raleigh
March 23, 2010 - Legislative Office Building, Raleigh
April 13, 2010 - Legislative Building, Raleigh

Based on reports and presentations received by the Subcommittee, comments expressed by citizens, and the expertise of individual Subcommittee members, the Advisory Subcommittee on Offshore Energy Exploration presents the recommendations contained in this report. A complete record of each meeting is available in the Subcommittee notebook which is filed in the Legislative Library. Copies of the presentations made and handouts distributed to the Subcommittee are available on the Subcommittee's website at: http://www.ncleg.net/gascripts/Committees/Committees.asp?sAction=ViewCommittee&sActionDetails=Non-Standing_6419.

INTRODUCTION AND BACKGROUND

History and Current Status of Offshore Energy Exploration[1]

Offshore Drilling Moratoria

Prompted by recent sharp rises in gasoline prices, there has been much discussion in Congress regarding the expansion of opportunities for oil and gas exploration in the Outer Continental Shelf (OCS) waters of the United States. Numerous bills have been introduced with such titles as Ocean States Option Act, Deep Ocean Energy Resources Act, OCS Natural Gas Relief Act, the Gulf of Mexico Energy Security Act and, most recently, the New Energy Reform Act of 2008 (commonly known as the "Gang of Ten" legislation). What all these bills have in common is a lifting of the Congressional ban on offshore drilling which covered much of the OCS area (3 to 200 nautical miles) in the Pacific and Atlantic Oceans.

California was the first state to ban Minerals Management Service (MMS) leasing activities for oil and gas exploration and development due in large part to the spill from an oil platform off the coast of Santa Barbara in 1969. By the 1980's, oil and gas drilling appeared as a ballot issue in California with many coastal communities passing zoning ordinances that prohibited the onshore support facilities for drilling operations. These ballot issues culminated in the state enacting a permanent ban on drilling in the state of California waters (out to 3 nautical miles) not already covered by existing leases.

In 1982, Congress passed legislation that prevented MMS from including unleased areas ("pre-leasing" ban) in future Five-Year Lease Programs in California only. In 1983, this pre-leasing ban was extended to the OCS lands in the North Atlantic. In 1988, the first drilling ban was enacted that covered the Gulf of Mexico. In 1990, President George H. W. Bush, citing the National Research Council findings and concerns about preserving the ocean and coastal environment, supplemented the moratorium with an Executive Order prohibiting offshore leasing or pre-leasing activities in areas covered by the legislative ban until 2000. 1990 also saw enactment of the Outer Banks Protection Act (later repealed) that specifically prohibited leasing activities in North Carolina's Outer Continental Shelf area. In 1998, President Clinton extended the moratorium until 2012.

During the first half of 2008, gasoline prices reached $4.00 per gallon commensurate with oil prices reaching record levels. Amid calls for more domestic production, President George W. Bush lifted the executive moratorium in June and directed the MMS to begin preparation of an expedited Five-Year Lease Program (2010 to 2015) to take effect prior to the current Program expiration (2007 to 2012). The MMS began to solicit comments from the states on August 2, 2008. Congress allowed the legislative moratorium to lapse on September 30, 2008 when the moratorium was not renewed in the appropriations bill.

The Role of the Minerals Management Service

The MMS manages the 1.76 billion acre OCS area through leases on approximately 43 million acres accounting for about 15% of the nation's domestic natural gas production and

[1] Largely taken from "OCS Update Memorandum" prepared by Mike Lopanzanski to the NC Coastal Resources Commission, dated November 4, 2008.

27% of the domestic oil production. Under the authority of the OCSLA, MMS leases the federal lands of the OCS through the development of a Five-Year Lease Program. A Five-Year Lease Program consists of the schedule for lease sales as well as the size and location of blocks to be offered. Once a Five-Year Lease Program is developed, MMS will allow companies to bid for specific lease areas. Oil and gas leases are issued for an initial period of 5 years. In some cases, leases are issued for up to 10 years where more time is necessary to encourage exploration and development in areas because of unusually deep water or other unusually adverse conditions. Once production is established, the lease term continues as long as production takes place. Upon completion of a lease sale, a company submits a POE with associated environmental documents. Exploration is comprised of seismic studies and exploratory wells. If a discovery is made, a company may submit a Plan of Development and Production to MMS. There are about 20 federal and State permits required for production including air and water quality permits from the United States Environmental Protection Agency. It takes about 1 to 3 years to reach production.

In addition to oil, gas, and sand resources, MMS was authorized, pursuant to the Energy Policy Act of 2005, to develop lease programs for alternative energy development. In a manner similar to oil and gas leasing, MMS has developed polices to issue OCS leases, easements, or right-of-ways for activities that produce or support production, transportation, or transmission of alternative energy resources.

MMS maintains a website that tracks the progress and reports the results of all of the Atlantic Coast-related studies that are commissioned by the agency.

The Current Five-Year Lease Program

The current Five-Year Lease Program took effect July 1, 2007 and runs through June 30, 2012. Because this Program was developed during the Congressional and Presidential moratoria, it does not include any areas covered by those bans. The current Program however, includes a special interest lease sale of a 2.6 million-acre block off the coast of Virginia[2]. This area represents approximately half of Virginia's 5.8 million acre OCS management area. It contains a 50-mile buffer from the shoreline and a buffer around the entrance to the Chesapeake Bay and abuts the northern border of North Carolina's OCS acreage. This lease sale is scheduled to proceed in 2011. North Carolina submitted comments on the proposed Program in January 2009 in which then Governor Mike Easley and then Secretary of Environment and Natural Resources Bill Ross raised concerns that by virtue of the close proximity, North Carolina's coast would bear the direct adverse impacts of such a sale, with no commensurate benefit. In addition to the proposed lease sale of the area off the Virginia coast, the 2007 to 2012 Five-Year Lease Program includes 21 lease sales, focusing on areas in the western Gulf of Mexico off the coasts of Texas, Louisiana, and Alabama as well as areas off the coast of Alaska.

The Expedited 2010 to 2015 Five-Year Lease Program[3]

In July 2008, MMS announced that it would begin development of a new Five-Year Lease Program expanding energy production to federal waters that would include areas formerly covered by the federal moratoria. In contrast to the development of the 2007 to 2012 Five-

[2] A map depicting the location of the Virginia Lease Sale 220 Area is included in Appendix D.
[3] A slide detailing the 5-Year Lease Program process is included in Appendix D.

Year Lease Program, MMS solicited comments from all 50 Governors relative to issues that were specific to their state.

North Carolina (Governor Easley and Secretary Ross) submitted comments on this proposal citing concerns about the effects on fisheries, tourism, and continued dependency on fossil fuels. The Draft Proposed Program was completed in January 2009 and an additional 180 days was made available for public comment in a press conference by Secretary of the Interior Ken Salazar in February 2009. MMS received over 534,000 comments on the Draft Proposed Program. A proposed Program and Draft EIS was projected to be available by March 2010. The current Program will continue until June 30, 2012 at which point the new Program would go into effect. According to MMS, the 2010 to 2015 Five-Year Lease Program process will not affect the 2007 to 2012 Five-Year Lease Program. Under the procedures outlined by the OCSLA, it takes approximately two and a half years to develop a lease program absent Congressional action to speed it up.

In addition to the Draft Proposed Program and the proposed Virginia Lease Sale 220, permit applications have been submitted to MMS for geological and geophysical studies of the Atlantic Basin. MMS reports that six companies are proposing approximately 74,000 linear miles of marine-based geological and geophysical surveys (primarily seismic) in North Carolina's OCS waters. The Division of Coastal Management submitted technical comments on March 23, 2009 to MMS on the proposed geological and geophysical program.

The Department of the Interior has abandoned the expedited 2010 to 2015 Five-Year Lease Program and instead will begin a new program slated to begin on July 1, 2012.

The 2012 to 2017 Five-Year Lease Program

On March 31, 2010[4], President Obama and Secretary of the Interior Salazar announced, that as part of a comprehensive strategy for strengthening the nation's energy security and reducing America's dependence on foreign oil, the Administration would expand oil and gas development and exploration on the OCS while protecting fisheries, tourism, and places off the coast that are not appropriate for development. The strategy includes increasing oil and gas exploration in "frontier" areas that include the Mid-Atlantic OCS region (including the OCS lands off the coast of North Carolina). This strategy replaces the expedited 2010 to 2015 Five-Year Lease Program initiated by President Bush.

The announcement should not affect the special interest sale of Virginia Area 220 which is likely to occur in 2011 or 2012. The initial scoping decision would include the entire Mid-Atlantic OCS planning area in the EIS analysis. According to the Department of the Interior, any decisions as to whether to schedule lease sales in [he Mid-Atlantic, and if so, whether to remove from leasing consideration those parts of the planning areas with conflicting uses (e.g. military training areas, shipping lanes) or particular sensitivity, will come later in the process of developing the new Five-Year Lease Program and the pre-sale process.

[4] Press Release, March 31, 2010: http://www.doi.gov/news/pressreleases/2010_03_31_release.cfm

The Administration's announcement of the 2012 to 2017 Five-Year Lease Program may not mean that the entire Mid-Atlantic OCS region will be opened for oil and gas development. According to the Department of the Interior, scoping in an area or inclusion in an EIS may not mean that an area will ultimately be made available for leasing. However, an area must be analyzed in the EIS in order to be considered for leasing.

Three notices soliciting public comment were made by MMS and published in the Federal Register on April 2, 2010 regarding the Administration's announcement of the 2012 to 2017 Five-Year Lease Program. Additional information on these notices for public comment is included in **Subcommittee Finding 3**.

Interest in North Carolina's OCS[5]

To the Subcommittee's knowledge, other than the Manteo Exploration Unit (MEU), no private interest has been expressed for oil and gas exploration off the North Carolina Coast. However, MMS reported to the Subcommittee on April 15, 2009 that an additional geologic target analogous to producing basins offshore northwest Africa is being studied approximately 40 miles offshore Wilmington. The MEU is comprised of 21 blocks; each approximately nine square miles in size located about 38 miles east of Rodanthe. This is the location of an ancient reef structure with the age and composition likely to hold hydrocarbons, most likely natural gas. Mobil Corporation estimated that this unit may contain 5 trillion cubic feet of natural gas (special blocks 467 and 510). Chevron Corporation estimated that there was a 7% chance of finding hydrocarbons in the area and 2% chance that the finding would be economically viable at the time of the assessment. However, the estimated potential reservoir (by both federal and industry geologists) should discovery be made is five trillion cubic feet of natural gas with a field life of 20 to 30 years.

2006 MMS estimates[6] of the Mid-Atlantic Region (which includes North Carolina, Virginia, Maryland, and Delaware), of which 80% is North Carolina OCS acreage, of undiscovered technically recoverable resources range from 5.5 to 27.5 trillion cubic feet of natural gas and 0.40 to 3 billion barrels of oil. MMS estimates updated in 2010 of undiscovered economically recoverable (at $80/bbl) resources in the Mid-Atlantic Region range between 2.5 and 11 trillion cubic feet of natural gas and between 500 million and 1 billion barrels of oil.

The Role of North Carolina in OCS Decisions

The State may comment on an oil or gas development project pursuant to the following authorities: (1) OCSLA; (2) State CAMA; and (3) the administrative rules promulgated by the Coastal Resources Commission (CRC). The OCSLA outlines the provisions under which a Governor may comment on a POE while CAMA and the North Carolina Coastal Management Program provide the authority for making consistency determinations. The CRC's administrative rules (15A NCAC 7M .0400 Coastal Energy Policies) outline the information needs and issues of importance in making the consistency determination under the federal Coastal Zone Management Act (CZMA). The CZMA provides states with the authority (known as Consistency Determination) to review federal activities, licenses, and

[5] A paper that describes North Carolina's policy on offshore energy exploration in the 1970's and 1980's is included in Appendix I.

[6] Maps identifying OCS administrative boundaries and resource estimates are included in Appendix D.

permits that have reasonably foreseeable effects on any land or water use or natural resources of the coastal zone. Federal activities must be consistent to the maximum extent practicable with the enforceable policies of a coastal state's federally approved coastal management program. Under consistency authority, North Carolina may review the following stages of oil and gas development:

1) Development of the MMS Five-Year Lease Program.
2) Lease sale: the "bulk" lease sale that allows companies to bid for particular lease areas.
3) Plan of Exploration: the plan that describes how a company will explore in order to determine if the company will develop the lease site.
4) Plan of Development and Production: this lays out the plan for producing oil or gas from the lease site.
5) Decommissioning.

Background and Role of the Subcommittee

The Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration (Subcommittee) was established pursuant to G.S. 120-19.6(a1) by Senate President Pro-Tempore Marc Basnight and Speaker of the House of Representatives Joe Hackney to conduct an in-depth study of issues related to energy exploration off the coast of North Carolina. The Subcommittee consists of 24 public members, 12 appointed by President Pro-Temp Basnight and 12 appointed by the Speaker Hackney. The membership[7] is broadly expert and philosophically diverse, including scientists, economists, and representatives from local governments and the energy sector.

The Subcommittee met in full 11 times over the course of its existence, beginning in April 2009 and ending in April 2010, when this final report was adopted. Meetings were held in various locations on the State's coast as well as in the Legislative Office Building in Raleigh. The Subcommittee's work was supported by central staff from the Legislative Services Office, and was greatly assisted by the national and international experts from a variety of organizations who were brought in from around the country to speak to the Subcommittee to help inform its deliberations.

The time committed to this process by the members of the Subcommittee has been significant. Many of the Subcommittee members presented information and issue items to the Subcommittee, provided recommendations for the Subcommittee to consider, and participated in the discussions of the Subcommittee's findings, recommendations, and legislative proposals. The work of the Subcommittee represents a valuable and comprehensive analysis of the present state of offshore energy issues in North Carolina to date.

While the five-year lease program process is largely governed by federal law, North Carolina can and does have a role to play. Many State and local officials have submitted comments to MMS regarding the development of the 2010-2015 draft proposed program (DPP) including Governor Bev Perdue, Secretary of Environment and Natural Resources Dee Freeman, the

[7] A full listing of the Subcommittee membership and Staff is available in Appendix A of this report.

Republican leadership of the North Carolina State Senate and the House of Representatives, the Town Council of Duck, and the Dare County Board of County Commissioners[8].

The comments submitted by State and local officials appear to echo the change in public attitude and perceptions towards offshore energy development[9]. Numerous polls and surveys exist regarding public attitudes towards offshore energy exploration, development and production, both nationally and within North Carolina. These polls and surveys show generally increasing support over the past few decades for offshore energy exploration based on public perceptions of the relationship between offshore energy exploration and consumer energy prices, national security, and other factors. While these polls and surveys reflect trends in general attitudes towards offshore energy issues, more specific polls and surveys should be performed tailored to the specific questions of relevance to North Carolina's interests.

This Subcommittee was, in part, established to assist the General Assembly in gathering the relevant information and data on offshore energy development for both hydrocarbon and alternative energy resources and to provide an opportunity for public comment into the process. As of the date of the adoption of this report, the Subcommittee has learned that our neighboring states of Virginia and South Carolina are far out ahead of North Carolina in pursuit of their offshore energy objectives[10]. It is this Subcommittee's hope and intention that the materials contained within this report and those that are referenced throughout this document will provide the General Assembly and the State of North Carolina the necessary background to advance the dialogue on offshore energy development and work cooperatively with our Atlantic coast neighbors.

The Subcommittee urges the General Assembly to give serious consideration to the findings and recommendations included in this final report. The Subcommittee hopes that other institutions and agencies involved in offshore energy development in North Carolina, whether legislative or executive, find the information in the report both instructive and useful.

[8] These and other official correspondence between the State and MMS are included in Appendix G.
[9] A summary of the public comments that were received by the Subcommittee is included in Appendix C.
[10] A brief description of the current posture of the states of Virginia and South Carolina is included in Appendix E.

AUTHORIZING LETTER

STATE OF NORTH CAROLINA

LEGISLATIVE RESEARCH COMMISSION
STATE LEGISLATIVE BUILDING
RALEIGH 27601-1096

Legislative Research Commission
Advisory Subcommittee on Offshore Energy Exploration

Section 1. The **Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration** (hereinafter "Advisory Subcommittee") is established by the President Pro Tempore of the Senate and the Speaker of the House of Representatives pursuant to G.S. 120-30.10(c).

Section 2. The Advisory Subcommittee consists of 24 public members listed below; 12 appointed by the President Pro Tempore of the Senate and 12 appointed by the Speaker of the House of Representatives. The President Pro Tempore of the Senate and the Speaker of the House of Representatives shall each appoint a co-chair from among their respective appointees. Members shall serve at the pleasure of the appointing authority.

President Pro Tempore Appointments	Speaker of the House of Representatives Appointments
James Leutze, Co-chair, New Hanover County	Douglas N. Rader, Co-chair, Wake County
Orlando Hankins, Wake County	Lawrence Cahoon, New Hanover County
Jane Lewis-Raymond, Mecklenburg County	Joel J. Ducoste, Wake County
Christopher S. Martens, Orange County	Edward S. Holmes, Orange County
Mac Montgomery, New Hanover County	Jamie Brown Kruse, Pitt County
Michael K. Orbach, Carteret County	John M. Monaghan, Jr., Wake County
Walter Phillips, Carteret County	Hans W. Paerl, Carteret County
Wayland Sermons, Beaufort County	Jane Smith Patterson, Orange County
Laura O. Taylor, Wake County	M. Paul Sherman, Wake County
Paul Tine, Dare County	W. Hugh Thompson, Wake County
William Weatherspoon, Wake County	Jeffrey D. Warren, Wake County
Nancy White, Dare County	Rob Young, Jackson County

Section 3. The Advisory Subcommittee shall study:

1. The implications of leasing federal waters off North Carolina's coast in the Atlantic Outer Continental Shelf to energy companies for oil and natural gas exploration.
2. Relevant federal law and the legal authority of the State of North Carolina with regard to offshore drilling.
3. The potential impacts on the nation's energy supply, including documenting the best unbiased estimates available for what oil and natural gas might exist.
4. The potential financial impact of proposed exploration on the State of North Carolina, including effects on the economy, tourism, the commercial fishing industry, the impacts of a more industrial coastline, and ensuring a share of State profits.
5. The environmental impacts of exploration on North Carolina's coastline, including possibilities of spills, effects on water quality, air quality, marine life, and contributions to global climate change.
6. The environmental impacts of the infrastructure that would be associated with exploration and drilling for oil and natural gas.

Section 3.1. In addition to topics authorized under Section 3, the Advisory Subcommittee may study the potential impacts of alternative offshore energy projects on the nation's energy supply, including wind energy, wave energy, ocean current energy, solar energy, and hydrogen production.

Section 4. The Advisory Subcommittee shall meet upon the call of its Co-chairs. A quorum of the Advisory Subcommittee is a majority of its members. No action may be taken except by a majority vote at a meeting at which a quorum is present.

Section 5. The Advisory Subcommittee shall hold public hearings in North Carolina's coastal region to solicit feedback from local residents as to the potential impacts of offshore drilling on those communities.

Section 6. The Advisory Subcommittee may establish an advisory group comprised of university faculty and scientific experts to assist in gathering and analyzing data so that the Advisory Subcommittee may provide more informed recommendations to the Legislative Research Commission. The work and membership of the advisory group shall be coordinated through the President of The University of North Carolina, utilizing appropriate resources of the various constituent institutions. The Legislative Services Commission shall allocate funds for the expenses of the advisory group. The allocation may be accomplished by transfer of funds to the University of North Carolina.

Section 7. The Advisory Subcommittee is authorized to solicit testimony and evidence from experts outside of North Carolina and, subject to the approval of the Legislative Services Commission, shall make arrangements to reimburse such experts for their expenses associated with appearing before the Advisory Subcommittee.

Section 8. The Advisory Subcommittee, while in the discharge of its official duties, may exercise all powers provided for under G.S. 120-19 of the General Statutes. The Legislative Services Commission may contract for professional, clerical, or consultant services to be provided to the Advisory Subcommittee, as provided by G.S. 120-32.02.

Section 9. Members of the Advisory Subcommittee shall receive per diem, subsistence, and travel allowance as provided in G.S. 138-5 and 138-6, as appropriate.

Section 10. The expenses of the Advisory Subcommittee shall be considered expenses incurred for the joint operation of the General Assembly. An initial allocation of $100,000 shall be provided to the Advisory Subcommittee from funds appropriated to the General Assembly.

Section 11. The Legislative Services Officer may assign professional and clerical staff to assist the Advisory Subcommittee in its work. The Director of Legislative Assistants of the House of Representatives and the Director of Legislative Assistants of the Senate shall assign clerical support staff to the Advisory Subcommittee.

Section 12. In addition to the required public hearings in North Carolina's coastal region, the Advisory Subcommittee may meet at various locations around the State in order to promote greater public participation in its deliberations. The Legislative Services Commission shall grant adequate meeting space to the Advisory Subcommittee in the State Legislative Building or the Legislative Office Building, subject to the availability of meeting space during the 2009 Regular Session.

Section 13. The Advisory Subcommittee may submit an interim report on the results of this study, including any proposed legislation, to the Legislative Research Commission (hereinafter "LRC") on or before May 15, 2009, by filing a copy of the report with the Cochairs of the LRC. The Advisory Subcommittee shall submit a final report on the results of this study, including any proposed legislation, to the LRC on or before the convening of the 2010 Regular Session of the 2009 General Assembly, by filing a copy of the report with the Cochairs of the LRC. The Advisory Subcommittee shall terminate upon the filing of its final report, or on the convening of the 2010 Regular Session of the 2009 General Assembly, whichever occurs first.

Effective this 11th day of February, 2009 and revised this 28th day of April, 2009.

Marc Basnight
President Pro Tempore of the Senate

Joe Hackney
Speaker of the House of Representatives

Revised April 28, 2009, amending the February 11, 2009 authorization to add section 3.1 and to extend the Subcommittee to the convening of the 2010 Regular Session of the 2009 General Assembly.

SUBCOMMITTEE FINDINGS

Finding 1
Potentially significant energy resources exist offshore of North Carolina.

Although the best available data are limited and for the most part nearly thirty years old, it is likely that significant petroleum (oil and/or gas) resources may be located in federal Outer Continental Shelf (OCS) waters off North Carolina. Although available evidence suggests that gas is more likely, development of such resources typically involves both liquid and gaseous resources in some mix. It is important to note that once a federal lease sale is made, under current law there is no federal or State control as to whether it is oil or gas that is produced.

Exploration planning activities during the 1980s and 1990s focused on an area off "the Point" called the Manteo Unit, a Jurassic carbonate margin reef "play" (i.e. geological context) analogous to the producing Deep Panuke field located off Nova Scotia, Both Mobil and Chevron held active leases in the Manteo Unit and had submitted Plans of Exploration (POEs) to drill wildcat wells prior to the Congressional moratorium. In addition, Minerals Management Service (MMS), the bureau within DOI that handles OCS leases, has identified two additional "plays" off the southern portion of North Carolina associated with the Carolina Trough Salt Basin (analogous to producing fields located off the west coast of Africa). Both of these areas lie in federal waters, more than 30 miles offshore.

Evidence for significant petroleum resources onshore in the coastal zone and in nearshore waters is limited, but continues to be examined by the United States Geological Survey and the North Carolina Geological Survey.

In addition, significant wind energy potential exists in both nearshore and offshore waters, especially north of Cape Hatteras. North Carolina is one of only a few states where, in theory, offshore wind development could produce a significant proportion of the State's energy needs.

Other potential energy sources at this point are speculative, pending further investigation. Methane hydrate/clathrate resources probably exist on the slope and rise, but their distribution and extent are unknown. Current information suggests limited exploitability as a potential energy resource.

Finding 2
There are risks and benefits associated with both hydrocarbon and alternative energy exploration and development.

Prospective risks and benefits associated with likely development scenarios for each should be thoroughly analyzed and understood, so that informed decisions can be made on behalf of the people of North Carolina.

North Carolina is in far better shape than in the late 1980s in terms of programs available to protect North Carolina's coastal and offshore environment. The State's Coastal Habitat Protection Plan, and associated interstate and federal habitat protection programs provide a strong framework for addressing potential risks. However, current resources dedicated to those programs probably are inadequate for the kinds of assessments that are needed related to prospective energy industries.

Considerable uncertainty exists about the likely social and economic implications of both hydrocarbon and alternative energy exploration and development. Resources currently dedicated to analysis of potential impacts on coastal communities and the coastal economy are unlikely to be able to deliver the high quality assessments of likely energy exploration and development scenarios.

Finding 3
Ongoing federal activities related to Outer Continental Shelf energy production may affect North Carolina.

Minerals Management Service's (MMS) Five-Year Lease Program consists of a schedule of oil and gas lease sales indicating the size, timing, and location of proposed leasing activity that the DOI determines will best meet national energy needs for the five year period following its approval. Leases are for terms of 5 to10 years. MMS determines the fair market value of the lease, and each lease is subject to a federal consistency review by the affected state(s).

The current 2007 to 2012 five year program includes authorization for a lease sale off the coast of Virginia in 2011. Currently, MMS is preparing a possible new five year program that would run from 2010 to 2015 and replace the current program for 2007 to 2012. MMS initiated a new five year plan, due to increased energy costs and the lifting of the presidential and congressional moratoria on drilling in many offshore areas.

The proposed expedited Five-Year Lease Plan (2010-2015) lists two regional lease sales in the Mid-Atlantic region occurring in 2012 and 2015. Although the Draft Proposed Program (2010-2015) refers to regional lease sales, it is not clear whether the format will be a Lease Nomination sale format (i.e., oil companies nominate blocks of interest and request that MMS put them up for auction) or an Area-Wide Leasing (i.e., sale design offers large areas such as the entire east coast and companies would bid on their tracts of interest) format. This likely will become clear as the proposal moves forward.

In addition, MMS licenses seismic surveys to private companies interested in exploring federal waters for potential energy resources. At present, there are considerable numbers of such seismic surveys pending permitting off North Carolina.

Administrative agencies of the State of North Carolina are commenting on these possible actions, and on information needed to judge prospective impacts of those actions. The commenting period for the proposed Five-Year Lease Plan (2010 to 2015) ended on September 21, 2009.

As of March 31, 2010, DOI has abandoned the expedited 2010 to 2015 Five-Year Lease Program and instead will begin a new Five-Year Lease Program slated to begin on July 1, 2012. Three notices from MMS were published in the Federal Register (Volume 75, Number 63, pages 16828 through 16836) on April 2, 2010 announcing the opening of the following comment periods:

1. Preparation and Scoping of OCS Oil and Gas Leasing Program (2012 to 2017) – comment period open from April 2 through June 30, 2010.
2. Geological and Geophysical Exploration on Mid- and South-Atlantic OCS – comment period open from April 2 through May 17, 2010.
3. Preliminary Revised Five-Year OCS Oil and Gas Leasing Program for 2007 to 2012 – comment period open from April 2, through May 3, 2010.

Finding 4
North Carolina has a significant opportunity to shape decisions in OCS waters off its coast, but more moderate opportunities to affect federal decisions related to OCS waters off adjacent states.

In the past, the State's consistency authority has been a major leverage point to protect the State's interests in OCS actions in federal waters. Recent clarification of this consistency authority in its application to OCS issues has made clear that North Carolina must make a detailed and compelling showing of prospective impact (as opposed to statements expressing general concerns). The threshold for such showing in OCS areas off neighboring states is even higher. The State may also make comments directly on other federal permits and actions.

CZMA (US Code Title 16, Chapter 33) ensures consistency to the maximum extent practicable for activities in adjacent federal waters as well as federal activities and federally permitted activities within in State waters for States with federally approved Coastal Zone Management Plans. The North Carolina Coastal Resource Commission (CRC), under the authority of CAMA (G.S. 113A Section 100 et seq.), sets development policy within identified Areas of Environmental Concern within the State's 20 coastal counties. There are numerous CRC rules within the federally approved Coastal Zone Management Plan that provide the consistency framework (note that not all CRC rules are federally approved). Primarily, for OCS energy issues, these rules are found in T15A NCAC 07M.0400 (Coastal Energy Policies).

In addition to the development of lease sales, additional OCS activities for the exploration and development of hydrocarbons are subject to 90-day consistency reviews with the State's federally approved Coastal Zone Management Plan, including the POE, the Plan of Development and Production, and Decommissioning of production infrastructure (if this was included in the Development and Production Plan). Section 19 of the OCSLA also provides a 20-day comment period on POE on active leases for Governors from affected States.

It should be noted that even activities related to the exploration and production of offshore hydrocarbons in adjacent states (specifically South Carolina and Virginia) are subject to a consistency determination by the North Carolina Division of Coastal

Management as offshore activities in those states will likely impact North Carolina's coastal resources.

Finding 5
Existing revenue sharing programs related to federal offshore OCS resources do not allow for North Carolina to share OCS revenues directly.

Revenues associated with mineral leasing and production from federal offshore lands are distributed to several accounts of the United States Treasury and certain coastal states with special federal offshore tracts adjacent to their seaward boundaries. These accounts are: (1) the General Fund for government operations; (2) the Reclamation Fund for water projects in the West, which provides revenues to build, maintain, and operate water and associated power projects on arid and semi-arid Western lands; (3) the National Historic Preservation Fund, which provides matching grants to states for historic site acquisition and restoration; and (4) the Land and Water Conservation Fund (LWCF), which assists state and local governments with outdoor recreational development and purchases of federal park and recreation land.

Prior to the enactment of GOMESA in 2006, all revenues generated from federal offshore resource developments were dedicated to the four funds mentioned above. Currently, under provisions in the Outer Continental Shelf Lands Act, specifically Section 8(g), revenue sharing provisions are stipulated for the first three miles of federal lands measured seaward from the states' territorial boundary. In North Carolina's case, this would be the zone between 3 and 6 nautical miles from shore. This existing language provides that "27% of all bonuses, rents, and royalties, and other revenues…." for tracts located wholly inside the three-mile boundary.

After GOMESA, there is limited revenue sharing beyond the "8(g)" zone for Texas, Louisiana, Mississippi, Alabama, and portions of Florida's OCS in a phased approach. In Phase I (which begins in Fiscal Year 2007), 37.5% of all qualified OCS revenues, including bonus bids, rentals and production royalty, will be shared among the four oil-and-gas producing states of the Gulf of Mexico (GOM): Alabama, Louisiana, Mississippi, and Texas. These states and their coastal political subdivisions (CPS's) from those new leases issued in the 181 Area in the Eastern planning area (also known as the 224 Sale Area) and the 181 South Area. Additionally, 12.5% of revenues are allocated to the LWCF.

The second phase of GOMESA revenue sharing begins in Fiscal Year 2017. It expands the definition of qualified OCS revenues to include receipts from GOM leases issued either after December 20, 2006, in the 181 Call Area, or, in 2002–2007 GOM Planning Areas subject to withdrawal or moratoria restrictions. A revenue sharing cap of $500 million per year for the four Gulf producing States, their CPS's and the LWCF applies from fiscal years 2016 through 2055. The $500 million cap does not apply to qualified revenues generated in those areas associated with Phase I of the GOMESA program. MMS will address the second phase of GOMESA revenue sharing in a subsequent rulemaking.

North Carolina's OCS planning area is the largest on the Atlantic coast with an area of 64.2 million acres. North Carolina has the fourth largest federal OCS area in the United

States behind Alaska, California, and Florida (noting that Florida's OCS planning area includes 63 million acres in the Gulf of Mexico and 35 million acres in the Atlantic Ocean). In order for North Carolina to share directly in whatever OCS revenues might eventually be generated in its OCS waters beyond 6 nautical miles, Congressional action would be necessary. GOMESA might provide an appropriate template for these discussions. Using that model, North Carolina would be eligible for a portion of certain revenues generated from offshore production in Virginia and South Carolina.

Finding 6
Rise in mean sea levels, frequent and intense tropical cyclones, and the development and diversification of the coastal economy must be considered in planning for any offshore energy development.

The North Carolina coast has two important factors that must be taken into account in any planning for offshore energy development (hydrocarbon or alternative).

1. Rise in mean sea levels and frequent and intense tropical cyclones.

2. The rapid development and diversification of the coast's economy to include leisure, tourism, recreation, retirement activities, and related businesses/industries.

These two impacts not only shape the biophysical and socio-economic character of the North Carolina coast in ways that are relevant to any offshore energy development. The trends are also in conflict with one another.

Mean sea level is expected to continue to rise and storm events have been increasing in intensity, and possibly frequency. If the trends continue, it will mean that increasing portions of the North Carolina coast will be subject to more intense storm events and, more importantly, more frequent and even permanent inundation. An important implication of this is that present human communities and infrastructure will be increasingly threatened, and future development will be subject to substantial risk. This is true of both high-density, concentrated development such as ports, harbors, and cities such as Wilmington and Morehead City, and also of lower density residential, commercial, and industrial development that is propagating rapidly along the North Carolina coast.

Attention to the relationship between mean sea level rise and tropical cyclone impacts and future development, both general and specific to offshore energy, will be critical in the policy and planning process. Appendix H presents further discussion of some of these effects on the Port of Morehead City as presented by some Subcommittee members.

Finding 7
Many challenges must be addressed and met before the State can reasonably expect to see substantial revenue or jobs resulting from offshore energy production.

The long time frame involved in the Five-Year leasing process, exploration, and production makes it difficult to make accurate projections. In addition, there are a series of challenges that must be met before North Carolina can realistically expect to see substantial revenue or jobs as a result of offshore energy production. Among the challenges are:

1. The identification of where the energy resources would come on shore.
2. The competition the State is likely to face from neighboring states. In this regard, we note the proactive initiatives taken by the Virginia Legislature and the Virginia Port Authority.
3. The need to insure revenue sharing.
4. The need to train the skilled personnel to fabricate and service any industry.
5. The need to study and resolve environmental, social, and economic issues.

The fact that finding solutions to these problems will be challenging should not discourage us from trying. North Carolina has met tough challenges before, but as we embark on this endeavor, we must constantly balance the risks versus the rewards.

SUBCOMMITTEE RECOMMENDATIONS

Recommendation 1
Given the significant uncertainty in the potential for oil and gas development off North Carolina's coast, a variety of scenarios should be developed, modeled, and analyzed that cover the full range of exploration and resources development possibilities including:

1) No exploration or development occurs in either the Mid-Atlantic Region (NC, VA, MD, and DE) or South Atlantic Regions (SC, GA, and FL) (i.e. no neighboring state is included in MMS Five-Year Lease plan).

2) Exploration and resource development occurs offshore of one or more neighboring states (i.e. Virginia or South Carolina are included in the MMS Five-Year Lease plan).

3) MMS pursues Five-Year Lease plan in the Mid-Atlantic Region, but no exploration results off North Carolina:
    a) Mid-Atlantic Region included in MMS Five-Year Lease plan but no specific lease sales subsequently offered in the North Carolina OCS.
    b) Specific lease sales proposed in the North Carolina OCS but no leases executed (e.g., bids are too low or there is no interest from industry).
    c) Leasing occurs in the North Carolina OCS but no exploratory drilling occurs (i.e. geophysical and geological data acquisition and reservoir modeling indicate little to no viable economic resource potential).

4) Exploratory drilling occurs in the North Carolina OCS but no development drilling follows off the coast (e.g., exploratory wells indicate no economically recoverable hydrocarbon reserves and the exploratory wells are plugged and abandoned).

5) Development drilling occurs and no economically recoverable hydrocarbon reserves result (i.e., no production and the wells are plugged and abandoned).

6) Development drilling occurs with economically recoverable hydrocarbons:
    a) Liquid hydrocarbons would be handled offshore in floating production, storage, and offloading facilities or sent by pipeline to Virginia.
    b) Gaseous hydrocarbons would be sent to Virginia
    c) Thereby no onshore facilities or supporting infrastructure would be located in North Carolina.

7) Production occurs during development but liquid hydrocarbons are handled offshore in floating production, storage, and offloading facilities or piped to Virginia and gaseous hydrocarbons comes onshore in North Carolina by pipeline.

8) Both liquid and gaseous hydrocarbon components come onshore in North Carolina for treatment and distribution.

The analysis of the aforementioned potential scenarios should include and address the following:

1. Any necessary facilities and associated infrastructure, including transportation, associated with each scenario.
2. Perspective energy yields.
3. Likely implications for coastal communities including regional economic change, local tax base implications, land use changes, and socio-economic impacts.
4. Likely direct and indirect environmental impacts.
5. Trade-offs including cost-benefit analysis among economic sectors.
6. Implications for local governments.
7. Implications for North Carolina's economy including statewide economic change, energy resource availability, and cost implications for the citizens of the State.

In summary, the risks associated with both hydrocarbons and alternative energy exploration and development should be constrained wherever feasible and, wherever possible, offset. The benefits associated with energy exploration and development should be maximized wherever possible.

Recommendation 2
Similar scenarios should be developed and analyzed for alternative energy development in the North Carolina OCS including wind and ocean thermal energy conversion.

Recommendation 3
In all cases, development of fossil fuel and or alternative energy resources should be accompanied by programs and practices that protect North Carolina's natural environment, affected communities, and the State's economic well-being.

Recommendation 4
In all cases, production of fossil fuel and or alternative energy resources in the North Carolina OCS should include provisions for revenue and royalty sharing directed to the State of North Carolina. To this end, the Subcommittee recommends that the General Assembly, by joint resolution, recommend to the North Carolina Congressional Delegation, that it take appropriate legislative action to provide for both revenue and royalty sharing to the State of North Carolina for all forms of energy exploration and development that occur in federal waters off the coast of North Carolina, including, but not limited to: leases for oil and gas exploration and production, and alternative energy power development. Furthermore, the Subcommittee recommends that the General Assembly begin considering where monies earned by the State from potential revenue and royalty sharing should be appropriated.

Recommendation 5
The Subcommittee recommends that the General Assembly consider the possibility for North Carolina to participate cooperatively in regional offshore energy endeavors with Virginia and South Carolina.

Recommendation 6
The Subcommittee encourages and supports the efforts of the State Energy Policy Council to develop a comprehensive State energy policy that integrates the potential for traditional hydrocarbon and alternative offshore energy resources.

Recommendation 7
The Subcommittee encourages the General Assembly to create an advisory body on marine, coastal, and estuarine issues to insure a coordinated and integrated approach to ocean and coastal science and policy.

Recommendation 8
The Subcommittee suggests that the General Assembly recommend that the Governor's Scientific Advisory Panel on Offshore Energy build upon the completed work and further explore the findings and recommendations of this Subcommittee.

Recommendation 9
Funds should be made available to support further research and information gathering efforts to better inform the State regarding offshore energy options and opportunities including funding for the following key research priorities:

1. Study of the potential ecological impacts to onshore areas from hydrocarbon and alternative energy production and support industries, once decisions are made regarding where products might come onshore.
2. Study the potential for job creation and job loss for related energy infrastructure, fabrication, maintenance, and support industries.
3. Investigate the probability and impacts of acute major and chronic hydrocarbon releases on surrounding ecosystems and prospective management options.

Recommendation 10
The Subcommittee recommends that funding be made available for the provision and expansion of personnel and responsibilities for the appropriate State agencies to carry out the additional duties that will be required in both the near- and long-term to assess and direct offshore energy considerations.

SUBCOMMITTEE PROCEEDINGS

The Subcommittee conducted a thorough review of offshore energy development issues, including the receipt of over 30 presentations from many different expert speakers[11]. In general, the topics that were considered fall within the following categories, each drawn from the Subcommittee's charge:

- Implications of leasing federal waters off North Carolina's Coast for resource exploration.
- Relevant laws pertaining to offshore energy development.
- Potential impacts on national energy supply and best estimates for available resources.
- The potential financial impacts of proposed energy exploration.
- Environmental impacts of exploration on the coastline.
- Environmental impacts of associated onshore infrastructure.
- Potential impacts of alternative energy projects.

These items are described in further detail in the following subsections.

[11] A full listing of Subcommittee meeting agendas is included in Appendix B.

THE IMPLICATIONS OF LEASING FEDERAL WATERS OFF NORTH CAROLINA'S COAST IN THE ATLANTIC OUTER CONTINENTAL SHELF TO ENERGY COMPANIES FOR OIL AND NATURAL GAS EXPLORATION

(SECTION 3, NO. 1, OF THE CHARGE TO THE SUBCOMMITTEE)

Background and History of Offshore Energy Development
(Summary of Main Points Presented by Invited Speakers)

- *North Carolina has previous experience working with the Minerals Management Service regarding offshore oil and gas exploration and production (Manteo Unit Exploration) and the last official action taken by the State was the issuance of a consistency challenge that was upheld by the United States Department of Commerce.*
- *In concert with the development of offshore energy policies, other states have participated with and engaged MMS in the Five-Year Leasing Program.*
- *The State of Virginia's House Document No. 22 could be a useful starting point in the development of a State offshore energy policy for North Carolina.*
- *A State offshore energy policy should require certain boundary, environmental, public health, and consistency stipulations for offshore energy development.*

Mike Lopazanski, Coastal and Ocean Policy Manager in the Division of Coastal Management in the North Carolina Department of Environment and Natural Resources (DENR), presented an overview of the history of offshore drilling in North Carolina. Mr. Lopanzanski also explained the consistency components and their implications on State and federal action. Mr. Lopanzanski talked about what resources might be found and the current prospects for offshore drilling due to the lifting of the presidential and congressional moratoria. Mr. Lopanzanski also said that the last official action of the State on the Manteo POE was a consistency challenge which was upheld by the United States Department of Commerce. Mr. Lopanzanski also mentioned for historical reference that two other POE's were approved in the 1980's prior to the Manteo consistency challenge. *(April 15, 2009, Agenda Item III)*

David Spears, the State Geologist in the Division of Geology and Mineral Resources in the Virginia Department of Mines, Minerals, and Energy presented an overview of the state of Virginia's experience with the Minerals Management Service Five-Year Leasing Program. Mr. Spears explained that the current leasing situation in Virginia involves the *Special Interest Oil and Gas Lease Sale 220* that is consistent with existing state policy and that two offshore wind proposals have been made and are supported by Governor Tim Kaine. Mr. Spears briefly discussed the history of leasing in federal waters on the Atlantic OCS as well as the development of the Commonwealth of Virginia's Offshore Energy Policy.

Mr. Spears explained that Virginia moved forward with the development of a state policy for offshore oil and gas exploration during the federal moratorium. Mr. Spears referenced Virginia House Document No. 22 (HD 22), the result of a 2005 directive to the Virginia Secretary of Commerce to study the possibility of exploring for natural gas. HD 22 provides

that offshore exploration of natural gas and other hydrocarbon resources must be undertaken safely and be a part of a comprehensive response to energy needs. HD 22 also provides that if natural gas exploration is allowed, it would be subject to many conditions including: the establishment of a 50-mile shoreline buffer; provisions for protection of the environment and public safety; opportunity for public involvement; and consistency with local programs and the state Coastal Zone Program requirements. House Document No. 22 was largely used to draft Virginia's Offshore Energy Policy for Gas and Oil which codifies many of the conditions required in HD 22, including support of an examination of the feasibility of offshore wind energy projects. Mr. Spears concluded with the following:

- It is helpful to have an official state policy on offshore energy exploration and production.
- MMS is responsive to state concerns to the degree the agency is authorized by the OCSLA.
- In order for federal regulators to be more fully responsive to state concerns, the OCSLA needs to be amended by Congress. *(October 7, 2009, Agenda Item V)*

See Also:

July 28, 2009, Agenda Item III: *Update on Federal Commenting Process*
Michael Lopazanski: Coastal & Ocean Policy Manager, Division of Coastal Management, DENR **(See Section 3, No. 2)**

August 24, 2009 Agenda Item IV: *Implications of the Five Year Lease / CRC Rules and Regulations*
Robin Smith, Assistant Secretary for the Environment, DENR
(See Section 3, No. 2)

October 7, 2009, Agenda Item III: *Discussion of the Minerals Management Service (MMS) Five-Year Outer Continental Shelf (OCS) Oil and Gas Leasing Program*
Renee Orr, Chief of the Leasing Division,
Offshore Energy and Minerals Management, MMS
United States Department of the Interior **(See Section 3, No. 2)**

October 7, 2009, Agenda Item IV: *Discussion of royalties and revenue sharing*
Deborah Gibbs Tschudy, Deputy Associate Director,
Minerals Revenue Management, MMS
United States Department of the Interior **(See Section 3, No. 2)**

North Carolina Energy Policy on Offshore Energy Development
(Summary of Main Points Presented by Invited Speakers)

- *At present, North Carolina does not have a policy on offshore energy exploration or production of fossil fuels or alternative energy.*
- *Careful consideration should be given to environmental and economic impacts to onshore and offshore resources should North Carolina pursue oil and natural gas resources.*
- *Pursuing oil and natural gas exploration and production would likely not have the same economic impact or opportunities that could result from developing wind energy resources.*
- *North Carolina can capitalize on wind energy and should strive towards becoming an east-coast technology hub in the wind energy industry.*

John Morrison, Assistant Secretary for Energy in the North Carolina Department of Commerce presented on the role of offshore energy resources in State energy policy. Mr. Morrison discussed the State's opportunities for offshore wind energy development and how those opportunities interplay with State economic development. Mr. Morrison recounted his recent travels to a German City-State on the Baltic Sea where the number one tourist industry is offshore wind. He stated that 40% of the energy used in this area is derived from offshore wind resources. The offshore wind industry in this City-State is comprised of 38 companies that participate in wind energy development and that production capacity for wind energy equipment and materials is booked through 2011 and well into 2012. The employees who work in the wind energy industry include those who are skilled welders, crane and equipment operators, and supply chain managers who were retrained from different manufacturing industries to wind energy technologies.

Mr. Morrison proclaimed that North Carolina can capitalize on the same opportunities, and that other states are already moving forward with wind energy endeavors (Rhode Island, Massachusetts, New Jersey, Ohio, Texas, and Delaware). Mr. Morrison referred to the Duke Energy / University of North Carolina (UNC) Pilot Program underway in Pamlico Sound as an example of North Carolina's foray into this industry. He explained that North Carolina could serve as the wind energy technology hub for the Eastern seaboard. Yacht companies in the State that have been affected by the down economy could re-tool existing manufacturing processes to produce turbine blades, textile producers could enter the industry, and Nucor steel could become involved as well.

Mr. Morrison referred to the UNC Wind Study and stated that after certain areas are ruled out of consideration, and if the entire eastern portion of Pamlico Sound and large tracts in the federal OCS waters were installed with wind turbines, a total of 55 gigawatts of wind energy capacity could be generated. Mr. Morrison believes that pursuing oil and gas resources off the coast would not have the same economic impact and opportunities that could result from developing a viable wind energy industry in the State. *(November 19, 2009, Agenda Item III)*

Tim Toben, Chair of the North Carolina Energy Policy Council (Council) also discussed the role of offshore energy resources in shaping State energy policy. Mr. Toben described the past and current composition of and charges to the Council as amended by Session Law 2009-446 (House Bill 1481). Mr. Toben stated that the Council is considering offshore energy as a part of the State's overall energy policy and that natural gas exploration is a consideration both offshore and in the Pamlico Sound. It is Mr. Toben's opinion that there is danger in offshore drilling and that careful consideration of economic and environmental

impacts to the shore and sea is necessary. Mr. Toben is particularly optimistic about wind potential and pursuing wind energy would align with federal legislation currently under review.

Mr. Toben outlined the following deliverables that the Council is working to complete:

1. Report on the roles of the Council and the Utilities Commission – January 31, 2010.
2. Work plan for developing comprehensive affordable low carbon legislation (ALC) – April 30, 2010.
3. Draft comprehensive ALC legislation to General Assembly – January 1, 2011. *(November 19, 2009, Agenda Item III)*

Edward Finley, Chairman of the North Carolina Utilities Commission presented on the role of the Commission in offshore energy activities. Mr. Finley identified the Utilities Commissioners as well as the role of the Public Staff to the Commission and then described the Commission's organization and charge. The Commission's purpose is to protect the public interest in receiving adequate utilities service at reasonable rates. The Commission's regulatory tools include the certification of new facilities, establishing or review of rates, and providing oversight of service quality. Mr. Finley listed the regulated electric utilities in the State including investor-owned, university-owned, electric membership corporations (EMCs), and municipal and university-owned distribution systems.

Mr. Finley described the State's Renewable Energy and Energy Efficiency Portfolio Standard (REPS) that was enacted in 2007 through Session Law 2007-397 (Senate Bill 3). This legislation was the first of its kind to be enacted in the Southeastern United States. Senate Bill 3 requires investor-owned electric utilities, EMCs, and municipally-owned utilities to meet the REPS requirements through a combination of renewable energy generation and energy efficiency savings. The legislation provides specific set-asides for energy derived from the sun, poultry and swine waste.

Mr. Finley described the Commission's jurisdiction over possible offshore energy facilities. Any proposed offshore energy facility built within the State's waters would have to obtain a certificate of public convenience and necessity before any construction could commence. A certificate is not required for renewable energy facilities that are less than 2 megawatts in capacity. Certification requires publication of notice in a daily newspaper and hearing upon complaint or upon the Commission's motion. Any certificate is conditioned upon the applicant obtaining and complying with all other required permits and approvals including federal licenses and permits, state and federal environmental reviews and permits, local building codes, and local zoning ordinances.

Mr. Finley also described the process for obtaining a certification of transmission facilities which would be necessary if an offshore energy generating facility were constructed in the OCS waters and landed onshore. No public utility may begin to construct a new transmission line of 161kV or more without first obtaining a certificate of environmental compatibility and public convenience and necessity from the Commission. The Federal Energy Regulatory Commission would regulate any interstate natural gas transmission lines and the Commission would regulate those lines that are solely intrastate.

Mr. Finley stated that applications for certificates of public convenience and necessity for onshore facilities were received for facilities in Carteret and Ashe Counties. The certificate for Carteret County was approved, however, in the time the Commission took to approve the certificate, the County adopted ordinances that imposed additional restrictions on the activity. In response to questions from Subcommittee members, Mr. Finley indicated that he was unaware of any extenuating circumstances under which the Commission would require

or necessitate the adoption of new statutes or changes to existing statutes in order to carry out its charge in regards to offshore energy development. The General Statutes that govern the activities of the Commission are very general and each request to the Commission is reviewed on a case-by-case basis. In response to a question from a member of the Subcommittee, Mr. Finley stated that at present, the Commission does not consider potential sea-level rise when making siting decisions. *(November 19, 2009, Agenda Item IV)*

Offshore Energy Development: Infrastructure Implications[12]
(Summary of Main Points Presented by Invited Speakers)

- *Technology advances have improved the safety, minimized environmental impacts, and reduced costs of offshore infrastructure.*
- *Offshore infrastructure can be moved in the event of hurricanes.*

Michael Saucier, Regional Supervisor of Field Operations for MMS in the United States Department of the Interior, discussed technologies used for offshore drilling. Mr. Saucier first gave an overview of the technology currently used for offshore drilling and showed the Subcommittee the different types of oil and gas rigs that are used. Mr. Saucier then emphasized that these rigs are safe and can be moved out of the path of hurricanes. Mr. Saucier then spoke about horizontal drilling and how with new technologies drilling up to one mile from the wellhead is possible. (*April 15, 2009, Agenda Item V*)

Andy Radford, Senior Policy Advisor for the American Petroleum Institute presented technologies associated with offshore drilling. Mr. Radford explained how technology has changed and how the new technology makes offshore drilling more efficient and environmentally friendly. Mr. Radford then talked about future advances in offshore drilling technology and how these advances will make drilling even safer and more cost effective. (*April 15, 2009, Agenda Item V*)

[12] An April 29, 2009 memorandum entitled "Hydrocarbon Input to the Marine Environment" prepared by Subcommittee member Dr. Jeffrey Warren, is included in Appendix F.

RELEVANT FEDERAL LAW AND THE LEGAL AUTHORITY OF THE STATE OF NORTH CAROLINA WITH REGARD TO OFFSHORE DRILLING

(SECTION 3, NO. 2, OF THE CHARGE TO THE SUBCOMMITTEE)

Federal Law
(Summary of Main Points Presented by Invited Speakers)

- *A new Five-Year Lease Program for 2010 to 2015 is underway for potential lease sales off the Mid-Atlantic coast.*
- *Lease applicants may be required to comply with certain environmental, regional, or military stipulations before a lease sale may be approved.*
- *Revenue sharing to North Carolina for oil and gas projects is only available in areas located 3 to 6 miles from the coast (8(g) areas).*
- *Revenue sharing to North Carolina for alternative energy projects is available in 8(g) areas and equitable distribution of shared revenue is shared among the states that are within the 15 mile geographic center of the projects.*
- *Under current federal law, revenue sharing is not available for energy development beyond six miles off the North Carolina coast. Amendment to the OCSLA (akin to GOMESA) would be required in order for North Carolina to participate in revenue sharing for oil and gas leases.*

Renee Orr, Chief of the Leasing Division in the Offshore Energy and Minerals Management Division of MMS in the Department of the Interior presented an overview of the MMS Five-Year Outer Continental Shelf Oil and Gas Leasing Program. Ms. Orr provided an overview of MMS and its role in the administration and implementation of the OCSLA. Ms. Orr provided an overview of the leasing, exploration, and development process and stated that the development of the Five-Year Lease Program often takes two to two and a half years (See slide 5 for more details). Ms. Orr outlined the sale schedule for the 2007 to 2012 Program which includes the Mid-Atlantic Sale No. 220 off the coast of Virginia slated for 2011. The new Five-Year Lease Program (2010 to 2015) was discussed to date:

- The initial request for comments and the Intent to Prepare an EIS was published in the Federal Register on August 1, 2008 with a 45-day comment period.
- The Draft Proposed Program (DPP) was announced on January 15, 2009 and published in the Federal Register on January 21, 2009 with a 60-day comment period.
    - The DPP comment period was extended by 180 days to September 21, 2009.
    - Secretary of the Interior Salazar directed the preparation of a report on conventional and renewable resources.
- The DPP comment period closed on September 21, 2009 with over 500,000 comments received.

Ms. Orr provided oil and natural gas resource estimates for the Mid-Atlantic region (which includes the states of North Carolina, Virginia, Maryland, Delaware, and New Jersey) at 0.94 billion barrels and 5.54 trillion cubic feet respectively. Ms. Orr then explained the next steps for the 2010 to 2015 Five Year Program as follows:

- Schedule scoping meetings on the Draft EIS.

- Publication of the Proposed Program and Draft EIS with a minimum 90-day comment period.
- Publication of Proposed Final Program and Final Draft EIS and submittal to the President and Congress with a minimum 60-day waiting period.
- Approval of the new Program by the Secretary of the Interior and early sales may begin before finalization of new Program.

Ms. Orr described the lease sale process and the history of leases in the Atlantic OCS. Ms. Orr stated that many federal, state, and local agencies and governments are involved in the leasing process and that each entity may require certain environmental, protected species, regional, or military stipulations be met in order to approve the lease sale.

Ms. Orr also described the leasing process for alternative and renewable energy resources on the OCS. The process is essentially the same as that for oil and gas leasing however noncompetitive, unsolicited bids may be made for alternative and renewable energy projects whereas oil and gas is always competitive. Ms. Orr explained that the renewable energy rules went into effect in June 2009 and that Virginia, New Jersey, and Delaware have all expressed interest. *(October 7, 2009, Agenda Item III)*

Deborah Gibbs Tschudy, the Deputy Associate Director of Minerals Revenue Management in MMS presented on royalties and revenue sharing from offshore energy production. Ms. Tschudy provided an overview of MMS and discussed how the federal government leases lands for minerals development both on- and offshore. Revenue sharing is based on legislation often spurred by states pursuing monies to address budget shortfalls and infrastructure needs. Ms. Tschudy outlined the MMS disbursements for the 2008 Fiscal Year which totaled $23.4 billion. A description of the 1953 OCSLA revenue sharing disbursements for oil and gas production was provided as follows:

- Leases within 8(g) area (3 to 6 miles offshore): 27% to states, 73% to the United State Treasury
- Leases outside 8(g) area: 100% to the United States Treasury

Several federal laws were enacted to amend the implementation of the revenue sharing provisions including the Energy Policy Act of 2005 (EPAct). Applicable provisions of the EPAct state that offshore renewable energy is subject to revenue sharing and that currently or previously OCSLA-authorized facilities may be used for other authorized energy-related purposes. 27% revenue sharing is available to states for alternative energy projects that are wholly or partially located within 3 nautical miles seaward of state submerged lands. Equitable distribution of the shared revenue is required among coastal states that are within 15 miles of the geographic center of the projects.

Ms. Tschudy also discussed the Coastal Impact Assistance Program that is used to mitigate the impacts of OCS oil and gas activities to those oil and gas producing states for projects such as conservation, protection, or restoration of coastal areas and mitigation of damages to fish, wildlife, or other natural resources. GOMESA revenue sharing provisions were also discussed for the party states of Texas, Alabama, Louisiana, and Mississippi. Under GOMESA, revenue is disbursed as follows:

- 50% to the United States Treasury
- 30% to the party states
- 12.5% to LWCF
- 7.5% to political subdivisions (counties located in party states)

More generally, Ms. Tschudy explained that the Secretary of the Interior sets royalty rates for each lease sale and that tiered rates are developed based on the complexity of projects. *(October 7, 2009, Agenda Item IV)*

State Laws and Authority
(Summary of Main Points Presented by Invited Speakers)

- *Existing law in North Carolina provides opportunities for the review of proposed offshore energy development projects including commenting on the Draft or Final EIS and Consistency determination.*
- *North Carolina may consider entering into an interstate compact with either Virginia or South Carolina to coordinate cooperative offshore energy development.*

Robin Smith, Assistant Secretary for Environment in DENR discussed the implications of the federal Five-Year Leasing Program and the State's role in development of the next five-year OCS Oil and Gas Exploration Plan. Ms.Smith first identified what is presently known and understood about the five-year lease process:

- There are three proposed lease sites in the Mid-Atlantic region.
- The Draft Proposed Plan does not propose a 50-mile buffer for any site other than the Virginia lease sale.
- Current law does not provide revenue sharing for North Carolina.

Ms.Smith also identified what is unknown about the five-year lease process:

- The location of any future lease off the North Carolina coast.
- Quantitative information regarding potential oil or gas deposits.
- The likelihood of revenue sharing.
- The location where product, if it were found, would be brought on shore.

Ms.Smith stated that there are opportunities for the State to participate in the development of the five-year plan. In particular, the State may comment on any Draft or Final EIS. The State also participates in Consistency Review whereupon the activities that affect the coastal resources must be consistent to the maximum extent practicable with the State's federally approved coastal management program. (*August 24, 2009, Agenda Item IV*)

Jeff Hudson, Principal Attorney in the Research Division of the General Assembly and Counsel to the Subcommittee made a presentation on interstate cooperation and interstate compacts. Mr. Hudson described interstate compacts as agreements between two or more states that bind the party states to the provisions of the compact that are enforceable by federal law. Only those compacts that affect a power delegated to the federal government or alter the political balance within the federal system require Congressional consent. Mr. Hudson stated that compacts are enacted for a variety of reasons and are considered an effective means of guaranteeing interstate cooperation as a member state cannot unilaterally renounce a compact and Congress can compel compliance. Mr. Hudson noted that North Carolina has created or elected to join a number of interstate compacts, including interstate river basin commissions, with neighboring states. Mr. Hudson identified the following criteria to consider when contemplating the creation of an interstate compact:

- What is the goal of the interstate compact?
- How much control will member states have over one another?

- Is the compact flexible and amenable to changes based on new information and politics?
- How long will the compact last? (*August 24, 2009, Agenda Item V*)

Mike Lopanzanski, Coastal and Ocean Policy Manager in the Division of Coastal Management in DENR provided the Subcommittee with an update on the federal Five-Year Lease Program and the applicable State programs. Mr. Lopanzanski discussed CAMA and stated that one of the requirements under CAMA is to ensure consistency between State Coastal Management Plan and federal actions. This is of particular consequence for potential exploration and production off North Carolina's coast. In his presentation, Mr. Lopanzanski identified opportunities for the State to be involved with the Five-Year Lease process including: commenting on the federal plan as it is developed; consistency reviews of "bulk lease" sales and how leases will be explored and materials produced; and likely consistency review of decommissioning plans. Other regulatory authorities were discussed including policies pursuant to the OCSLA, CZMA and CAMA, and Rules adopted by the CRC. Mr. Lopanzanski presented an overview of the comments made by the State on the 2007 to 2012 Five-Year Lease Program EIS and relevant information about the Virginia Lease Sale pending in 2011. *(July 28, 2009, Agenda Item III)*

Local Regulatory Authority
(Summary of Main Points Presented by Invited Speakers)

- *Cities and counties may adopt land-use plans or local ordinances to regulate onshore infrastructure and activities associated with offshore energy development projects.*
- *Few local governments have adopted language in land-use plans or ordinances that pertain to offshore energy development projects.*
- *Regulatory tools that local governments feel are necessary to move forward with potential offshore energy development include: information, data, technical support, authority to regulate the location and safety of land-based energy facilities and supporting infrastructure, and model zoning regulations.*
- *Attention should continue to be paid to the existing tools that local governments and the State employ, including emergency management and disaster management.*
- *The potential for economic development or an announcement of a proposed offshore energy project would elevate the profile or level of concern for these issues for local government representatives.*

Paul Meyer, Chief Legislative Counsel for the North Carolina League of Municipalities (League) and Jim Blackburn, Legislative Counsel for the North Carolina Association of County Commissioners (Association) both discussed local government tools for managing impacts that might result from offshore energy exploration and development and associated onshore development. Mr. Meyer stated that jurisdictional questions regarding local government authority could be addressed through either Land-Use Plans (LUPs) or ordinances. The League distributed a survey to the 90 cities located in the CAMA counties requesting information from local governments on where they stand in supporting and governing offshore energy exploration. (*A copy of the survey results is available here*).

The League received responses from 12 cities. Cities indicated that broad language that may address offshore energy development and related onshore development can be found in LUPs (which are purely visionary) and in zoning ordinances (documents in which LUPs are

implemented). In speculating as to the reasons why so few cities responded to the survey, Mr. Meyer stated that local governments are not thinking about issues related to offshore energy and were offshore energy endeavors to take shape, local governments would like to be engaged sooner rather than later.

Of the responding cities, a number listed regulatory tools they would want or need if offshore energy development were to commence. Those cities responding expressed a need for information, data, and technical support, the authority to regulate the location and safety of land-based energy facilities and supporting infrastructure, and model zoning regulations or other assistance in developing local guidelines and zoning restrictions.

Mr. Meyer identified the following open questions to consider:

1) What are the available State resources to assist local communities?
2) Can local standards be integrated in the State coastal plan, and thereby impact consistency rulings for developments in federal waters?
3) To what extent can local governments protect viewsheds in State waters?
4) Any local tax revenues related to offshore drilling/alternative energy infrastructure investments?

Jim Blackburn discussed the counties perspective and echoed much of what Mr. Meyer stated in his presentation. Mr. Blackburn stated that offshore energy development is not a front-burner issue for the CAMA counties and that other traditional issues (growth, management, infrastructure development, and land use) are addressed in other venues. Mr. Blackburn emphasized that attention needs to be paid to the tools that the State and local governments already employ including emergency management, and disaster management. Mr. Blackburn recommended involving local governments and to remember that elected officials often turn over and that opportunities exist for preparing and managing offshore energy development with city and county managers and local planners.

Both presenters stated that potential economic development or the announcement of a proposed offshore project would help increase awareness and interest for offshore energy development projects among city and county government officials. *(January 12, 2010, Agenda Item IV)*

See Also:

October 7, 2009, Agenda Item V: *The state of Virginia's experience with the MMS Five-Year OCS leasing program*

David B. Spears, State Geologist
Division of Geology and Mineral Resources
Virginia Department of Mines, Minerals, and Energy **(See Section 3, No. 1)**

November 19, 2009, Agenda Item III: The role of offshore energy resources in State energy policy

John E.P. Morrison, Assistant Secretary for Energy
North Carolina Department of Commerce **(See Section 3, No. 1)**

November 19, 2009, Agenda Item III: *The role of offshore energy resources in State energy policy*

Tim Toben, Chair
North Carolina Energy Policy Council **(See Section 3, No. 1)**

November 19, 2009, Agenda Item IV: *The role of the North Carolina Utilities Commission in offshore energy activities*

Ed Finley, Chairman,
North Carolina Utilities Commission **(See Section 3, No. 1)**

July 28, 2009, Agenda Item VI: *A Human Factors Approach to Planning for Energy Development along the OCS of North Carolina*

Edward Glazier: Vice President, Research, Impact Assessments, Inc. **(See Section 3, No. 4)**

THE POTENTIAL IMPACTS ON THE NATION'S ENERGY SUPPLY, INCLUDING DOCUMENTING THE BEST UNBIASED ESTIMATES AVAILABLE FOR WHAT OIL AND NATURAL GAS MIGHT EXIST

(SECTION 3, NO. 3, OF THE CHARGE TO THE SUBCOMMITTEE)

Impact on the Nation's Energy Supply
(Summary of Main Points Presented by Invited Speakers)

- *Natural gas provides 24% of the average energy used in the United States.*
- *Natural gas demand is projected to increase for most sectors, the largest increase being projected for power generation, from 2010 to 2030.*
- *Natural gas use generates fewer greenhouse gas emissions relative to other fossil fuels.*

Tom Moskitis, the Managing Director of External Affairs for the American Gas Association, presented the natural gas needs of North Carolina. Mr. Moskitis provided the Subcommittee with a graphic displaying the trends in natural gas prices and how natural gas fits in with the energy needs of the nation. Mr. Moskitis discussed the demands for natural gas and how, because of efficient ways of using it, natural gas was more environmentally friendly than oil. Mr. Moskitis also provided the Subcommittee with graphics that identified where natural gas might be found. (*April 27, 2009, Agenda Item III*)

Estimates of Available Resources
(Summary of Main Points Presented by Invited Speakers)

- *MMS estimates oil and natural gas resources for the Mid-Atlantic region (which includes the states of North Carolina, Virginia, Maryland, Delaware, and New Jersey) at 0.94 billion barrels and 5.54 trillion cubic feet respectively.*
- *Based on similar geologic formations found in other parts of the world and existing geologic research the potential exists for discovering economically viable quantities of fossil fuel resources off the coast of North Carolina.*
- *Natural gas resources, in the form of methane hydrates, appear to be promising.*

David Marin, Regional Supervisor for Resource Evaluation in MMS, in the United States Department of the Interior described the role MMS plays in evaluating the values of the leases and the procedure that companies must follow in order to obtain permits to drill. Mr. Marin also provided information on the types of resources that might be found off the coast of North Carolina and the prospects for funding them. Mr. Marin concluded his presentation by stating that it is not known for certain what resources are present off North Carolina, but because of similar formations off the coast of Canada and Africa, he believes the prospect for finding resources is good. (*April 15, 2009, Agenda Item IV*)

James Coleman, Director of the Eastern Energy Resources Science Center in the United States Geological Survey (USGS), described the potential for resources to be found off the near-shore portion of the North Carolina coast. Mr. Coleman stated that USGS was

currently conducting an oil and gas resource assessment for onshore and state waters of the eastern United States. Mr. Coleman told the Subcommittee that although there has been no commercial recovery of petroleum, the suggestion that there might be quantities that are economically viable, deserves investigation. (*April 15, 2009, Agenda Item IV*)

Cindy Lee Van Dover, Harvey W. Smith Professor of Biological Oceanography in the Nicholas School of the Environment at Duke University, explained methane hydrates and where methane hydrates are formed. Dr. Lee Van Dover defined methane hydrates as being gas molecules trapped in a crystal lattice of a water ice, with the methane being burnable and sometimes described as "ice that burns." Methane hydrates occur in deep-sediments, polar permafrost, and deep lakes. Dr. Lee Van Dover reported to the Subcommittee that methane hydrates are the largest reserve of organic carbon on the planet. Dr. Lee Van Dover provided some of the characteristics of Blake Ridge, an area where a large reserve of methane hydrates is found off the coast of North Carolina. She concluded by talking about the conservation challenges, which include preserving the habitat of rare and undiscovered species. Dr. Lee Van Dover told the Subcommittee that the deep sea community needed to start thinking about some of these conservation issues. (*April 15, 2009, Agenda Item VI*)

See Also:

April 27, 2009, Agenda Item IV: *Wind Energy Options*
Bob Leker: Renewables Program Manager, State Energy Office, North Carolina Department of Commerce **(See Section 3.1)**

July 28, 2009, Agenda Item IV: *Hydrokinetic Energy*
Steven Kopf: Partner, Pacific Energy Ventures, LLC **(See Section 3.1)**

August 24, 2009, Agenda Item III: *Ocean Thermal Energy Conversion*
Dennis Cooper, Program Management Senior Manager, Lockheed Martin
(**See Section 3.1)**

THE POTENTIAL FINANCIAL IMPACT OF PROPOSED EXPLORATION ON THE STATE OF NORTH CAROLINA, INCLUDING EFFECTS ON THE ECONOMY, TOURISM, THE COMMERCIAL FISHING INDUSTRY, THE IMPACTS OF A MORE INDUSTRIAL COASTLINE, AND ENSURING A SHARE OF STATE PROFITS

(SECTION 3, NO. 4 OF THE CHARGE TO THE SUBCOMMITTEE)

Potential Financial Impact on the State
(Summary of Main Points Presented by Invited Speakers)

- *Activities that occur along North Carolina's coast have implications for the State's tourism industry.*
- *North Carolina had nearly $17 billion in domestic visitor spending in 2008.*
- *North Carolina's tourism industry supports over 190,000 jobs.*
- *Tourism in North Carolina generates nearly $1.4 billion in State and local tax revenues.*
- *North Carolina's ex-vessel commercial fisheries are valued at $82 million.*
- *North Carolina's total recreational fisheries are valued at $2.5 billion.*

Bryan Gupton, the Director of Operations and Industry Relations in the Division of Tourism, Film, and Sports Development of the North Carolina Department of Commerce presented the value of the State's coastal tourism economy and resources. Mr. Gupton reported that North Carolina is the Sixth most visited state in the country and had $16.86 billion in domestic visitor spending in 2008. The State's tourism industry supports 190,500 jobs and generates nearly $1.4 billion in state and local tax revenues. Mr. Gupton stated that what happens on the North Carolina coast has implications for the whole State. In response to a question posed by a member of the Subcommittee, the Department does not get involved in the inherent the conflicts between tourism and encouraging job growth in North Carolina through offshore energy development. The Department's charge is to promote the State. *(January 12, 2010, Agenda Item V)*

Potential Impacts Resulting from a More Industrial Coastline
(Summary of Main Points Presented by Invited Speakers)

- *A substantial onshore component is necessary to support offshore energy projects.*
- *The State Ports at Wilmington and Morehead City and the facilities of the Port of Virginia could accommodate the needs of offshore energy development.*
- *The major obstacle to bringing in large quantities of product from offshore North Carolina is the lack of adequate road and rail infrastructure required to support it.*
- *Decisions related to offshore energy exploration should include early and proactive research and planning.*
- *Offshore energy development has the potential to affect human livability at the North Carolina coast.*
- *The North Carolina coast is an area that is highly valued for many reasons including: tourism, fisheries, biological diversity, and natural and scenic beauty.*

Fred Jacobs and Kristin Strellec from the Minerals Management Service Gulf of Mexico OCS Region presented the Subcommittee with information on oil- and gas-related infrastructure. The presenters stated that MMS is currently engaged in a study of oil and gas infrastructure in the Mid-Atlantic that is expected to be completed in June 2011. Mr. Jacobs stated that MMS has no permitting authority for any onshore infrastructure and that those decisions are left up to states. Mr. Jacobs and Ms. Strellec provided an overview and discussion of the types of infrastructure employed and required to support offshore oil and gas production and explained that the infrastructure is usually specialized but can leverage existing onshore marine infrastructure including ports and shipyards. Supporting onshore infrastructure includes:

- Oil and gas transportation systems (pipelines).
  - Approximately 300,000 miles of natural gas pipelines and 200,000 miles of oil pipelines in the United States.
  - Natural gas transmission and distribution grid can transport product to nearly any location in the lower 48 states.
  - Oil pipelines operate in all 50 states, 60% of petroleum transported is crude
- Oil and gas processing systems (gas processing plants).
  - Natural gas is processed to remove impurities and separate gas into useful components.
  - 535 natural gas processing plants in the United States mostly located in California, Texas, Louisiana, Colorado, Wyoming, and Oklahoma with some limited processing in the Appalachian basin.
- Facilities that maintain and protect oil and gas systems (pipe coating).
  - Exterior of pipes are coated to protect against corrosion and other damage, the inside may be coated to improve the flow of hydrocarbons.
  - Pipe coating mills are often located adjacent to pipe mills so that pipe may move directly from the manufacturer to the coating facility.
  - Seven pipe coating facilities are currently located in the Mid-Atlantic region, six in Pennsylvania and one in Virginia.
- Ports and service bases to move personnel and equipment and serve as maintenance hubs.
  - Ports and service bases provide links to offshore production facilities.
  - Serve as launching points for structures, equipment, supplies, and crew for offshore industry.
  - Atlantic coast between New Jersey and Georgia hosts 35 port terminals, 26 of which are major terminals., the largest being Port Newark in New Jersey that boasts over 2,200 acres with 41,000 linear feet of ship berthing space.
- Management facilities for wastes generated from offshore exploration and production facilities.
  - Facilities typically divided into three types: (1) transfer facilities at ports where waste is transferred from supply boats to another transportation mode (barge or truck) to a final destination point; (2) special-purpose facilities dedicated to handle a certain type of waste; and (3) generic waste management facilities that receive waste from a broad spectrum of industry.
  - Methods for disposal and management include:

- Offshore marine discharge (permitted, with limitations, in the federal waters of the Gulf of Mexico).
- Subsurface injection where permitted.
- Salt cavern disposal.
- Land application and land farming.
- Land filling.
- Recycling.

The jobs available at supporting onshore infrastructure are dependent on the size of facilities and type of activity that takes place at the facility. *(February 23, 2010, Agenda Item III)*

Glenn Carlson, Chief Commercial Officer of the North Carolina State Ports Authority, presented the capabilities and future endeavors of the State Ports Authority. Mr. Carlson described in detail the capacity and activities that take place at the Ports of Wilmington and Morehead City. Mr. Carlson explained that both ports have been influenced the down economy and that the new business opportunities are being explored at Morehead City. The planned North Carolina International Terminal at Southport was also discussed and projected to be 50% bigger than Norfolk, Savannah, or Charleston when completed by 2025 to 2030.

In response to questions posed by members of the Subcommittee, Mr. Carlson stated that:

- There is the possibility of increased use of both the Wilmington and Morehead City Ports by the military.
- His prior experience in Texas and Louisiana points to the need for a substantial shore-side component to support offshore energy projects and that Morehead City and Radio Island could be well suited to meet those needs.
- There is substantial lay-down area required to support wind equipment fabrication that could be found at the ports.
- At present, there is no petroleum capacity at any State-owned port and that the petroleum terminals at the Port of Wilmington are privately owned.
- The major obstacles to bringing large quantities of product from offshore are inadequate road and rail infrastructure necessary to support it.
- Petroleum or other liquid hydrocarbons that would come onshore at the Port of Wilmington would likely come via underground pipeline to a refinery or barge and sent elsewhere, there is no land at the port for a company to construct a refinery.
- The three top needs for the ports at this time are: (1) to improve the berths; (2) to enhance the channels; and (3) to add new gate terminals to achieve faster turnaround times.
- The State Ports at Morehead City and Wilmington could accommodate the needs of offshore North Carolina energy development. *(January 12, 2010, Agenda Item III)*

Jeff Keever, the Senior Deputy Executive Director of the Virginia Port Authority presented the capabilities and future of the Port of Virginia. Mr. Keever described the capacity and activities that take place at the Portsmouth Marine Terminal, the Norfolk International Terminal, and the Newport News Marine Terminal as well as the activities that take place at the Virginia Inland Port at Front Royal. Mr. Keever stated that the Port of Virginia supports over 345,000 port and port-related jobs statewide, provides $41 billion in business revenues,

and $1.2 billion in state and local taxes. Mr. Keever noted that the Port of Virginia is the fifth largest port in the United States, and fourth largest on the east coast. Mr. Keever pointed out that the Port of Virginia is within a day's drive of two-thirds of the United States Population and over 300,000 manufacturing firms. Mr. Keever stated that the Port of Virginia can accommodate the largest containerships in the world due to the Port's deepest channels on the eastern seaboard, short distance of 18 miles to the sea, and lack of bridges that obstruct containership traffic. Proposed expansion of multiple rail corridors will assist the movement of freight from the Port to the north, Midwest, and the southeast.

With regard to offshore wind turbines, Mr. Keever noted that the Port of Virginia has the land and property for the necessary lay-down areas for wind turbines, blades, and poles. Mr. Keever reported that the Virginia Legislature recently enacted the Offshore Wind Authority to facilitate, coordinate, and support the development of the Commonwealth's offshore wind industry and that there is a lot of interest in offshore energy exploration that can be supported by the Port of Virginia.

In response to questions posed by members of the Subcommittee, Mr. Keever stated that:

- Potential for offshore energy development has played a part in future planning for the Port of Virginia.
- Opportunities exist to use the Intracoastal Waterway and its employ would relieve highway congestion and reduce air emissions by allowing for additional barge traffic to travel to the Port. *(February 23, 2010, Agenda Item IV)*

Anne Deaton, Lead Biologist for the Habitat Protection Section in the Division of Marine Fisheries in DENR discussed managing onshore impacts for coastal energy production. She stated that North Carolina has a large and diverse coastal ecosystem with great economic value due to its abundance of resources and the potential impacts of offshore energy development, both on- and offshore, may be significant. Ms.Deaton valued the ex-vessel commercial fisheries of the State at $82 million and the total recreational fisheries of the State at $2.5 billion. Ms.Deaton also discussed North Carolina's management framework, including required laws and permits and the State agencies that administer those laws and permits; the potential impacts resulting from energy development to estuarine resources including: dredging from incoming pipelines; dock construction; filling wetlands for upland and nearshore infrastructure; wastewater discharges; new transportation infrastructure (roads, rail lines); and the potential for product releases. Ms.Deaton's presentation included pictures depicting the different types of facilities that would be needed to produce energy offshore. (*April 27, 2009, Agenda Item VI*)

Edward Glazier, Vice-President of Research for Impact Assessments, Inc., presented to the Subcommittee on the pivotal role that human factors play in planning for energy development off the North Carolina coast. Mr. Glazier stated that while MMS (through the EIS process) and private exploration firms may address human impacts resulting from OCS development, early and proactive research and planning is necessary. Mr. Glazier recommends taking a "human factors" approach in proactively identifying the basic constraints and opportunities for planning purposes. With maps, Mr. Glazier illustrated proximate distances from potential lease blocks to nearest ports and discussed offshore siting based on proximity to nearby ports. Basic onshore infrastructure siting factors and considerations (including demand for energy resources and jobs, nature and extent of

physical infrastructure, and the benefits and liabilities of transporting, storing, refining, and distributing products from the OCS) were also presented. Mr. Glazier also discussed basic siting and human factor parameters for offshore wind farms. Lastly, Mr. Glazier listed the basic onshore requirements for exploration and subsequent field development and promoted early localized physical and service infrastructure planning. He summarized that offshore energy development has the potential to affect life at the North Carolina sea-land interface, which is an area that is highly valued for many reasons. (*July 28, 2009, Agenda Item VI)*

At its April 27, 2009 meeting, Subcommittee member Dr. Laura Taylor facilitated a Subcommittee discussion on the potential socio-economic impacts of offshore energy exploration and development that need to be understood more fully in order for the Subcommittee to fulfill its charge. Subsequent discussion focused on priorities for investigation during the remaining time available to the Subcommittee and then on what would be included in the interim report. (*April 27, 2009, Agenda Item VII*)

See Also:

November 19, 2009, Agenda Item III: The role of offshore energy resources in State energy policy
John E.P. Morrison, Assistant Secretary for Energy
North Carolina Department of Commerce **(See Section 3, No. 1)**

November 19, 2009, Agenda Item III: *The role of offshore energy resources in State energy policy*
Tim Toben, Chair
North Carolina Energy Policy Council **(See Section 3, No. 1)**

October 7, 2009, Agenda Item IV: *Discussion of royalties and revenue sharing*
Deborah Gibbs Tschudy, Deputy Associate Director, Minerals Revenue Management, MMS, United States Department of the Interior
(See Section 3, No. 2)

April 27, 2009, Agenda Item VI: *Managing Inshore Impacts of Coastal Energy Production*
Anne Deaton, Head of the Division of Marine Fisheries' Habitat Protection Section
(See Section 3, No. 4)

THE ENVIRONMENTAL IMPACTS OF EXPLORATION ON NORTH CAROLINA'S COASTLINE, INCLUDING POSSIBILITIES OF SPILLS, EFFECTS ON WATER QUALITY, AIR QUALITY, MARINE LIFE, AND CONTRIBUTIONS TO GLOBAL CLIMATE CHANGE

(SECTION 3, NO. 5 OF THE CHARGE TO THE SUBCOMMITTEE)

Environmental Impacts of Offshore Exploration
(Summary of Main Points Presented by Invited Speakers)

- *Extensive and diverse biological marine resources are found off the coast of North Carolina.*
- *Offshore energy exploration could irreparably damage sensitive habitats.*

Steve Ross, Research Associate Professor in the Center for Marine Science, at the University of North Carolina at Wilmington, outlined the effects offshore exploration pose to the marine world. Dr. Ross identified the major soft and hard bottom resources of concern in North Carolina and also discussed deep sea coral habitats. Dr. Ross stated that there is an extensive and diverse amount of sea life off North Carolina's coast due to the Gulf Stream and other major currents and that offshore energy exploration could irreparably damage these sensitive habitats. (*April 15, 2009, Agenda Item VI*)

In addition, extensive State, interstate, and federal plans document North Carolina's important and invaluable coastal estuarine and marine habitats, and implement programs to protect them. The key plans include:

1. Coastal Habitat Protection plans.
2. Albemarle-Pamlico Natural Estuary Program's Comprehensive Conservation and Management Plan.
3. South Atlantic Fishery Management Council's Habitat Protection Plan and the Comprehensive Ecosystem-Based amendment.
4. Atlantic State's Marine Fishery Commission Habitat Protection Plan.

See Also:

April 15, 2009, Agenda Item VI: *Offshore Habitats and Offshore Drilling--Methane Hydrates and Hydrate-Dependent Habitats*

Cindy L. Van Dover: Harvey W Smith Professor of Biological Oceanography, Nicholas School of the Environment, Duke University **(See Section 3, No. 3)**

April 27, 2009, Agenda Item III: *Natural Gas Needs for North Carolina*

Tom Moskitis: Managing Director, External Affairs, American Gas Association **(See Section 3, No. 3)**

April 27, 2009, Agenda Item VI: *Managing Inshore Impacts of Coastal Energy Production*

Anne Deaton, Head of the Division of Marine Fisheries' Habitat Protection Section

(See Section 3, No. 4)

April 27, 2009, Agenda Item VII: *Subcommittee Discussion of Social, Economic and Community issues related to Coastal Energy Production*

Facilitated by Subcommittee member Dr. Laura Taylor **(See Section 3, No.4)**

July 28, 2009, Agenda Item VI: *A Human Factors Approach to Planning for Energy Development along the OCS of North Carolina*

Edward Glazier: Vice President, Research, Impact Assessments, Inc. **(See Section 3, No. 4)**

April 27, 2009, Agenda Item V: *Implications of Coastal Energy Production for Inshore / Nearshore Ecosystems*

Charles (Pete) Peterson, Professor, UNC-CH, Institute of Marine Sciences
(See Section 3, No. 6)

April 27, 2009, Agenda Item IV: *Wind Energy Options*

Bob Leker: Renewables Program Manager, State Energy Office, North Carolina Department of Commerce
(See Section 3.1)

THE ENVIRONMENTAL IMPACTS OF THE INFRASTRUCTURE THAT WOULD BE ASSOCIATED WITH EXPLORATION AND DRILLING FOR OIL AND NATURAL GAS
(SECTION 3, NO. 6 OF THE CHARGE TO THE SUBCOMMITTEE)

Environmental Impacts of Infrastructure Associated Offshore Energy Development (Summary of Main Points Presented by Invited Speakers)

- *Development of the petrochemical industry off the coast of North Carolina could increase: air pollution that may result in violations of federal ozone standards; water pollution that may result from cumulative small spills; and truck traffic on local roads.*
- *Bottom invertebrate communities are affected within 100 to 200 meters of drilling platforms.*
- *Oxygen depression is evident in the proximate water column and increased benthic respiration is persistent near the platform driven by microbial decomposition of increased organics.*

Charles (Pete) Peterson, Professor in the Institute of Marine Sciences at the University of North Carolina at Chapel Hill presented the implications of coastal energy production on inshore ecosystems. Dr. Peterson discussed his experience serving on the North Carolina Environmental Review Science Panel of the United States Department of the Interior. Dr. Peterson talked about the ecological impact of oil production around drilling platforms in the Gulf of Mexico. Dr Peterson's written materials in support of his presentation provided that bottom invertebrate communities are affected from 100 to 200 meters from drilling platforms. Oxygen depression is evident in the water column and increased benthic respiration is persistent near the platform that is driven by microbial decomposition of increased organics. Dr. Peterson concluded his talk by presenting his findings on the long-term effects of the Exxon-Valdez spill on shoreline ecology. Dr. Peterson's written materials address the potential impacts that onshore development of petrochemical industry impacts could have on the North Carolina Coast and include: air pollution that could lead to violations in federal ozone levels; water pollution from cumulative small spills; and increased truck traffic on local roads. (*April 27, 2009, Agenda Item V*)

See Also:

April 15, 2009, Agenda Item V: *Technologies for Offshore Drilling--Minerals Management Service*
Michael Saucier: Regional Supervisor of Field Operations, Minerals Management Service **(See Section 3, No. 1)**

April 15, 2009, Agenda Item V: *Technologies for Offshore Drilling-American Petroleum Institute*
Andy Radford: Senior Policy Advisor, American Petroleum Institute
(See Section 3, No. 1)

April 27, 2009, Agenda Item III: *Natural Gas Needs for North Carolina*
Tom Moskitis: Managing Director, External Affairs, American Gas Association
(See Section 3, No. 3)

April 27, 2009, Agenda Item VI: *Managing Inshore Impacts of Coastal Energy Production*
Anne Deaton, Head of the Division of Marine Fisheries' Habitat Protection Section
(See Section 3, No. 4)

April 27, 2009, Agenda Item VII: *Subcommittee Discussion of Social, Economic and Community issues related to Coastal Energy Production*
Facilitated by Subcommittee member Dr. Laura Taylor **(See Section 3, No.4)**

July 28, 2009, Agenda Item VI: *A Human Factors Approach to Planning for Energy Development along the OCS of North Carolina*
Edward Glazier: Vice President, Research, Impact Assessments, Inc. **(See Section 3, No. 4)**

January 12, 2010, Agenda Item III: *Presentation on the North Carolina State Ports Authority*
Glenn Carlson, Chief Commercial Officer
North Carolina State Ports Authority (**See Section 3, No. 4)**

February 23, 2010, Agenda Item IV: *Presentation on the Port of Virginia*
J.J. (Jeff) Keever, Senior Deputy Executive Director, External Affairs
Port of Virginia **(See Section 3, No. 4)**

February 23, 2010, Agenda Item III: *Presentation on oil- and gas-related coastal infrastructure*
Fred M. Jacobs, Chief
Surface Commingling and Production Measurement Section
Office of Production and Development, Minerals Management Service (MMS)
and
Kristen Strellec, Economist
Social Science Unit
Office of Leasing and Environment, MMS
Gulf of Mexico Outer Continental Shelf Region
(See Section 3, No. 4)

IN ADDITION TO TOPICS AUTHORIZED UNDER SECTION 3, THE ADVISORY SUBCOMMITTEE MAY STUDY THE POTENTIAL IMPACTS OF ALTERNATIVE OFFSHORE ENERGY PROJECTS ON THE NATION'S ENERGY SUPPLY, INCLUDING WIND ENERGY, WAVE ENERGY, OCEAN CURRENT ENERGY, SOLAR ENERGY, AND HYDROGEN PRODUCTION

(SECTION 3.1 OF THE CHARGE TO THE SUBCOMMITTEE)

Potential Impacts of Wind Energy Projects
(Summary of Main Points Presented by Invited Speakers)

- *There is strong potential for utility-scale production of wind energy off the coast of North Carolina and possibly within eastern Pamlico Sound (UNC Study Finding).*
- *A high-level review of utility transmission infrastructure in eastern North Carolina suggests some capacity to accommodate offshore generation but upgrades may be required; further study is needed (UNC Study Finding).*
- *Existing State law presents significant legal and permitting barriers to development in State waters and should be revised; new federal regulatory processes deserve careful attention (UNC Study Finding).*
- *Few regulatory incentives exist for wind energy; several options to improve incentives are discussed (UNC Study Finding).*
- *Significant carbon emission reduction is anticipated as a result of a utility-scale generation facility assuming an offset of fossil fuel power (UNC Study Finding).*
- *Further study of effects on birds, aviation, and viewshed impacts is needed.*
- *Uncertainty remains regarding turbine siting, permitting requirements, operations impacts, and energy transmission.*

Charles (Pete) Peterson, Professor in the Institute of Marine Sciences at the University of North Carolina at Chapel Hill, provided the Subcommittee with a detailed presentation on the University of North Carolina at Chapel Hill (UNC-CH) Coastal Wind Study. The study was performed by UNC-CH at the request of the General Assembly to assess the feasibility of installing wind turbines in the sounds and off the coast of North Carolina. The request specified that the assessment include: an analysis of the spatial distributions of available wind power; ecological risks and synergies; use conflicts affecting site selection; foundation systems and their compatibility with sound and ocean bottom geology and associated geologic dynamics; electric transmission infrastructure; utility statutory and regulatory barriers; the legal context; and carbon reduction potential, and economics. Discrete work components were addressed by a project team that drew upon expertise within the University as well as consultants. Dr. Peterson's report to the Subcommittee was made prior to the completion of the study and addressed components of the study executed to date. Since that time, the final report has been prepared and is now available at the UNC-CH Energy Services website on Coastal Wind. *(July 28, 2009, Agenda Item V)*

The following is the summary of the findings of the UNC Coastal Wind Study from the UNC-CH Energy Service Website on Coastal Wind:

> *There is potential for utility-scale production of wind energy off the coast of North Carolina and possibly within eastern Pamlico Sound. A synthesis of the geological, ecological and use conflict components indicates that wind energy development in North Carolina and offshore waters is subject to a variety of spatially-varying constraints. Areas unfavorable for wind energy development are identified and are found to exclude most State waters with the exception of eastern Pamlico Sound. This study confirms that, because of a promising wind resource, large areas offshore of the North Carolina coastline are potentially well-suited for wind energy development and worthy of further investigation. A high-level review of utility transmission infrastructure in eastern North Carolina suggests some capacity to accommodate offshore generation but upgrades may be required; further study is needed. Existing State law presents significant legal and permitting barriers to development in State waters and should be revised and new federal regulatory processes deserve careful attention. Few regulatory incentives exist for wind energy; several options to improve incentives are discussed. A high-level economic screening suggests the levelized cost of generation for either inshore or offshore development is in the $101-106 per MWh range. Significant carbon emission reduction is anticipated as a result of a utility-scale generation facility assuming an offset of fossil fuel power. North Carolina is well positioned to develop utility scale wind energy production and it is the opinion of the project team that the State should pursue it aggressively.*

The relevant findings of the wind study are as follows:

- There is the potential to develop up to 2,800 square miles of offshore area (includes 311 MMS lease blocks) that is less than 50 meters deep within 50 miles of the coastline.
- Were all of the possible areas to be developed it could support up to 55,000 MW of nameplate capacity.
- Developing only 45 MMS lease blocks could provide 20% of the State's 2007 power demand.

Bob Leker, Renewables Program Manager in the State Energy Office in the North Carolina Department of Commerce, described wind energy potential off the North Carolina Coast. Mr. Leker provided maps illustrating the wind potential off the North Carolina Coast and discussed the technology associated with wind power, including how wind turbines are mounted. Mr. Leker discussed the benefits of wind power and the potential permitting process to erect them. Mr. Leker provided the Subcommittee some issues that need further study, including how wind turbines affect birds and aviation, as well as visual impact on the neighboring communities. Mr. Leker concluded his presentation by identifying concerns regarding wind power which range from the uncertainty of turbine siting, permitting, operational impacts, and how energy transmission would be accomplished. (*April 27, 2009, Agenda Item IV*)

Potential Impacts of Wave, Current, and Tidal Energy Projects
(Summary of Main Points Presented by Invited Speakers)

- *The United States Energy Information Agency in the United States. Department of Energy estimates that hydroelectric wave power could generate approximately 320 terawatt-hours per year.*
- *Relative to other areas world wide, North Carolina does not appear to have significant resource potential for wave, current, or tidal energy.*

Steven Kopf, a partner with Pacific Energy Ventures, LLC, made a detailed presentation to the Subcommittee on wave energy technologies. Mr. Kopf stated that a great many similarities exist between North Carolina and Oregon in terms of wave energy potential. Mr. Kopf identified various technologies for harnessing wave energy including: magnetic direct drive; pressurized hydrokinetics; oscillating flow fields; oscillating water columns; point absorbers; pressurized seawater; and attenuators. These technologies are in various stages of development, prototype testing, or full-scale deployment. Mr. Kopf concluded his presentation by showing maps that illustrate world and national wave energy resource potential in kilowatt-hours and a graph of the average seasonal wave power measured in average wave energy flux per unit width of wave crest. (*July 28, 2009, Agenda Item IV*)

Potential Impacts of Ocean Thermal Energy Conversion Projects
(Summary of Main Points Presented by Invited Speakers)

- *As an energy resource, Ocean Thermal Energy Conversion (OTEC) could provide up to 30% of the world's energy consumption.*
- *Possible benefits of large-scale OTEC deployment include: provision of baseload power, national security, limited environmental impact, and economic opportunities.*
- *Based on distance offshore to deep water and surface temperature patterns, the opportunities to pursue OTEC technologies for North Carolina appear modest at best.*
- *OTEC poses an array of unique environmental risks including altered temperature and salinity profiles and nutrient loading.*

Dennis Cooper, Program Management Senior Manager from Lockheed Martin made a presentation on OTEC technology. OTEC uses temperature gradients in the ocean to drive steam engines. Mr. Cooper identified OTEC as a large renewable energy resource providing between three and five terawatts of energy (approximately 30% of global energy consumption). Mr. Cooper described the OTEC process and stated that OTEC could generate electrical power and potable water for isolated Department of Defense bases. The history of OTEC was briefly described. Mr. Cooper listed some of the technological challenges for OTEC platforms and associated cold water pipe, and heat exchangers. Mr. Cooper identified the following possible benefits from large-scale use of OTEC including: energy generation potential (baseload power source and no storage or backup generation concerns); national security (reduce dependence on foreign resources); environmental (minimal greenhouse gas emissions, reduced land needs, production of fresh water); and economic (new industry, green jobs, export opportunity). (*August 24, 2009, Agenda Item III*)

See Also:

November 19, 2009, Agenda Item III: The role of offshore energy resources in State energy policy

John E.P. Morrison, Assistant Secretary for Energy
North Carolina Department of Commerce **(See Section 3, No. 1)**

November 19, 2009, Agenda Item III: *The role of offshore energy resources in State energy policy*

Tim Toben, Chair
North Carolina Energy Policy Council **(See Section 3, No. 1)**

October 7, 2009, Agenda Item IV: *Discussion of royalties and revenue sharing*

Deborah Gibbs Tschudy, Deputy Associate Director, Minerals Revenue Management, MMS, United States Department of the Interior
(See Section 3, No. 2)

July 28, 2009, Agenda Item VI: *A Human Factors Approach to Planning for Energy Development along the OCS of North Carolina*

Edward Glazier: Vice President, Research, Impact Assessments, Inc. **(See Section 3, No. 4)**

APPENDIX A
SUBCOMMITTEE MEMBERSHIP LIST

Pro Tem's Appointments

Dr. James Leutze (Co-chair)
UNC-Wilmington
5051 New Centre Drive, Room 101
Wilmington, NC 28403

Dr. Orlando E. Hankins, Sr.
Saint Augustine's College
100E Mosee Building
1315 Oakwood Avenue
Raleigh, NC 27610

Mrs. Jane Lewis-Raymond
Piedmont Natural Gas Company, Inc.
4720 Piedmont Row Drive
Charlotte, NC 28210

Dr. Christopher Martens
425 Chapman Hall
Chapel Hill, NC 27514

Mayor Mac Montgomery
642 S. Fourth Street
Kure Beach, NC 28449

Dr. Michael Orbach
Duke Marine Lab
135 Duke Marine Lab Road
Beaufort, NC 28516

Mr. Walter Phillips
4206 Bridges Street
Morehead City, NC 28557

Mr. Wayland Sermons
100 East Main Street
Washington, NC 27889

Speaker's Appointments

Dr. Douglas Rader (Co-chair)
Environment Defense Fund
4000 Westchase Blvd., Ste. 510
Raleigh, NC 27607

Dr. Lawrence Cahoon
Marine Biology, UNC-Wilmington
601 South College Road
Wilmington, NC 28403

Dr. Joel Ducoste
NCSU Department of Civil, Construction,
and Environmental Engineering
208 Mann Hall
Raleigh, NC 27695

Mr. Edward Holmes
100 Europa Drive, Ste. 550
Chapel Hill, NC 27517

Dr. Jamie Brown Kruse
Brewster A-427, Tenth Street
Greenville, NC 27858

Mr. John Monaghan, Jr.
128 East Hargett Street
Suite 202
Raleigh, NC 27601

Dr. Hans Paerl
Institute of Marine Sciences, UNC-CH
3431 Arendell Street
Morehead City, NC 28557

Ms. Jane Smith Patterson
e-NC Authority
4021 Carya Drive
Raleigh, NC 27610

Dr. Laura Taylor
Nelson Hall 4223
Box 8109, NCSU Campus
Raleigh, NC 27695

Mr. Paul Tine
3040 Creek Road
Kitty Hawk, NC 27949

Mr. William H. Weatherspoon
North Carolina Petroleum Council
410 N. Boylan Avenue
Raleigh, NC 27603

Dr. Nancy White
P.O. Box 699
Manteo, NC 27954

Mr. M. Paul Sherman
NC Farm Bureau Federation
P.O. Box 27766
Raleigh, NC 27611

Mr. W. Hugh Thompson
4913 Quail Hollow Drive
Raleigh, NC 27609

Dr. Jeffrey Warren
NC Division of Coastal Management
1638 Mail Service Center
Raleigh, NC 27699

Dr. Rob Young
Western Carolina University
294 Belk Building
Cullowhee, NC 28723

Subcommittee Staff

Jennifer Mundt, Subcommittee Analyst, Research Division
Jeff Hudson, Subcommittee Counsel, Research Division
545 Legislative Office Building
300 North Salisbury Street
Raleigh, NC 27603

Jessica Kozma Proctor, Subcommittee Clerk
300-B Legislative Office Building
Raleigh, NC 27603

APPENDIX B
SUBCOMMITTEE MEETING AGENDAS

The Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration (Subcommittee) met eleven times in execution of its charge:

April 15, 2009 – 10:00 AM
Jim Graham Building: Hall of Fame Room
Raleigh, North Carolina
Agenda

I. Welcome/ Introductions
   Dr. Leutze, Co-Chair
   Dr. Rader, Co-Chair
   Subcommittee Members

II. Review of Authorization / Approval of Subcommittee Budget

III. History of North Carolina Offshore Drilling
   Michael Lopazanski: Coastal & Ocean Policy Manager -NC Division of Coastal Management

IV. Resources off the Coast of North Carolina
   David Marin: Regional Supervisor for Resource Evaluation, Minerals Management Service

   James Coleman: Director, Eastern Energy Resources Science Center, USGS

V. Technologies for Offshore Drilling
   Michael Saucier: Regional Supervisor of Field Operations, Minerals Management Service

   Andy Radford: Senior Policy Advisor, American Petroleum Institute

VI. Offshore Habitats and Offshore Drilling
   Steve Ross: Research Associate Professor, UNC-W, Center for Marine Science

   Cindy L. Van Dover: Harvey W Smith Professor of Biological Oceanography, Nicholas School of the Environment, Duke University

VII. Other Business

VIII. Adjournment

The Subcommittee held its first meeting on April 15, 2009 at the Jim Graham Building on the North Carolina State Fairgrounds in Raleigh. After reviewing the Subcommittee authorization and charge, the Subcommittee heard six presentations on the history of offshore drilling in North Carolina; what sorts of resources are likely off the coast; the technologies associated with offshore drilling; offshore drilling and the marine world; and methane hydrates and their environment. The Subcommittee agreed to hold its next meeting in Morehead City and to receive public comments regarding offshore drilling.

April 27, 2009 – 10:00 AM
Carteret Community College, McGee Building, Joselyn Hall
3505 Arendell Street, Morehead City, NC 28557
Agenda

I. Welcome / Opening Remarks
Dr. Leutze, Co-Chair
Dr. Rader, Co-Chair

II. Subcommittee Business

III. Natural Gas Needs for North Carolina
Tom Moskitis: Managing Director, External Affairs, American Gas Association

IV. Wind Energy Options
Bob Leker: Renewables Program Manager, NC Energy Office

V. Implications of Coastal Energy Production for Inshore / Near shore Ecosystems
Charles (Pete) Peterson, Professor, UNC-CH, Institute of Marine Sciences

VI. Managing Inshore Impacts of Coastal Energy Production
Anne Deaton, Head of the Division of Marine Fisheries' Habitat Protection Section

VII. Discussion: Social, Economic and Community issues related to Coastal Energy Production

VIII. Subcommittee Discussion on Interim Report

IX. Public Comment - [4:00PM – 6:00PM]

X. Other Business

XI. Adjournment

The Subcommittee held its second meeting on April 27, 2009 at Carteret Community College in Morehead City. The Subcommittee received presentations from four speakers on the following topics: natural gas needs of North Carolina; an overview on offshore wind power; the implications of offshore energy on the ecosystem; and managing inshore impacts for coastal energy production.

The meeting concluded with the Subcommittee receiving public comment. There were 12 people who provided the Subcommittee with statements on their views on offshore energy exploration, with the majority in opposition to drilling.

May 13, 2009 – 3:00 PM
Auditorium, Legislative Building
16 West Jones St., Raleigh, NC 27601
Agenda

I. Welcome / Opening Remarks
Dr. Leutze, Co-Chair
Dr. Rader, Co-Chair

II. Subcommittee Business

III. Discussion/ Adoption of Interim Report

IV. Other Business

V. Adjournment

The Subcommittee held its third meeting on May 13, 2009 in the Auditorium of the Legislative Building in Raleigh. Some members of the Subcommittee phoned into the meeting by telephone conference in order to approve the Interim Report.

July 28, 2009 – 10:00 AM
UNC-Wilmington, Computer Information Systems Building
Wilmington, NC 28403
Agenda

I. Welcome / Opening Remarks
Dr. Leutze, Co-Chair
Dr. Rader, Co-Chair

II. Subcommittee Business

III. Update on Federal Commenting Process
Michael Lopazanski: Coastal & Ocean Policy Manager, NC Division of Coastal Management

IV. Hydrokinetic Energy
Steven Kopf: Partner, Pacific Energy Ventures, LLC

V. Wind Study Project
Charles (Pete) Peterson, Professor, UNC-CH, Institute of Marine Sciences

VI. A Human Factors Approach to Planning for Energy Development along the OCS of North Carolina
Edward Glazier: Vice President, Research, Impact Assessments, Inc.

VII. Local Governments and Onshore Infrastructure
David Brower, Professor, UNC-CH, Dept. of City and Regional Planning

VIII. Public Comment - [3:00PM – 4:00PM]

IX. Other Business

X. Adjournment

The Subcommittee held its fourth meeting on July 28, 2009 at the University of North Carolina at Wilmington. The Subcommittee heard presentations from four speakers on the following: an update on the OCS Five-Year leasing commenting process; hydrokinetic energy; an update on the University of North Carolina's wind study; and planning approaches for energy development.

Subcommittee member Jane Patterson asked the Subcommittee to pass a resolution to recommend to the leadership of the North Carolina General Assembly that the State be included in the MMS Five-Year plan. Mayor Montgomery made a motion to approve the resolution which was seconded by Subcommittee member Ed Holmes. The motion carried and was adopted. The Co-chairs submitted a copy of the adopted resolution to leaders of the General Assembly on July 28, 2009 a copy of which is included in Appendix G.

The meeting concluded with the Subcommittee receiving public comment. There were five people who provided the Subcommittee with statements on their views on offshore energy

exploration. Further detail as to the nature of the public comments is available in the Subcommittee's minutes for the July 28, 2009 meeting in the Legislative Library.

August 24, 2009 – 10:00 AM
College of the Albemarle- Room 201- Diane Baum Technology Center
Manteo, NC 27954
Agenda

I. Welcome / Opening Remarks
Dr. Leutze, Co-Chair
Dr. Rader, Co-Chair

II. Subcommittee Business

III. Ocean Thermal Energy Conversion
Dennis Cooper, Program Management Senior Manager, Lockheed Martin

IV. Implications of the Five Year Lease / CRC Rules and Regulations
Robin Smith, Assistant Secretary for the Environment, NC DENR

V. Interstate Cooperation
Jeff Hudson, Principal Attorney, Research Division, NC General Assembly

VI. Subcommittee Discussion: Alternative Offshore Energy

VII. Subcommittee Discussion: Future Plans

VIII. Public Comment - [3:00PM – 4:00PM]

IX. Other Business

X. Adjournment

The Subcommittee held its fifth meeting on August 24, 2009 at the College of the Albemarle in Manteo. The Subcommittee heard presentations from three speakers on the following: ocean thermal energy conversion technology, implications of the Five Year Lease; and interstate cooperation.

The members of the Subcommittee discussed potential topics for future meetings and then opened the floor for public comments. Five people provided comments to the Subcommittee. Further detail as to the nature and substance of the public comments is available in the Subcommittee's minutes for the August 24, 2009 meeting in the Legislative Library.

10:00 a.m. Wednesday October 7, 2009
Room 544 Legislative Office Building
Raleigh, North Carolina
Agenda

I. Call to order and opening remarks
Dr. Doug Rader, Co-Chair (presiding)
Dr. James Leutze, Co-Chair

II. Report to the Subcommittee and explanation of agenda items
Jennifer Mundt, Subcommittee Analyst

Approval of the minutes of the July 28 and August 24 Subcommittee meetings

III. Discussion of the Minerals Management Service (MMS) Five-Year Outer Continental Shelf (OCS) Oil and Gas Leasing Program
Renee Orr, Chief of the Leasing Division
Offshore Energy and Minerals Management, MMS
United States Department of the Interior

IV. Discussion of royalties and revenue sharing
Deborah Gibbs Tschudy, Deputy Associate Director
Minerals Revenue Management, MMS
United States Department of the Interior

V. The state of Virginia's experience with the MMS Five-Year OCS leasing program
David B. Spears, State Geologist
Division of Geology and Mineral Resources
Virginia Department of Mines, Minerals, and Energy

LUNCH BREAK – 12:30pm to 1:30pm

VI. Public Comment

VII. Subcommittee Discussion

VIII. Other Business

IX. Adjournment

The Subcommittee held its sixth meeting on October 7, 2009 at the Legislative Office Building in Raleigh. The Subcommittee heard presentations from three speakers regarding differing aspects of the Materials Management Service Five-Year Lease Program.

The members of the Subcommittee discussed potential topics for future meetings and then opened the floor for public comments. One person provided comments to the Subcommittee regarding the results of a poll of North Carolina voters opinions on offshore drilling for oil and natural gas reported by the Civitas Institute. Further detail as to the nature and substance of this comment is available in the Subcommittee's minutes for the October 7, 2009 meeting in the Legislative Library.

10:00 a.m. Thursday November 19, 2009
Room 544 Legislative Office Building
Raleigh, North Carolina
Agenda

I. Call to order and opening remarks
Dr. James Leutze, Co-Chair (presiding)
Dr. Doug Rader, Co-Chair

II. Report to the Subcommittee and explanation of agenda items
Jennifer Mundt, Subcommittee Analyst

Approval of the minutes of the October 7, 2009 Subcommittee meeting

III. The role of offshore energy resources in State energy policy
John E.P. Morrison, Assistant Secretary for Energy
North Carolina Department of Commerce

Tim Toben, Chair
North Carolina Energy Policy Council

IV. The role of the North Carolina Utilities Commission in offshore energy activities
Ed Finley, Chairman
North Carolina Utilities Commission

V. Public Comment

VI. Subcommittee Discussion

VII. Other Business

VIII. Adjournment

The Subcommittee held its seventh meeting on November 19, 2009 at the Legislative Office Building in Raleigh. The Subcommittee heard presentations from three speakers regarding North Carolina's role in offshore energy activities.

The Subcommittee opened the floor for public comments after the speakers concluded their presentations. Five people provided comments to the Subcommittee; the nature and substance of their comments is available in the Subcommittee's minutes for the November 19, 2009 meeting in the Legislative Library. The members of the Subcommittee then held a discussion about potential topics for future meetings and discussed the timeline for the remaining work of the Subcommittee.

10:00 a.m. Tuesday January 12, 2010
Room 544 Legislative Office Building
Raleigh, North Carolina
Agenda

I. Call to order and opening remarks
Dr. Doug Rader, Co-Chair (presiding)
Dr. James Leutze, Co-Chair

II. Report to the Subcommittee and explanation of agenda items
Jennifer Mundt, Subcommittee Analyst

III. Presentation on the North Carolina State Ports Authority
Glenn Carlson, Chief Commercial Officer
North Carolina State Ports Authority

IV. Discussion of local government tools for managing impacts derived from offshore energy exploration and production and associated on-shore development
Paul Meyer, Chief Legislative Counsel
North Carolina League of Municipalities

Jim Blackburn, Legislative Counsel
North Carolina Association of County Commissioners

V. Presentation on the value of the State's coastal economy and resources
Bryan Gupton, Director of Operations and Industry Relations
North Carolina Department of Commerce

VI. Subcommittee discussion of the format and content of the Subcommittee Final Report

VII. Public comment

VIII. Additional Subcommittee discussion

IX. Other business

X. Adjournment

The Subcommittee held its eighth meeting on January 12, 2010 at the Legislative Office Building in Raleigh. The Subcommittee heard presentations from four speakers that discussed the State Ports capacity, local government tools for managing impacts from offshore energy development, and the value of the coastal economy to the State.

The Subcommittee opened the floor for public comments after the speakers concluded their presentations although no members of the public offered comment. The members of the Subcommittee held a discussion about potential topics for future meetings, the preparation of the Subcommittee's Final Report, and the proposed timeline for the remaining work of the Subcommittee.

10:00 a.m. Tuesday February 23, 2010
Room 544 Legislative Office Building
Raleigh, North Carolina
Agenda

I. Call to order and opening remarks
Dr. James Leutze, Co-Chair (presiding)
Dr. Doug Rader, Co-Chair

II. Report to the Subcommittee and explanation of agenda items
Jennifer Mundt, Subcommittee Analyst

III. Presentation on oil- and gas-related coastal infrastructure
Fred M. Jacobs, Section Chief
Surface Commingling and Production Measurement Section
Office of Production and Development, Minerals Management Service (MMS)
Gulf of Mexico Outer Continental Shelf (OCS) Region

Kristen Strellec, Economist
Social Science Unit
Office of Leasing and Environment, MMS
Gulf of Mexico OCS Region

IV. Presentation on the Port of Virginia
J.J. (Jeff) Keever, Senior Deputy Executive Director, External Affairs
Port of Virginia

V. Public comment

VI. Subcommittee discussion of the Subcommittee Final Report

VII. Other business

VIII. Adjournment

The Subcommittee held its ninth meeting on February 23, 2010 at the Legislative Office Building in Raleigh. The Subcommittee heard presentations from three speakers that discussed the Port of Virginia capacity and onshore infrastructure related to and in support of offshore oil and gas production.

The Subcommittee opened the floor for public comments after the speakers concluded their presentations although no members of the public offered comment. The members of the Subcommittee held a discussion about the draft Subcommittee Final Report that was distributed to members in advance of the meeting.

10:00 a.m. Tuesday March 23, 2010
Room 544 Legislative Office Building
Raleigh, North Carolina
Agenda

I. Call to order and opening remarks
Dr. Doug Rader, Co-Chair, Presiding
Dr. James Leutze, Co-Chair

II. Public comment

III. Presentation and Discussion of the Subcommittee Final Report

IV. Other business

V. Adjournment

The Subcommittee held its tenth meeting on March 23, 2010 at the Legislative Office Building in Raleigh. The Subcommittee devoted this meeting to the presentation and discussion of the Final Report.

10:00 a.m. Tuesday April 13, 2010
Room 1124 Legislative Building
Raleigh, North Carolina
Agenda

I. Call to order and opening remarks
Dr. James Leutze, Co-Chair, Presiding
Dr. Doug Rader, Co-Chair

II. Discussion / adoption of the Subcommittee Final Report

III. Adjournment

At its eleventh and final meeting held on April 13, 2010 the Subcommittee adopted the Final Report, as amended.

APPENDIX C
SUMMARY OF PUBLIC COMMENTS

Over the course of ten meetings spanning nearly one year, from April 2009 to March 2010, 15 persons addressed the Subcommittee regarding offshore energy exploration issues. Of these, almost half represented environmental advocacy organizations, one represented a public policy think tank, two local government political candidates, and the remaining speakers appeared to be concerned citizens.

Although comments varied in the degree of passion, length, and substance, an overwhelming majority of individuals who addressed the Subcommittee shared the view that the State need not involve itself in offshore drilling. One impassioned resident expressed that "drilling for oil and digging for gold is raping the Earth" and that "(the oil companies) need to keep their bloody hands off our Earth". Another equally concerned resident of Wilmington reported that she queried fellow residents of her native Dare County as well as visiting tourists of their feelings about offshore drilling, reporting to the Subcommittee that tourists claimed they would neither visit the State's coast nor bring their vacation dollars in the event they would have to view oil rigs from the shoreline. Another Dare County resident told Subcommittee members that he had spoken with more than 850 of his fellow residents in his county of just roughly 33,000 people, gathering 140 signatures on a petition that he continues to circulate. The idea of offshore drilling, the speaker claimed, "is very troubling" adding that "tourism is what the coast is all about." (Manteo meeting, 2009)

But where a large fraction opposed offshore drilling, another majority supported developing wind energy off the State's coast. One speaker, representing the Conservation Council of North Carolina, described an oil spill off the coast of Australia that caused significant environmental impacts. The spill had, he said, a square footage larger than that of the City of London. He then asked members to consider the potential impact such a spill would have off the State's coast. He, along with many others representing environmental groups, used these and other examples to demonstrate their opposition for offshore drilling juxtaposed to their support for wind energy.

The following documents were submitted by individuals who provided comment to the Subcommittee and are available in the Subcommittee notebook which is filed in the Legislative Library: one citizen petition; a poll by the Civitas organization; a letter to the Secretary of Commerce for Ocean and the Atmosphere in the United States Department of Commerce, and a report drafted by Southeast Energy Alliance.

APPENDIX D
REFERENCED MAPS AND FIGURES

1) Atlantic Region Offshore Administrative Boundaries and Acreage

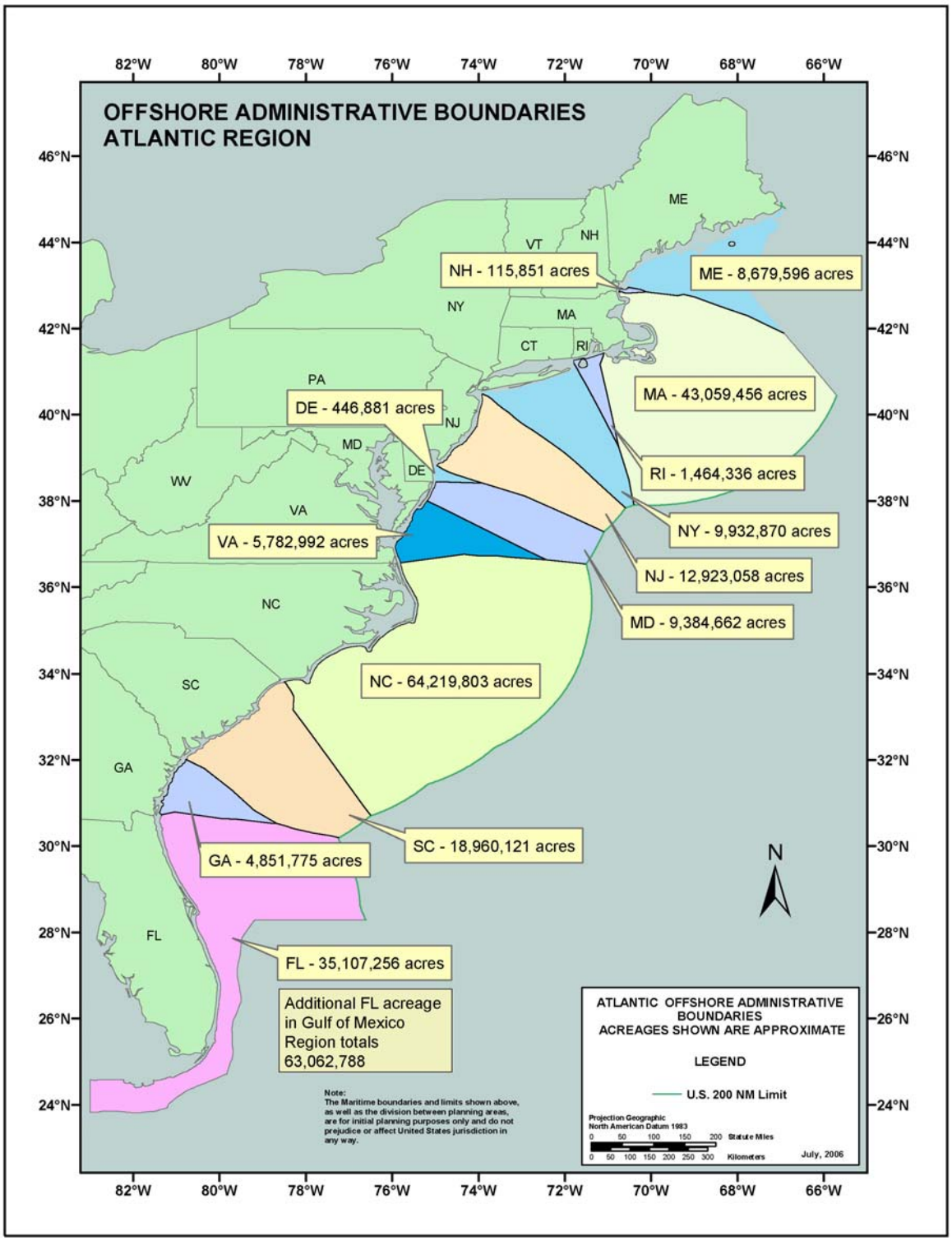
2) Department of the Interior OCS Oil and Gas Strategy

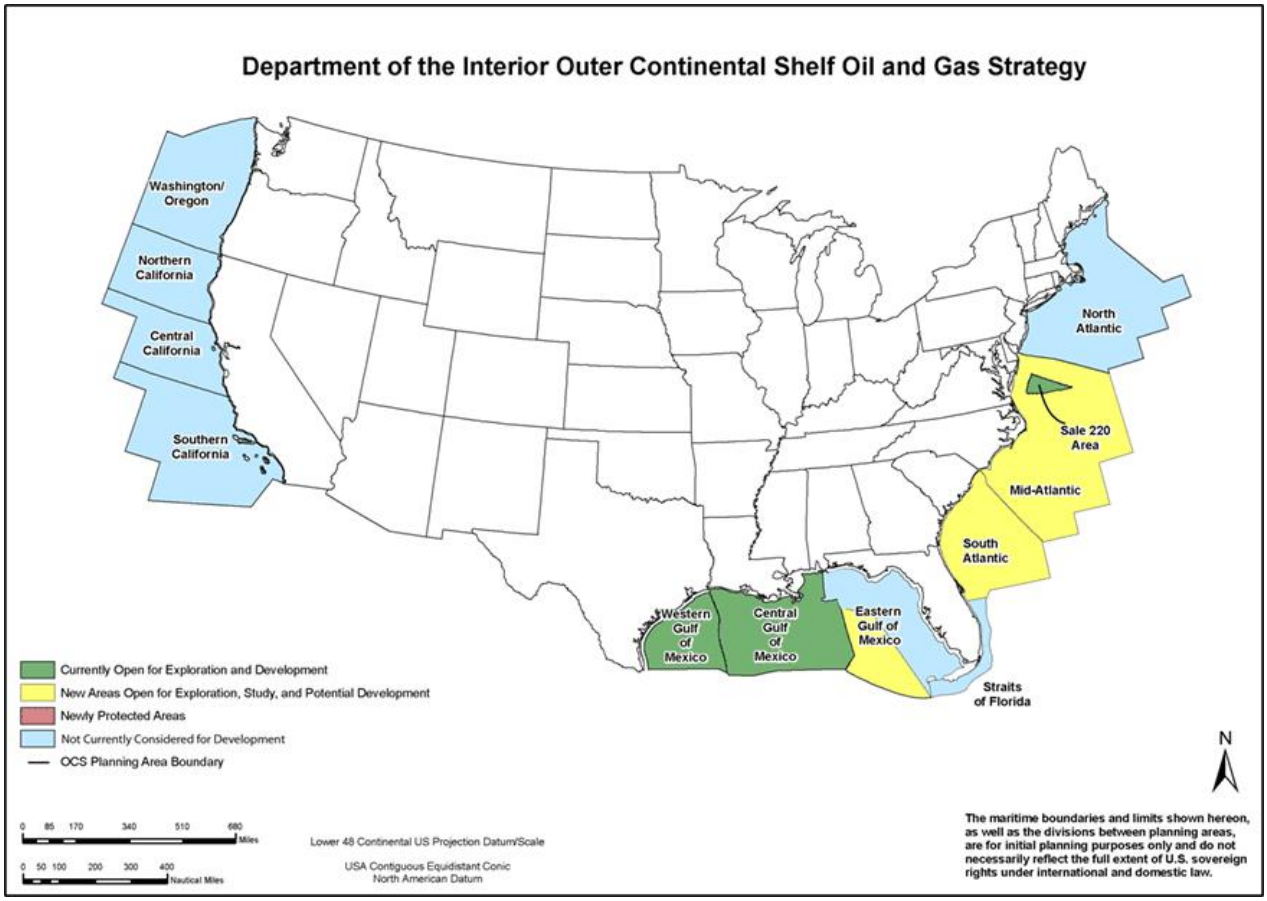
3) Estimated Undiscovered, Economically Recoverable Resources as of July 2010 (U.S.)

4) Undiscovered Technically Recoverable Resources by Water Depth Range 2006 (Mid-Atlantic)

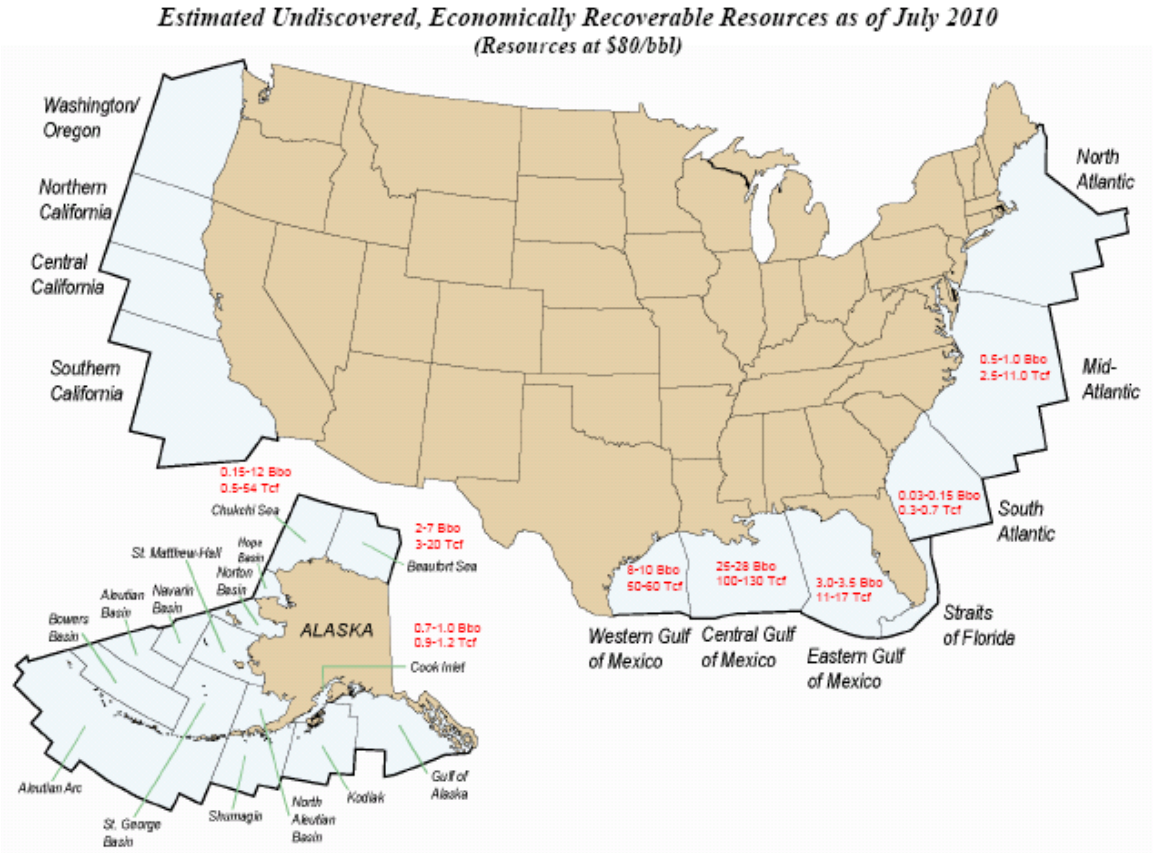
5) Virginia Offshore Proposed Lease Sale 220 Area

6) Leasing, Exploration, and Development Process

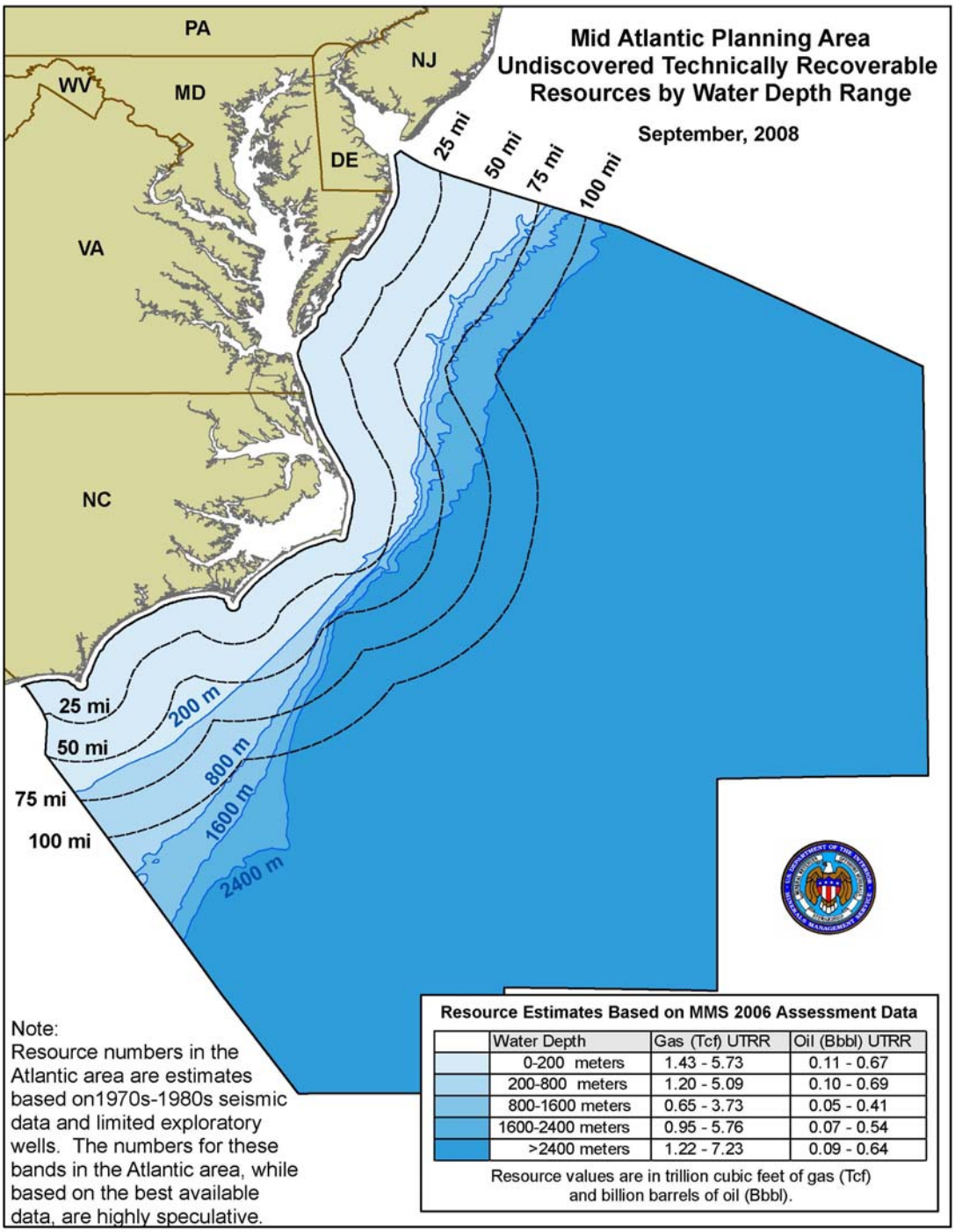

OFFSHORE ADMINISTRATIVE BOUNDARIES
ATLANTIC REGION
82°W
80°W
78°W
76°W
74°W
72°W
70°W
68°W
66°W
46°N
44°N
42°N
40°N
38°N
36°N
34°N
32°N
30°N
28°N
26°N
24°N
ME
VT
NH
NY
MA
CT
RI
PA
NJ
MD
DE
WV
VA
NC
SC
GA
FL
NH - 115,851 acres
ME - 8,679,596 acres
DE - 446,881 acres
MA - 43,059,456 acres
RI - 1,464,336 acres
NY - 9,932,870 acres
VA - 5,782,992 acres
NJ - 12,923,058 acres
MD - 9,384,662 acres
NC - 64,219,803 acres
SC - 18,960,121 acres
GA - 4,851,775 acres
FL - 35,107,256 acres
Additional FL acreage in Gulf of Mexico Region totals 63,062,788
N
Note:
The Maritime boundaries and limits shown above, as well as the division between planning areas, are for initial planning purposes only and do not prejudice or affect United States jurisdiction in any way.
ATLANTIC OFFSHORE ADMINISTRATIVE BOUNDARIES
ACREAGES SHOWN ARE APPROXIMATE
LEGEND
U.S. 200 NM Limit
Projection Geographic
North American Datum 1983
0 50 100 150 200 Statute Miles
0 50 100 150 200 250 300 Kilometers
July, 2006

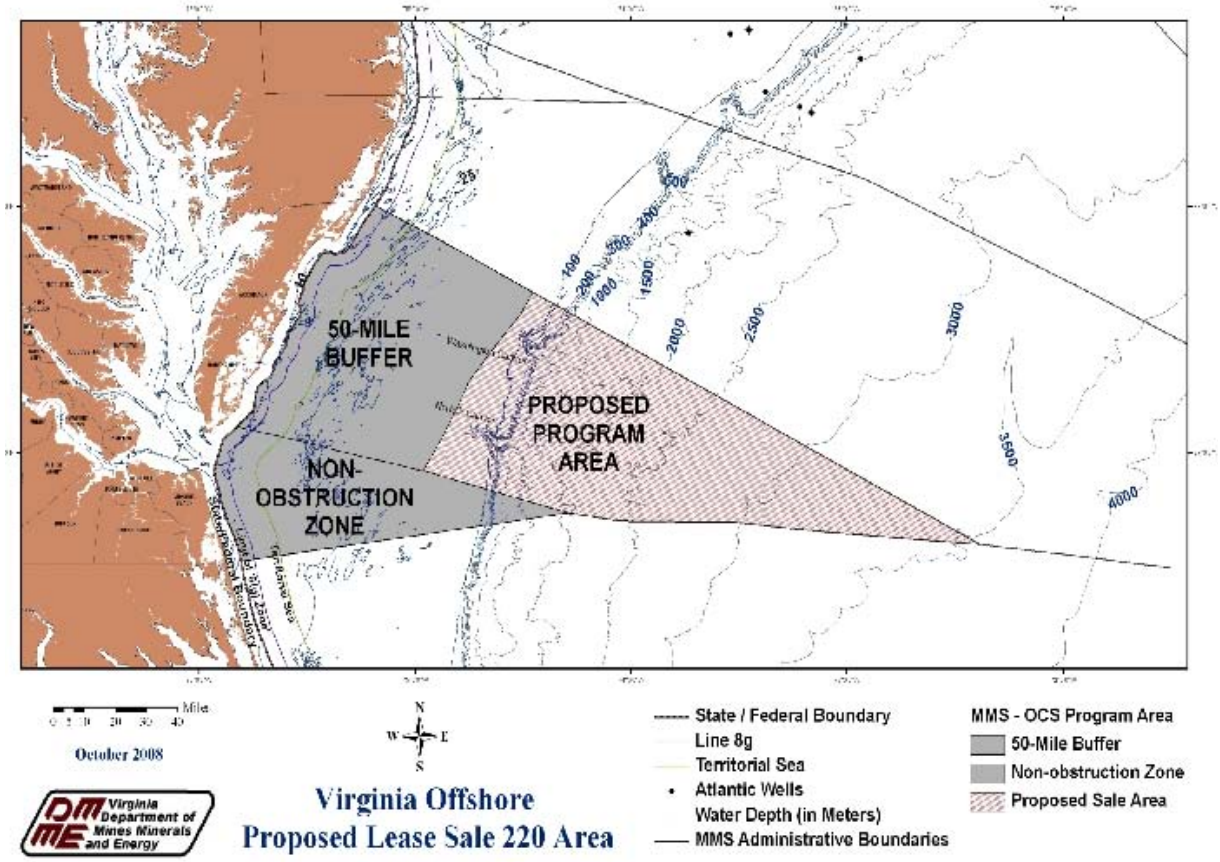


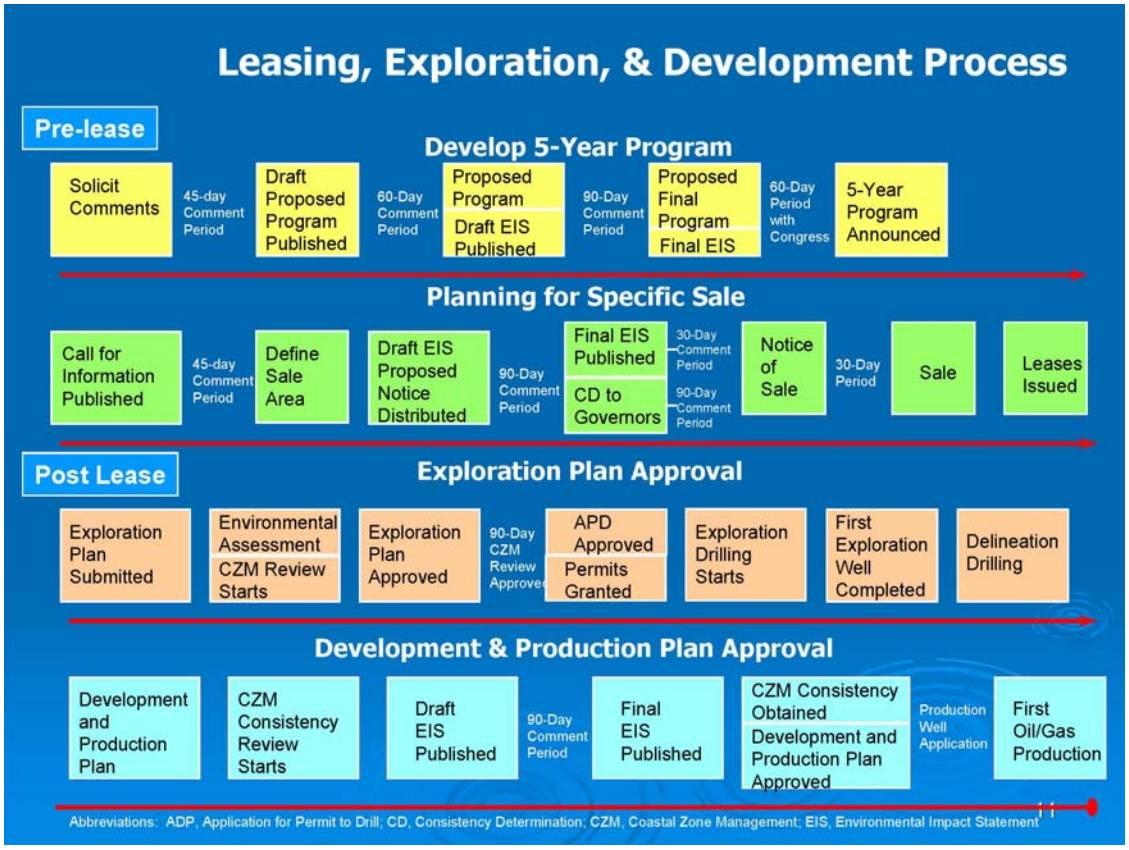
From: the U.S. Department of the Interior, http://www.doi.gov/whatwedo/energy/ocs/lower48-strategy.cfm



From: the U.S. Department of the Interior:
http://www.doi.gov/whatwedo/energy/ocs/upload/UERR_map_2012-2017.pdf


Mid Atlantic Planning Area
Undiscovered Technically Recoverable
Resources by Water Depth Range
September, 2008
PA
NJ
WV
MD
DE
VA
NC
25 mi
50 mi
75 mi
100 mi
200 m
800 m
1600 m
2400 m
Note:
Resource numbers in the Atlantic area are estimates based on1970s-1980s seismic data and limited exploratory wells. The numbers for these bands in the Atlantic area, while based on the best available data, are highly speculative.
Resource Estimates Based on MMS 2006 Assessment Data
Water Depth | Gas (Tcf) UTRR | Oil (Bbbl) UTRR
0-200 meters | 1.43 - 5.73 | 0.11 - 0.67
200-800 meters | 1.20 - 5.09 | 0.10 - 0.69
800-1600 meters | 0.65 - 3.73 | 0.05 - 0.41
1600-2400 meters | 0.95 - 5.76 | 0.07 - 0.54
>2400 meters | 1.22 - 7.23 | 0.09 - 0.64
Resource values are in trillion cubic feet of gas (Tcf) and billion barrels of oil (Bbbl).


50-MILE BUFFER
PROPOSED PROGRAM AREA
NON-OBSTRUCTION ZONE
100
200
500
1000
1500
2000
2500
3000
3500
4000
Miles
0 5 10 20 30 40
October 2008
N
W
E
S
Virginia Department of Mines Minerals and Energy
Virginia Offshore
Proposed Lease Sale 220 Area
State / Federal Boundary
Line 8g
Territorial Sea
Atlantic Wells
Water Depth (in Meters)
MMS Administrative Boundaries
MMS - OCS Program Area
50-Mile Buffer
Non-obstruction Zone
Proposed Sale Area


Leasing, Exploration, & Development Process
Pre-lease
Develop 5-Year Program
Solicit Comments
45-day Comment Period
Draft Proposed Program Published
60-Day Comment Period
Proposed Program
Draft EIS Published
90-Day Comment Period
Proposed Final Program
Final EIS
60-Day Period with Congress
5-Year Program Announced
Planning for Specific Sale
Call for Information Published
45-day Comment Period
Define Sale Area
Draft EIS Proposed Notice Distributed
90-Day Comment Period
Final EIS Published
30-Day Comment Period
CD to Governors
90-Day Comment Period
Notice of Sale
30-Day Period
Sale
Leases Issued
Post Lease
Exploration Plan Approval
Exploration Plan Submitted
Environmental Assessment
CZM Review Starts
Exploration Plan Approved
90-Day CZM Review Approve
APD Approved
Permits Granted
Exploration Drilling Starts
First Exploration Well Completed
Delineation Drilling
Development & Production Plan Approval
Development and Production Plan
CZM Consistency Review Starts
Draft EIS Published
90-Day Comment Period
Final EIS Published
CZM Consistency Obtained
Development and Production Plan Approved
Production Well Application
First Oil/Gas Production
Abbreviations: ADP, Application for Permit to Drill; CD, Consistency Determination; CZM, Coastal Zone Management; EIS, Environmental Impact Statement

APPENDIX E
OFFSHORE ENERGY STATUS IN VIRGINIA AND SOUTH CAROLINA

VIRGINIA

A bipartisan effort has evolved in both the Virginia General Assembly and the Virginia Congressional delegation that is in strong support of the search for offshore energy. Virginia officials are working to urge the federal government to follow through on the MMS proposed oil and gas Lease Sale 220 scheduled for 2011.

The Virginia General Assembly passed two bills in support of oil and gas exploration and production. HB 787 amended the State Energy Policy to include support for both oil and gas production and development. HB 756 earmarks 80% of future energy revenue sharing to transportation and 20% to coastal energy research.

Recently-elected Governor Bob McDonnell has both written and met with Secretary of the Interior Salazar to urge that Virginia Lease Sale 220 proceed without delay. To underscore the importance of Lease Sale 220 to Virginia, 8 of Virginia's 11 Congressman (3 democrats and 5 republicans) co-sponsored a measure on March 24, 2010 to require Lease Sale 220 to proceed as scheduled.

SOUTH CAROLINA

Similar to North Carolina, a legislative study committee was tasked within the past year to determine the feasibility of opening the OCS off South Carolina to energy production. In South Carolina, interest in offshore energy development has been limited to natural gas. After a year of expert witnesses and invited speakers, the study committee recommended that the State pursue natural gas off the coast.

Two current candidates for Governor support the search for natural gas offshore: Attorney General Henry McMaster and Congressman Gresham Barrett. Outgoing Governor Mark Sanford also supports the search for offshore natural gas.

The South Carolina Senate has recently passed (during the 2010 legislative session) a Resolution urging Congress to open the area off the South Carolina coast for natural gas exploration and to authorize that 37.5% of the federal royalties received be shared with the state. This resolution will be scheduled for House consideration in mid-April.

APPENDIX F
MEMO ON HYDROCARBON INPUTS

North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Beverly Eaves Perdue, Governor James H. Gregson, Director Dee Freeman, Secretary

April 29, 2009

MEMORANDUM

TO: Legislative Research Commission Offshore Energy Exploration Subcommittee

FROM: Jeffrey Warren, PhD, CPG
Coastal Hazards Specialist

SUBJECT: Hydrocarbon Input to the Marine Environment

This memo provides data with citations addressing the numerous comments made at the subcommittee's meeting on April 27th regarding the environmental impact of offshore oil and gas exploration and development (specifically related to leaks and spills).

GENERAL

- A relative comparison of the contribution of contaminants to the marine environment shows that only 1% of offshore production introduces contaminants to the open sea (0% reported for the near shore). The other contaminant sources reported are maritime transportation, dumping, runoff and direct discharge, and atmosphere.[13]
- The GESAMP (Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection) in 1993 and the National Research Council of the National Academies of Science (1985) estimated that offshore production discharges accounted for only 2% of global inputs of oil pollution into the marine environment.[14]

[13] Windom, H.L., 1992. Contamination of the marine environment from land-based sources. Mar. Pollut. Bull. 25 (1-4): 32-36.
[14] http://www.offshore-environment.com/oilpollution.html

NATURAL SEEPS

- Natural oil seeps contribute the highest amount of oil to the marine environment, accounting for 46% of the annual load to the world's oceans.[15]
- One of the most intensively studied seepage area lies off Coal Oil Point, in Santa Barbara County, California. Seeps in this area release an estimated 11 to 160 barrels (450 to 6,700 gallons) of oil per day, along with a large volume of natural gas.[16]
- Natural oil seeps offshore North America account for 190,000 tonnes per year 1,387,000 barrels or 58,254,000 gallons) – roughly five times the volume released during the Exxon Valdez oil spill (10.8 million gallons in March 1989). North American data are broken down as follows: 150,000 tonnes per year (1,095,000 barrels or 45,990,000 gallons) in the Gulf of Mexico, 20,000 tonnes per year for offshore southern California (146,000 barrels or 6,132,000 gallons), and 20,000 tonnes per year for offshore Alaska (146,000 barrels or 6,132,000 gallons).[17]

OIL TANKER SPILLS (GLOBAL)[18]

- The number of accidental, large tanker spills (global) during the last 30 years has decreased significantly, and the average number of large spills per year during the 1990s was less than a third of that witnessed during the 1970s. (The threshold assigned to "large" is anything greater than 700 tonnes or approximately 5,110 barrels or approximately 214,620 gallons.)
- Data of nearly 10,000 global incidents since 1974 show that 84% of oil spills were less than seven tonnes (51.1 barrels or 2,146.2 gallons). Furthermore, data through 2007 show that the number of large spills was 37% of the previous decade (29 incidents from 2000-2007 compared to 78 incidents from 1990-1999).
- The total volume of oil released (for spills greater than seven tonnes) during the 1990s was 1,138,000 tonnes (8,307,400 barrels or 348,910,800 gallons) compared to 192,000 tonnes (1,401,600 barrels or 58,867,200 gallons) released between 2000 and 2007 (an 83% decrease from the 1990s).

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[15] National Research Council, 1985. Oil and the Sea: Inputs, Fates and Effects. National Academy Press.
[16] US Geological Survey. http://www.mms.gov/omm/pacific/enviro/seeps2.htm
[17] Kvenvolden, K.A. and Cooper, C.K., 2002. Revised assessment of the rate at which crude oil seeps naturally into the ocean. AAPG Hedberg Conference, April 6-10, Vancouver, BC, Canada. http://www.searchanddiscovery.net/documents/abstracts/hedberg2002/kvenvolden01/kvenvolden01.htm
[18] The International Tanker Owners Pollution Federation Limited. http://www.itopf.com/information-services/data-and-statistics/statistics/

GULF OF MEXICO[19]

- The impacts from hurricanes Katrina and Rita were typical of this historical experience. While cleanup was required, the volume of oil spilled and impacts to shore from the offshore infrastructure were categorized as minor. Onshore impacts from localized tank failures resulting from flooding were more significant.
- During hurricanes Katrina and Rita (August and September 2005), 124 incidents released a combined volume of 17,655.2 barrels (741,518.4 gallons) of petroleum into the Gulf of Mexico. Of these 124, 52 were related to platforms and rigs (10,365.4 barrels or 435,346 barrels) and 72 were related to pipelines (7,286.8 barrels or 306,003.6 gallons).
- Of the 542 damage reports related to pipelines, 72 spills were reported that had a volume of one barrel or more of crude oil or condensate, representing only a 13% per capita spill rate for the total damages reported as a result of the two hurricane events. Response and recovery efforts kept the impacts to a minimum with no onshore impacts from these events.
- During Hurricanes Katrina and Rita, the shut-in valves on offshore production platforms functioned 100 percent of the time, efficiently closing in production from wells and resulting in no major spills from the Outer Continental Shelf. Shutting-in oil and gas production is a standard procedure conducted by industry for safety and environmental reasons.[20]
- As of October 6, 2008, 54 of the 3,800 offshore oil and gas production platforms in the Gulf of Mexico have been confirmed as destroyed. Initial estimates are that the 54 destroyed production platforms produced a total of 13,300 barrels of oil per day and 90 million cubic feet of gas per day.[21]
- The Associated Press reported on October 5th that no major oil spills or hazardous materials releases have been identified from Hurricane Ike. The Minerals Management Service confirmed only one report of an oil spill - a leak of 8,400 gallons that officials said left no trace because it dissipated with the winds and currents. The Coast Guard, with the Environmental Protection Agency and state agencies, has responded to more than 3,000 pollution reports associated with the storm and its surge along the upper Texas coast, but most callers complained about abandoned propane tanks, paint cans and other hazardous materials containers turning up in marshes, backyards and other places.[22]

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[19] Pipeline damage assessment from hurricanes Katrina and Rita in the Gulf of Mexico. Minerals Management Service Report number 448 14183 prepared by Det Norske Veritas.
[20] Scandanavian Oil and gas Magazine (Oct 7, 2008). http://www.scandoil.com/moxie-bm2/news/mms-provides-hurricane-gustavhurricane-ike-activit-2.shtml
[21] Minerals Management Service. http://www.mms.gov/ooc/press/2008/press1007c.htm
[22] http://www.cbsnews.com/stories/2008/10/05/national/main4502537.shtml?source=RSSattr=HOME_4502537

NORTH SEA

- Yale and Columbia universities identified Norway as the world's second greenest country. The study's Environmental Performance Index (EPI) ranked 149 countries on 25 indicators across six established policy categories (environmental health, air pollution, water resources, biodiversity and habitat, productive natural resources, and climate change) in an attempt to develop a fact-driven, empirical approach to environmental protection and global sustainability.[23]
- Norway currently is the world's third largest oil exporter (2.8 billion barrels per day in 2006), the tenth largest producer globally, and continues to have the largest oil reserves in western Europe.
- Although the North Sea has some of the roughest weather in the world, the Norwegian Petroleum Directorate (NPD) reported in 2003 that approximately 1,000 wells (including 61 in the Barents Sea) had been drilled spanning some 40 years without any accidental spills resulting in environmental consequences. In 2003, the NPD also noted that 25 years had passed without any major blowouts (the only occurrence, in 1977, is discussed below) making the current duration greater than 30 years.[24]
- The NPD identified only two major petroleum spills that had occurred through 2003: 1) the Ekofisk Bravo incident in 1977 where an incorrectly installed downhole safety valve created an oil spill between 80,000 and 126,000 barrels (between 3.3 and 5.3 million gallons), and 2) the 1992 Statfjord B incident where the valve of a loading hose was left in the open position (240,000 gallons). Subsequently, a tanker spill occurred in December 2007 during onloading in rough weather (~24,000 barrels or 1 million gallons) but dispersed with no shoreline impact. For perspective, the Exxon Valdez incident in Alaska spilled 10.8 million gallons.

[23] Yale and Columbia University Environmental Performance Index (EPI). http://epi.yale.edu/Home

[24] Norwegian Petroleum Directorate. http://www.npd.no/English/Aktuelt/Nyheter/faktisk_talt_sokkelspeil_artikkel.htm

APPENDIX G
OFFICIAL STATE CORRESPONDENCE

1) Letter from Governor Beverly Perdue to Secretary of the Interior Ken Salazar in response to the 2010-2015 Draft Proposed Five-Year OCS Oil and Gas Leasing Program. (September 18, 2009)

2) Letter from Secretary of Environment and Natural Resources Dee Freeman to Renee Orr in MMS providing comments on the 2010-2015 Draft Proposed Five-Year OCS Oil and Gas Leasing Program on behalf of the Department of Environment and Natural Resources. (September 21, 2009)

3) Letter from Senate Republican Leader Phil Berger and House Republican Leader Paul Stam to Renee Orr in MMS providing comment on the 2010-2015 Draft Proposed Five-Year OCS Oil and Gas Leasing Program. (September 9, 2009)

4) Letter from Senator Bob Rucho to Renee Orr in MMS providing comment on the 2010-2015 Draft Proposed Five-Year OCS Oil and Gas Leasing Program. (September 17, 2009)

5) Town of Duck Resolution opposing offshore drilling off the coast of North Carolina and Virginia. (September 2, 2009)

6) Dare County Resolution opposing any exploration for gas or oil on the continental shelf or elsewhere off the coast of North Carolina or Virginia. (December 5, 2005)

7) Subcommittee resolution to Senate President Pro Tempore Marc Basnight and Speaker of the House of Representatives Joe Hackney. (July 28, 2009)

STATE OF NORTH CAROLINA
OFFICE OF THE GOVERNOR
20301 MAIL SERVICE CENTER • RALEIGH, NC 27699-0301

BEVERLY EAVES PERDUE
GOVERNOR

September 18, 2009

The Honorable Ken Salazar
Secretary of the Interior
1849 C Street, N.W.
Washington DC 20240

Dear Secretary Salazar,

I am writing to you in response to the Draft Proposed 5-year OCS Oil and Gas Leasing Program for 2010–2015 (DPP), which anticipates three oil and gas lease sales off the Atlantic coast. Given that two of the three proposed sales could be off the North Carolina coast, I want to take this opportunity to outline the steps I am taking to guide the state's decision-making process and to also highlight for you several issues of great concern to North Carolina.

As Governor, I support development of a range of domestic energy resources to meet our energy needs and enhance our national security. However, I also believe it is imperative that the states have the ultimate say in developing energy resources off their coasts and a share in the revenue. North Carolina's coastal areas appear to be rich with potential energy production opportunities, including oil, natural gas and wind. However, these same areas are vital to the state's economy, tourism industry and environment, and they face significant risks from hurricanes and storms. Because of this unique mixture of assets and risks, I take very seriously decisions about the use of our coastal resources, and I will rely on the best available information and scientific knowledge to establish my position on any such decisions.

I have just issued an executive order creating a Governor's Scientific Advisory Panel on Offshore Energy to ensure that I have the best minds in our state evaluating all of our offshore energy options and working with me to develop a comprehensive offshore energy strategy. I have charged the Advisory Panel with evaluating all potential offshore energy resources available to North Carolina, reporting on the technical feasibility of utilizing these resources, identifying the benefits and concerns associated with each one, and creating a thorough inventory of all relevant state and federal regulatory issues. I have also tasked this panel to evaluate any proposals for use of North Carolina's offshore energy resources, including those from the Minerals Management Service, and to make recommendations on a comprehensive plan for using our offshore energy resources. Through the work of my Scientific Advisory Panel on Offshore Energy, we will fully understand our energy opportunities and steer North Carolina toward the wisest and most secure energy future for our citizens.

LOCATION: 116 WEST JONES STREET • RALEIGH, NC • TELEPHONE: (919) 733-5811
WWW.GOVERNOR.STATE.NC.US

As we begin this process, I want to point out several significant gaps at the federal level which make it difficult for us to do our work. Moreover, these gaps make it challenging for us as a state to effectively evaluate and respond to the Draft Proposed Plan.

First, without knowing with greater specificity the possible locations of the proposed sales, it is difficult to offer substantive comments or to develop an informed position on such sales. This is especially true for the Atlantic Coast, where the waters were long closed to drilling by Congressional and Presidential actions and where there is minimal experience with productive offshore leases. While we know a great deal about our coast and its ecosystems and ecology, we lack other basic knowledge, including the extent and location of available oil and gas resources. While the geologic and geophysical exploratory activities overseen by MMS in this area may yield some important information, we will not have access to this information in time to inform our comments on the DPP.

Second, the issue of revenue sharing for offshore oil and gas leases off the Atlantic Coast remains unresolved at the federal level. Simply put, no state can or should make decisions that could forever alter the state of its coast and economy without a firm commitment as to its share of the revenue. I recognize this issue is outside your agency's jurisdiction, but it is a vital element in the larger plans your agency proposes. I strongly encourage you to postpone any binding decisions on oil and gas leasing activities in this region until this question is resolved.

Finally, I understand MMS is beginning a planning process for offshore wind and other renewable energy development. As the first state in the Southeast to enact a Renewable Energy Portfolio Standard, we are already taking important steps to develop our renewable energy resources and grow a robust green economy. The University of North Carolina at Chapel Hill recently completed a study of the potential for wind energy in our sounds and off our coast, and the findings are very promising. However, with the federal program for offshore wind energy barely in its infancy, and with an accelerated DPP proposing lease sales in our region within the next five years, we cannot have an informed discussion on how these two important offshore resources fit together. In the worst case scenario, the lack of coordination between these two planning processes poses a real risk that development of one resource may limit or completely preclude development of the other. If oil and gas leases are opened, could they coexist with offshore wind developments in the same areas? By signaling its support for oil and gas development, is a state limiting its options for renewable wind energy in the future? These are questions we must answer if we are to make responsible decisions for North Carolina.

As I take my own hard look at the wisest uses of North Carolina's offshore energy resources, I respectfully request your assistance so that no state is forced to make premature decisions driven by the DPP without fully understanding how its coastal resources, its share of future revenues or its other energy production opportunities may be affected. I welcome the opportunity to work with you to develop a comprehensive federal process to look at all offshore energy resources concurrently, and I thank you for your consideration of my comments.

Sincerely,

Bev Perdue

BEP/jlb

North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

September 21, 2009

Dee Freeman
Secretary

Ms. Renee Orr
Minerals Management Service
381 Elden Street, Room 3120
Herndon, Virginia 20170-4817

Re: Comments on Draft Proposed 5-Year Outer Continental Shelf Oil and Gas Leasing Program for 2010-2015

Dear Ms. Orr:

On behalf of the N.C. Department of Environment and Natural Resources, I am writing to provide comments on the Department of Interior's Draft Proposed OCS Oil and Gas leasing Program for 2010 through 2015. These comments are intended to provide further detail in support of Governor Perdue's letter to Secretary Salazar.

The potential short and long term consequences of oil and gas exploration on our marine resources and tourism in North Carolina are significant. Consequently, North Carolina believes that our state's position on this issue should be afforded substantial weight during the decision-making process and the development of the five year program.

It is the department's assessment that many of the potential ramifications of offshore drilling on marine resources and the onshore impacts of coastal energy production remain unknown. Many unanswered questions need to be addressed through further studies and data gathering before our state can make an informed decision on the potential impacts of the Draft Proposed 5-Year Program on the state's coastal area. Nevertheless, North Carolina will continue to work with the federal agencies as this matter moves forward and will continue to be engaged in this process. For example, departmental staff continues to work with the Mapping and Boundary Branch of the Minerals Management Service to update the coastal boundaries.

I would also note the department is interested in having Minerals Management Service clearly outline the connection and potential overlap between the Draft Proposed 5-Year Program for oil and gas and potential offshore wind energy development. North Carolina has a strong interest in offshore wind energy development. In fact, our Coastal Resources Commission is in the process of modifying rules that would make it more feasible for wind development. However, questions remain as to how conflicts between offshore energy resource projects for oil and gas and wind would be resolved and prioritized.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 Internet: www.enr.state.nc.us

As the process moves forward on the Draft Proposed 5-Year Program I would like to highlight specific issues of importance to North Carolina that should be considered. North Carolina has outlined many of these issues in comments previously submitted to your agency. For the record, they are summarized again below.

Socio-economic

North Carolina remains committed to protecting our coastal and ocean resources as an integral part of North Carolina's economy, culture and heritage. Our coastal areas support industries critical to our entire state's economy, including our fishing industry and tourism. North Carolina has more than 8,500 licensed commercial fishermen and 738 licensed seafood dealers. The commercial fishing industry generates nearly 6,000 jobs and more than $140 million for the state's economy. Recreational fishing is also very important economically and culturally in coastal North Carolina. North Carolina also has about 1.9 million licensed recreational anglers, not including those fishing on ocean piers and charter boats or those under age 16. The Marine Recreational Statistics Survey estimates these coastal anglers make approximately 6.9 million trips in North Carolina waters per year. The direct expenditures created by the state's beaches and inlets are approximately $3.0 billion resulting in 39,500 jobs. When multiplier effects are added, these numbers rise to $4.9 billion and 62,800 respectively. The economic value combined with a rich cultural heritage demonstrates the immeasurable importance of protecting and sustaining the natural resources of our coast.

Physical Environment

North Carolina has approximately 326 miles of ocean beaches and shoreline and 614,400 acres of submerged land and oceanic waters within the three-mile Territorial Sea. Twenty-two barrier islands and two coastal peninsulas are separated by 19 dynamic inlet complexes and frame the state's estuaries. The northern sounds, fringed by the Outer Banks comprise the largest lagoonal estuarine system in the world. North Carolina's coastline is unique compared to other East Coast states. The convergence of the southward flowing coldwater Labrador Current and the northward flowing warmwater Gulf Stream, in conjunction with the Western Boundary Undercurrent, causes an upwelling of nutrient-rich waters over unique bathymetric features, enhancing the ocean's productivity off the North Carolina coast. Consequently, our state's coastal and ocean waters are filled with a particularly diverse and important mix of fish and other organisms at various stages of their lives.

Marine Environment

In addition to the economic value of the barrier islands and coastal area of North Carolina, there are other sites federally recognized for their natural and cultural resource value, including the Monitor National Marine Sanctuary, Cape Hatteras and Cape Lookout National Seashores, Albemarle-Pamlico National Estuary Program, N.C. National Estuarine Research Reserve, as well as eight national wildlife refuges. Associated with many of these areas are a variety of endangered and threatened species including sea turtles, pelagic seabirds as well as marine mammals.

Fisheries for most of the fish species found in North Carolina's offshore waters are managed by the federal government (National Marine Fisheries Service-NMFS) under fishery management plans (FMPs) prepared by the South Atlantic and Mid-Atlantic Fishery Management Councils, as well as by NMFS. In support of these FMPs, the South Atlantic Fisheries Management Council, acting through NMFS, has designated several areas as Essential Fish Habitat (EFH). Several areas in North Carolina's offshore waters have been designated as EFH and are also of particular relevance to OCS energy production; these include The Point; Ten Fathom Ledge; Big Rock and the sandy shoals of Cape Lookout, Cape Fear and Cape Hatteras. These areas are important to migratory species, such as king mackerel, Spanish mackerel, dolphin and cobia. Estuarine-dependent species such as black sea bass and gag also migrate from estuarine nurseries to the extensive hardbotttom habitats associated with these EFH areas. Because of the importance of these species to the overall state economy, North Carolina will want to ensure that EFH are protected from impacts associated with OCS energy production.

I appreciate the opportunity to provide comments and our agencies will continue to cooperate and work with MMS as the process moves forward.

Sincerely,

Dee Freeman
Secretary

Phil Berger
Republican Leader
North Carolina Senate
1026 Legislative Building
Raleigh, NC 27601 - (919) 733-5708
Philbe@ncleg.net

Paul Stam
Republican Leader
North Carolina House of Representatives
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Senator Eddie Goodall, Republican Joint Caucus Leader
1414 Legislative Building – (919) 733-7659 – *eddieg@ncleg.net*

Ms. Renee Orr
Chief, Leasing Division
Minerals Management Service, MS-4010
381 Elden Street
Herndon, VA 20170-4817

September 9, 2009

Dear Ms. Orr:

Thank you for the opportunity to comment on the U.S. Department of the Interior's Draft Proposed Outer Continental Shelf Oil and Gas Leasing Program.

Along with our Republican colleagues in the North Carolina House and Senate, we have long taken the position that the program must include the option of oil and gas exploration off the coast of North Carolina. We believe that a thorough scientific and socioeconomic review must be done to assess the costs and benefits of oil and natural gas exploration before North Carolina makes any decisions about utilizing these coastal reserves. The people of North Carolina ought to have their voices and concerns heard before the state enacts any policy with regards to oil and gas exploration off our state's coast.

At present, your estimates suggest up to 3 billion barrels of oil and 27.5 trillion cubic feet of natural gas could be present in the Mid Atlantic Region. The 64 million acres in North Carolina's offshore management waters account for 80% of the Mid Atlantic Region.

If energy exploration and development does come to our State, the North Carolina Coastal Resources Commission has established policies to ensure adequate study and consideration of environmental and economic factors related to energy exploration and development along our coast. The fact that these policies are part of North Carolina's federally approved Coastal Zone Management Program mandates additional scrutiny by our Division of Coastal Management to ensure consistency with OCS activities. Furthermore, the General Assembly

established earlier this year an Offshore Energy Exploration Advisory Subcommittee to study the issues related to OCS energy further.

We feel it should be up to the citizens of North Carolina to determine if, and how, these resources could and should be developed. Before this public debate can occur, there must be a commercial interest in developing an exploration plan after a Five-Year Lease Plan is in place. Therefore, this letter supports the inclusion of North Carolina in the MMS Five-Year Program currently under development as long as it is part of a comprehensive energy policy for the nation.

In addition:

Revenue Sharing
Inclusion of North Carolina in the next Five-Year lease Program should be done only when revenue sharing is in place at the federal level. Similar to the language approved in the Gulf of Mexico Security Act of 2006, we would recommend a 37.5 percent share of leasing revenue as well as regional sharing of production royalties.

Buffer Zones
A minimum of 20 miles will protect the views from our barrier islands. In addition, OCS production technology now allows for subsea completion of hydrocarbon wells with no permanent occupancy of petroleum development infrastructure. Technology would also benefit our sensitive and vulnerable coastal ecosystems through the incorporation of floating production, storage, and offloading facilities for petroleum liquids in order to minimize or even eliminate the need for oil pipelines coming ashore. These technologies should strongly be considered as a requirement for all activities that may occur under the proposed leasing plan.

Exclusion Areas
During the consideration of exploration plans for the Manteo Unit, many concerns were expressed by the citizens and researchers in North Carolina about the sensitivity to the diverse biological system located at "The Point" north of Cape Hatteras. Further study is necessary to ensure the protection of general ocean health as well as the fisheries in this area. South of Cape Lookout, numerous areas of Lophelia deep water coral reefs have also been identified. Both of these general areas of concern might merit consideration for areas of exclusion or, at the very least, limited petroleum development.

Thank you for your consideration of these comments.

Sincerely,

Paul Stam
House Republican Leader

Phil Berger
Senate Republican Leader

###

North Carolina General Assembly
Senate

SENATOR BOB RUCHO
39TH DISTRICT

OFFICE ADDRESS: 1118 LEGISLATIVE BUILDING
16 W. JONES STREET
RALEIGH, NC 27601-2808

TELEPHONE: (919) 733-5655
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EMAIL: bobr@ncleg.net

COMMITTEES:
APPROPRIATIONS ON DEPARTMENT OF TRANSPORTATION
APPROPRIATIONS/BASE BUDGET
COMMERCE
EDUCATION/HIGHER EDUCATION
FINANCE
HEALTH CARE

September 17, 2009
Via Federal Express

Ms. Renee Orr
Chief, Leasing Division
Minerals Management Service
381 Elden Street
Herndon, VA 20170-4817

Dear Ms. Orr:
As a member of the NC Senate--representing the state's largest city, Charlotte-- I thank you for this opportunity to comment on the Draft Proposed OCS Oil and Gas Leasing Program. North Carolina needs to be included in your plan, and there is no time to waste. We are paying a high price for delay and posturing. We need jobs. We need a secure domestic energy source. Also, our coastal states need the prospect of "revenue sharing" as we move forward. With new discoveries of offshore energy, we reduce our reliance on imports and keep our hard earned dollars here at home rather than sending them off to oil/gas supplying countries that are not friends of America.

At this fragile time for our state and national economies, it is not out of place to observe that now --more than ever--the search for offshore energy here at home is an absolute "win-win" proposition. We can make our nation more secure and create jobs and provide a real boost to the states and communities that are able to step up and participate in energy development. Our citizens in North Carolina favor the offshore search for needed domestic energy, and many of them have been shocked to learn that for decades this energy has been locked away via moratoria. An aggressive leasing plan now by MMS can remediate some of the damage done through decades of not having a comprehensive national energy policy.

In one opinion poll after another over an extended period of time, North Carolinians have been saying that they support the responsible search for offshore energy. The polls have found that 7 out of 10 citizens in our state support offshore energy exploration.

It is clear to them as it is to me what course of action we must undertake: we should move with care--but promptly—to allow "access" to offshore exploration through an aggressive MMS leasing schedule that includes the promising geology offshore North

Carolina. This is an area where there has never been a well drilled. It is time we explored and found out what homegrown resources are present, and it is important that these "discoveries" be brought to market with a sense of national urgency. As we take steps in this promising period of discovery, it is appropriate for us to reaffirm our determination to protect our valuable coastal identity and the coastal resources that have made tourism a valuable part of our economy. MMS should help us protect our unique coastal way of life and create the jobs that will safely deliver energy independence for future economic growth.

We all understand that your prompt actions will open a window of opportunity to keep our U.S. economy healthy while we search for realistic alternative fuels.

Please contact me if there are additional questions. Enclosed is a copy of an op-ed piece that I did for the Charlotte Observer in March 2009.

Sincerely,
Senator Bob Rucho

Enclosure
cc: Mr. Ken Salazar/Secretary, Dept. of the Interior
NC Governor Bev Purdue
NC Congressional Members
NC Senators
Mr. George Baldwin/Piedmont Natural Gas
Mr. Bill Weatherspoon/American Petroleum Institute

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF DUCK, NORTH CAROLINA, OPPOSING OFFSHORE DRILLING OFF THE COAST OF NORTH CAROLINA AND VIRGINIA

Resolution 09-09

WHEREAS, tourism generates far more income, tax revenue and jobs for the Town of Duck , Dare County and the State of North Carolina than can be potentially generated by the petroleum industry; and

WHEREAS, offshore exploration represents a serious risk to the Town of Duck economy by potentially dissuading tourists from visiting the Outer Banks; and

WHEREAS, no proof has emerged to convince the Town Council of the Town of Duck that such exploration can be done safely and without harm to the environment of North Carolina, or to the Town's property, businesses, general livelihood, or quality of life.

NOW, THEREFORE, BE IT RESOLVED THIS 2ND DAY OF SEPTEMBER, 2009, that the Town Council of the Town of Duck, North Carolina, is opposed to any exploration for gas or oil on the continental shelf or elsewhere off the coast of North Carolina or Virginia and urges the North Carolina General Assembly to re-instate a long-term moratorium on offshore exploration; and

BE IT FURTHER RESOLVED that these positions be made known to our representatives at the county, state and federal level, including the President of the United States and that the United States Department of Interior be urged to instruct the Mineral Management Service to take no further action to open additional off-shore sites to leases for gas or oil exploration.

Adopted the 2nd day of September, 2009.

Neil Morrison

Mayor

Attest:

Lori A. Kupec

Clerk

Res # 06-01-02

BK0042PG0272

RESOLUTION
OPPOSING OFF-SHORE GAS OR OIL EXPLORATION

WHEREAS, the Dare County Land Use Plan (2003 Update) states that: "Dare County is opposed to development of any aspect of the petrochemical industry within its jurisdictional lands or waters. This includes both off-shore and on-shore facilities and activities associated with the exploration for or production of petrochemical facilities of any kind." And

WHEREAS, Dare County expressed its opposition to off-shore exploration for gas or oil in a resolution to state and federal agencies in February 1998; and

WHEREAS, no evidence has been uncovered since then to demonstrate any benefits to Dare County or to the surrounding region; and,

WHEREAS, no proof has emerged to convince us that such exploration can be done safely and without harm to the environment and the North Carolina and Virginia coastline, our property, our businesses, our livelihood, or our quality of life;

NOW, THEREFORE, BE IT RESOLVED that the Dare County Board of Commissioners continues to be opposed to any exploration for gas or oil on the continental shelf or elsewhere off the coast of North Carolina or Virginia and urges the inclusion of the waters off North Carolina and Virginia in the long-term moratorium on off-shore exploration that protects sister states; and

BE IT FURTHER RESOLVED that Dare County does support research and development of non-fossil fuel alternatives for energy production and measures to promote energy conservation; and

BE IT FURTHER RESOLVED that Dare County urges Congress and the President of the United States to require that vehicular and industrial use of fossil fuels be cut in half by the year 2020; and

BE IT FURTHER RESOLVED that these positions be made known to our representatives at the state and federal level, including the President of the United States, and that the US Department of Interior be urged to instruct the Mineral Management Service to take no further action to open more off-shore sites to leases for gas or oil exploration

This, the 5th day of December, 2005.

DARE COUNTY BOARD OF COMMISSIONERS

By: _____
CHAIRMAN

ATTEST: Frances W. Harris
CLERK

STATE OF NORTH CAROLINA

LEGISLATIVE RESEARCH COMMISSION

STATE LEGISLATIVE BUILDING

RALEIGH 27601-1096

Legislative Research Commission
Advisory Subcommittee on Offshore Energy Exploration

July 28, 2009

Senator Marc Basnight
Senate President Pro Tempore
Legislative Building – Room 2007
Raleigh, NC 27601

Representative Joe Hackney
Speaker of the House of Representatives
Legislative Building – Room 2304
Raleigh, NC 27601

Dear Senator Basnight and Speaker Hackney:

Attached is a copy of a resolution to you as the leaders of the General Assembly adopted by the Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration at its meeting on July 28, 2009 in Wilmington, NC.

The resolution expresses the sense of the Subcommittee to recommend to the leadership of North Carolina that the State be included in the Minerals Management Service (MMS) 5-year plan. Please feel free to contact us for more background on this resolution.

_____
Dr. James R. Leutze
Co-Chair

_____
Dr. Douglas N. Rader
Co-Chair

Resolution of the Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration

Be it resolved by the Legislative Research Commission Advisory Subcommittee on Offshore Energy Exploration, that the leadership of North Carolina is encouraged to be included in the Minerals Management Service (MMS) 5-year Outer Continental Shelf (OCS) leasing plan provisions to facilitate the rigorous collection of data that is necessary to ensure the State is best able to make an informed decision regarding the environmental and socioeconomic impact, the technical, legal and human capital impact of offshore exploration and production. This information should inform more fully the final decision of State leaders about the State's final participation in lease sales and potential energy exploration in later versions of the 5-year plan to be determined by MMS.

The co-chairs of the Subcommittee are directed to transmit a copy of this resolution to the Speaker of the North Carolina House of Representatives and the President Pro Tempore of the North Carolina Senate.

Resolved this the 28th day of July, 2009.

APPENDIX H
MEMORANDUM PREPARED BY FIVE MEMBERS OF THE SUBCOMMITTEE ON THE PORT OF MOREHEAD CITY

Port of Morehead City Example of Issues Surrounding Support Facilities for Offshore Energy Development in North Carolina

The Port of Morehead City has been proposed as a key staging and support site for offshore energy exploration off the North Carolina coast. This proposed area is low lying (mean elevation approximately 6 ft), and the amount of usable land for a staging and support site is extremely limited. Although some analysis was done in the 1980s related to a proposal to drill an exploratory well for oil and gas off of Cape Hatteras, with support facilities in Morehead City, no specific studies have been done to determine the adequacy of existing state-owned or otherwise available infrastructure to support offshore energy development, nor have potential conflicts with federal/military uses of the facilities and other rapidly expanding industries such as leisure-tourism been examined. In addition, the Morehead City-Beaufort region in Eastern North Carolina is geographically constrained by coastal rivers, a tidal sound and the Atlantic Ocean (Figures 1 and 2). The region has one of the highest Hurricane-Tropical Storm strike probabilities in North America and the world (Figures 3 and 4), and hence is highly susceptible to severe storm damage, including direct physical damage to structures, overwash from storm surges and flooding (Figure 5). The Military security website: http://www.globalsecurity.org/military/facility/morehead-city.htm characterizes the Morehead City area as follows:

"*There is a confluence of drainage currents from the sheltered sounds surrounding Morehead City at Beaufort Inlet. Dredging effort broadly follows the resulting pattern of natural channels. Large tracts of the sounds are nevertheless very shallow which reflects the low elevations of the marshy coastal hinterland. The average elevation of all the land to the east of Adams Creek Canal is below 10 ft above mean sea level and major flooding of Morehead City and Beaufort would occur at water levels of 6 ft above MSL (i.e., only 2 to 3 ft above astronomical Spring High Tide). Morehead City's south-facing aspect on the marshy promontory of North Carolina exposes it to the onslaught of many recurving tropical cyclones in the North Atlantic, against which it poses a low, slender island barrier. The port's vulnerability to destructive force winds and under certain circumstances, destructive tidal effects, makes it unsuitable as a hurricane haven for both small craft and large ocean-going vessels.*"

This condition will only be made worse by predicted sea-level rise (Zervas 2004; Rahmstorf 2007), which has already had marked effects on reducing marshlands, increasing beach erosion and encroaching on residential and commercial structures and activities. In the next several decades, rising sea levels and storm events will begin to affect not only current infrastructure in the Morehead City area, but other infrastructure such as transportation corridors to and from the area. Even now, transportation access via rail and highways is very limited (the only train connection runs through a narrow corridor in the middle of Morehead City, and Highway 70 is narrow and passes through many towns), with the closest interstate (I-95) being 2+ hours away. The Newport River, which forms the Port of

Morehead City, is too shallow to navigate with most commercial ships. Port expansion has been proposed, but would require significant investment which may be unlikely in light of the current light use of the port and the low likelihood of significantly expanded use even if the port were expanded.

These issues will affect the feasibility of large and continuous operations supporting offshore energy development without massive engineering costs and impacts and conflicts with existing uses. The 1982 PBS NOVA documentary, "Goodbye Louisiana", (access through U. Washington: http://www.css.washington.edu/emc/title/1186) illustrates what actually happens when low-lying and environmentally sensitive coastal areas are impacted by a combination of natural and anthropogenic forces.

Lastly, but perhaps most importantly, the economy of the crowded Morehead City-Beaufort area and surrounding Carteret County is highly dependent on three activities that require excellent water quality and access to the coast, namely tourism, fisheries and marine sciences; Duke, NC State, NOAA and UNC-Chapel Hill have laboratories in the area, and the Rachel Carson National Estuarine Research Reserve, NC DENR-Division of Marine Fisheries and the North Carolina Aquarium are based there. There is no doubt that all these key economic activities would be adversely and irreversibly affected by increasing port and related infrastructural (transportation, staging areas) activities associated with developing this area for the purpose of supporting and servicing offshore energy exploration activities. Offshore fossil fuel development is well documented as producing profound, irreversible changes in the social and economic character of adjacent land communities.

Lawrence B. Cahoon
Professor of Biology and Marine Biology
UNC Wilmington

Christopher S. Martens
W.B. Aycock Professor of Marine and Environmental Sciences
UNC-Chapel Hill

Michael K. Orbach
Professor of Marine Affairs and policy
Duke University Marine Laboratory, Nicholas School of the Environment
Duke University

Hans W. Paerl
W.H. Kenan Professor of Marine and Environmental Sciences
UNC-Chapel Hill

Nancy M. White
Director, UNC Coastal Studies Institute

Attachment: Below are aerial photographs, recent and historical hurricane/tropical storm strike and storm surge maps that illustrate the fragility and susceptibility of this area to both natural perturbations and human encroachment.

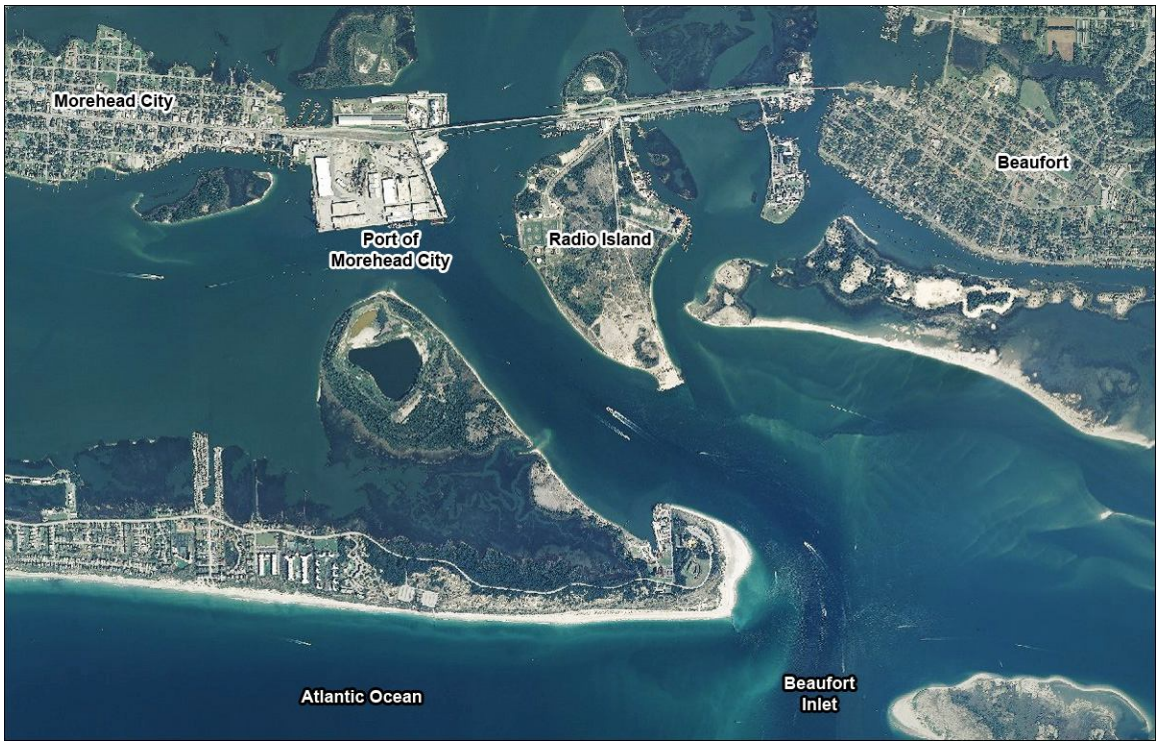
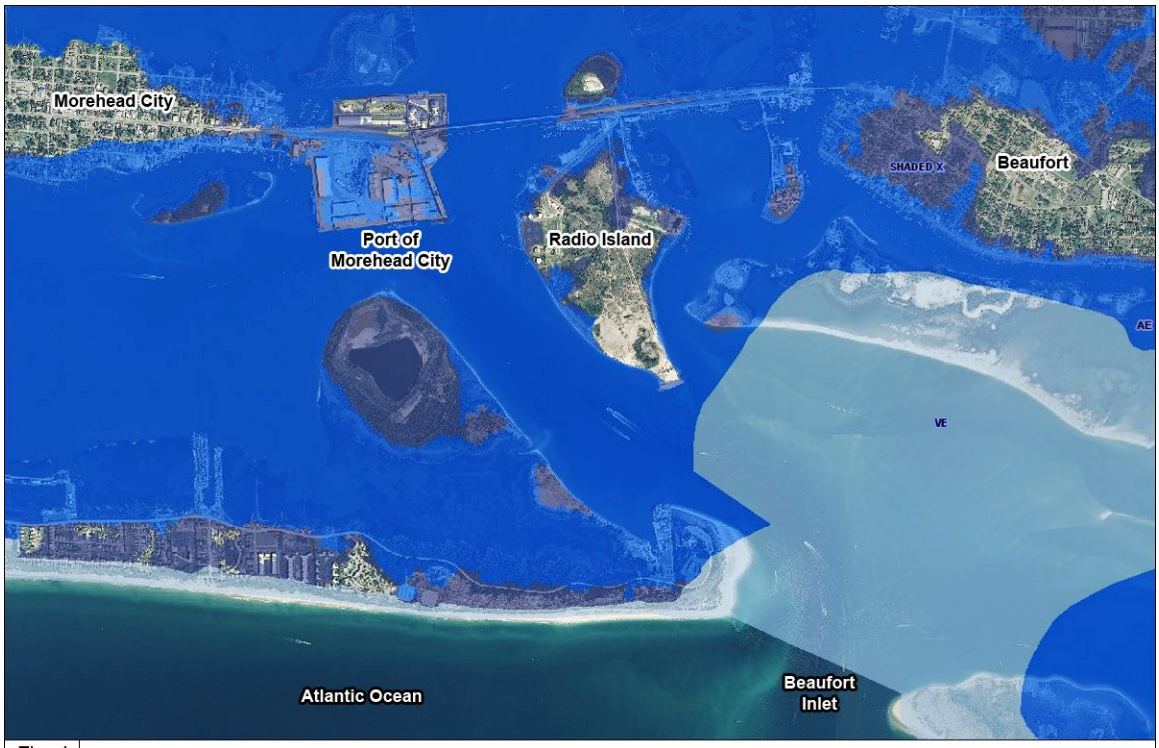


Figure 1: Aerial photo showing the Port of Morehead City and the surrounding area.



Flood Zone	Definition
	Zone AE is the flood insurance rate zone that corresponds to the 1% annual chance floodplains.
	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance floodplains that have additional hazards associated with storm waves.
	Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2% annual chance floodplain, areas within the 0.2% annual chance floodplain, and to areas of 1% annual chance flooding where average depths are less than 1 foot, areas of 1% annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1% annual chance flood by levees.

Figure 2: Current designated flood zones surrounding the Port of Morehead City.

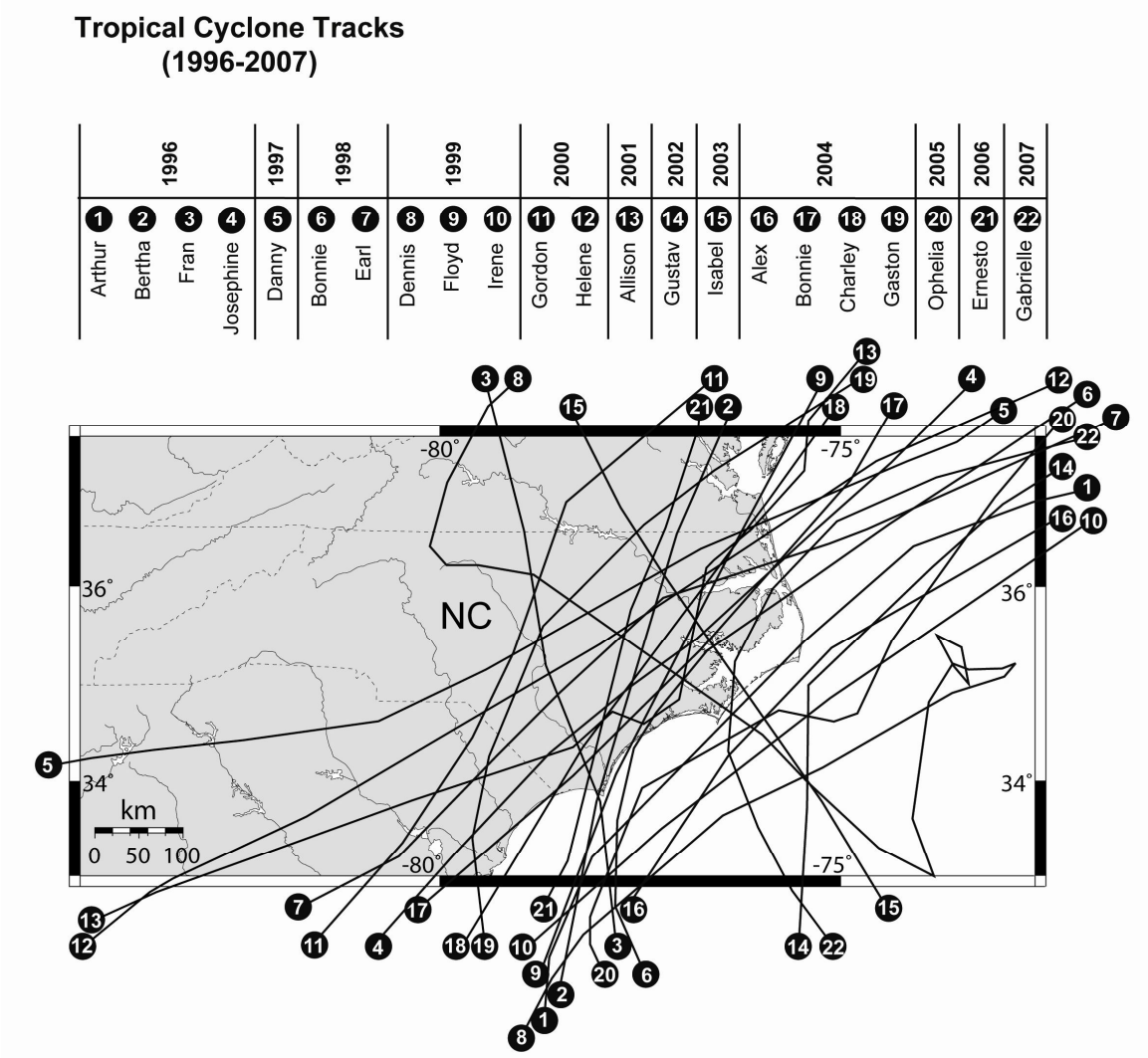


Figure 3: Tropical cyclones impacting coastal North Carolina, 1996-2007. Tropical cyclone data were obtained from the NOAA Coastal Services Center (http://maps.csc.noaa.gov/hurricanes/).

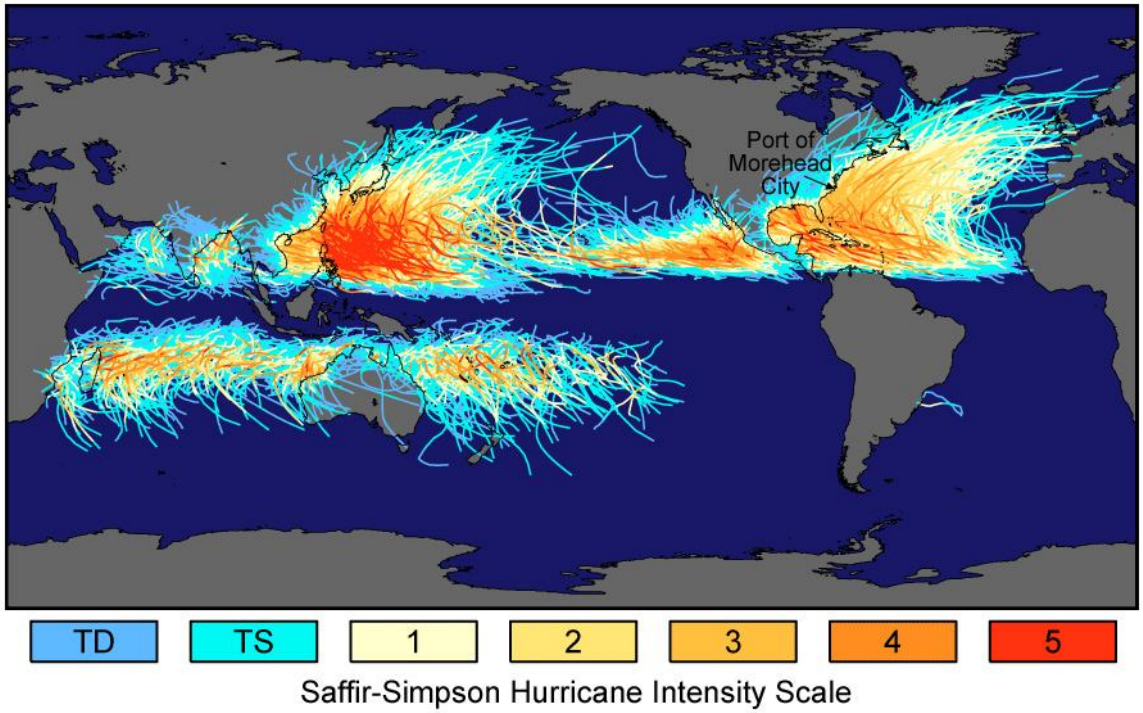


Figure 4: Historical tropical cyclone tracks, 1945-2006. Data from NOAA Hurricane Center.

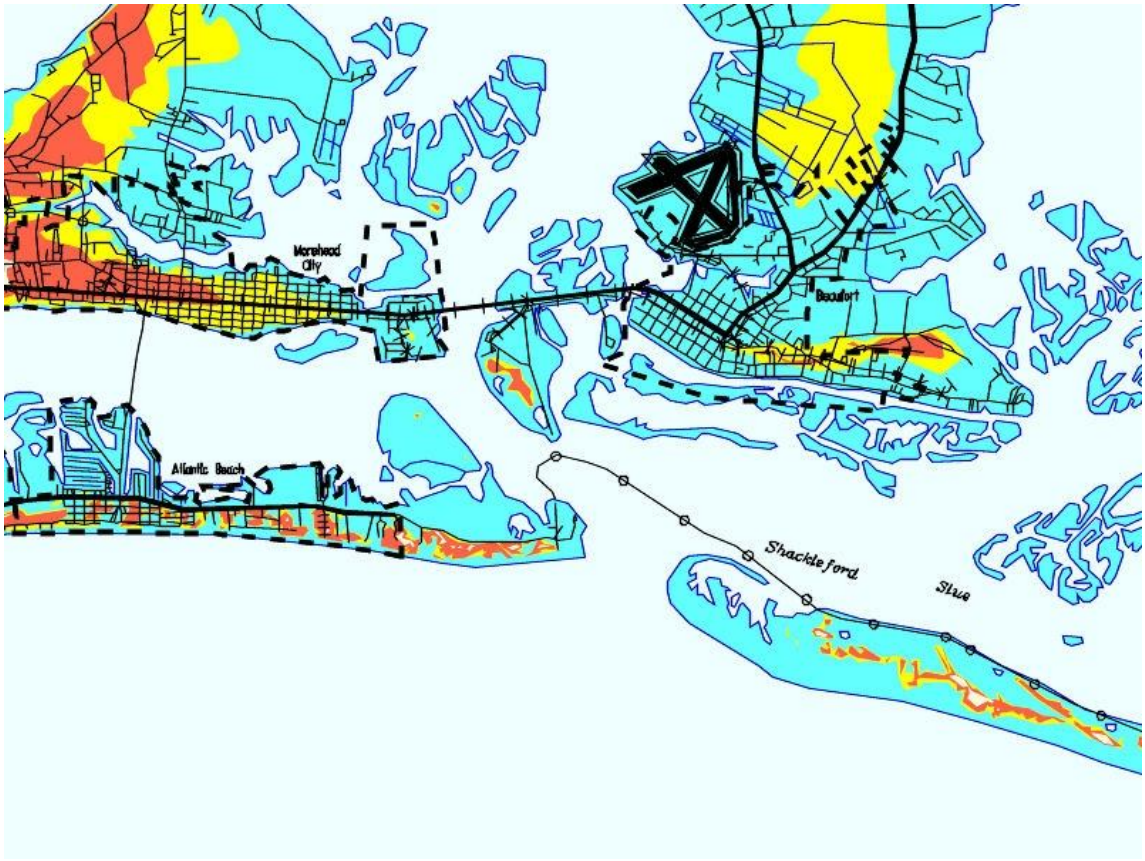


Figure 5: Map extracted from the Carteret County Surge maps (http://www.hurricanetrack.com/ncstormsurge/crtret.html) for fast moving hurricanes that affect the area. The **BLUE** coloring represents areas predicted to flood during category 1 and 2 hurricanes. The **YELLOW** coloring represents areas predicted to flood during a category 3 hurricane. These areas are *in addition* to the areas flooded during a category 1 and 2 hurricane (BLUE coloring). The **RED/BROWN** coloring represents areas that are predicted to flood during a category 4 or 5 hurricane. These areas are *in addition* to the areas flooded in a category 1,2 and 3 hurricane (BLUE and YELLOW).

APPENDIX I
NORTH CAROLINA'S POLICY ON OFFSHORE ENERGY EXPLORATION IN THE 1970'S AND 1980'S

OCS Planning: The North Carolina Model

Angela S. Waldorf*
Eric A. Vernon**

Although 125 oil wells have been drilled in North Carolina since 1925, no oil or gas has ever been produced. Currently North Carolina, the nation's tenth most populous state, imports approximately 97% of the energy used.

In the mid-70's, State officials and university academics expected little or no improvement in North Carolina's energy dependence. This was particularly true for offshore prospects as discussed in the State's Coastal Zone Management Plan. The only potential impacts assessed and planned for in that plan related to proposed activities in the Mid-Atlantic to the north and the Georgia Embayment to the south. There was a general consensus among state, federal and local officials that "no one was interested" in offshore North Carolina.

North Carolina was an affected state for drilling activities in the Mid-Atlantic and the Georgia Embayment. Prior to 1979 permit reviews were coordinated on an ad hoc basis through the Office of Marine Affairs in the Department of Administration (DOA) for the Governor's Outer Continental Shelf Lands Act (OCSLA) Section 19 comments and the Office of Coastal Management in the Department of Natural Resources and Community Development (NRCD) for consistency review under the Coastal Zone Management Act (CZMA). Coordination between the two agencies and other agencies with vested interests such as the Division of Marine Fisheries and Industrial Development was not always consistent because of the lack of formalized structure and different review time frames. Although there was a real danger that the two key permit responses -- the Governor's comments and the consistency review -- could have been inconsistent, diligent efforts on the part of those parties reviewing the permits prevented it from happening.

Fortunately, OCS planning procedures developed in a "non-crisis" manner in North Carolina as more and more responsibilities and

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participation opportunities were afforded by the extensive 1978 rewrite of the Outer Continental Shelf Lands Act. Since the bulk of the state's official participatory responsibilities were specifically placed in the Governor, it became obvious that a central coordinating mechanism that could react quickly in light of the short turn around times for permits needed to be established. Further analysis suggested that the mechanism needed cohesiveness and continuity due to the tremendous volume and complexity of the issues involved to insure consistent responses. An additional consideration focused on developing a balanced position that took into account environmental concerns as well as the State's needs for energy and high paying jobs.

In 1979 the North Carolina OCS Task Force was established. Initially the membership of the Task Force included representatives from agencies with programatic responsibilities for coastal zone management, fisheries, geology, industrial development, ports, energy and coastal policy. Later, representatives from local government organizations, underwater archaeology and transportation were added. Agencies were asked to appoint members with the appropriate expertise to deal with the subject matter they represented and the time needed to provide continuity in participation. A truly multi-disciplinary group emerged with representatives from several science disciplines, planning and law.

The Task Force Chairmanship and general coordination responsibilities were placed in the Office of Marine Affairs in the Department of Administration primarily because that agency and department had a general policy development mandate, rather than a charge to protect, build up or recruit. Initially the Task Force coordinator and support services were funded by a Section 308b formula grant. Later the Task Force received funding under Section 308c(2).

The primary responsibilities and goals of the OCS Task Force follow:

Policy Development

The primary result or goal of an OCS State Participation program is to develop a consistent and appropriate State policy regarding development of resources on the Federal OCS. A comprehensive policy must be based on legal, technical, procedural and political inputs. Policies must be consistent with long standing State policies, favoring development of energy resources, environmental protection, industrial development, and the integrity of coastal land-use planning and quality of life.

Energy Resources

The Governor and the State Coastal Management Plan recognize that a program for the development of new sources of oil and

gas is essential to reducing our nation's dependence on foreign sources of oil. An effective State participation program will help expedite the OCS leasing program thereby improving the United States' chances for achieving energy independence.

Environmental Protection

The environmental protection aspect of OCS State Participation is implicit in virtually every step of the process. The State's role is predicated on the laws of the OCSLA and the CZMA. The OCSLA states that Federal OCS activities must be conducted in a balanced manner; one which weighs both the benefits of new sources of oil and the risks and impacts of this activity on the human and marine environment. The CZMA was established in recognition of the fragile and unique characteristics of the Coastal environment and to foster a national coastal management program.

The different mandates of these two statutes naturally lead to tension. The State has the primary responsibility of reconciling that tension since national coastal policy is implemented largely through approved state coastal plans. Since North Carolina participates in the national plan, Federal OCS activities must be conducted in a manner which is consistent with the laws and policies listed in the State's Coastal Management Plan. Therefore, OCS State Participation must result in thorough and effective implementation of the environmental protections afforded by State law.

Industrial Development

The primary direct benefits to the State from OCS activities are the economic benefits of shore-based support operations. OCS support facilities require services provided by the State Ports, normal marine supply services, and labor. The offshore activities also provide some job opportunities. As a result of good preparation and recruitment the State can compete favorably for the onshore support facilities. The State has been successful in its efforts to recruit one support company and the State Port Authority at Morehead City predicts that such activities will generate $100,000 to $200,000 in revenues in the first year alone. This does not include benefits from jobs for local residents, increased demand for marine supplies and services, nor the increased year-round demand for transient services (hotel, restaurant, etc.) for imported labor. OCS State Participation will result in timely advice on how to prepare for and take advantage of the opportunities provided by this new industry. It also results in a more effective recruitment effort by local industrial developers to compete for and attract support facilities. The recruitment and development process becomes increasingly complicated and financially important as the level of OCS activities progresses from the exploration stage to the production stage and requires

greater coordination with the OCS State Participation program.

Local Planning and Participation

Local planning and participation is the key ingredient to the successful integration of this new industry into the traditional economic base of tourism and fishing of our coastal communities. Under the OCSLA the Governor is the official spokesman for local governments affected by OCS activities. Under the State's Coastal Management Plan OCS onshore activities must be planned and implemented in a manner consistent with local land-use planning. Therefore, State OCS Participation not only requires review of OCS activities for local impacts but requires active solicitation and encouragement of local government participation in every step of the process. The result is the maximization of the economic and social benefits associated with industrial growth, maximization of understanding and compatibility with existing enterprises and minimization of the negative impacts on community infrastructures and the quality of life.

Inter-governmental and Industry Relations

OCS State Participation extends further than the State and local interests outlined above. It also affects the federal government and the oil industry. Both of these parties are well funded and staffed and expect high standards from everyone who participates in the process. Therefore, active, consistent participation by the State at all critical steps in the process was necessary in order to establish the role bestowed upon the States by the Federal legislation. The State also had to convince the Federal bureaucracy that the autonomy of the OCSLA of 1953 no longer prevailed and that the State could and would impose its perspective on the plans and policies of the OCS program. Finally, and perhaps most importantly, the State had to convince an industry which was resentful of sharing business decisions with Federal regulatory authority, that more could be gained by cooperating with the State than by the force-feeding mentality of the past.

None of the aforementioned responsibilities are independent of one another. They have been identified as the components of an integrated, multi-disciplinary approach to one of the most important industries in the world. The State's role is to insure that the policies and protections are in place to promote the positive aspects and mitigate the negative. The Task Force is essentially a specialized cleaninghouse of OCS experts who are capable of guiding State decisions within the limits of the OCSLA.

Perhaps the greatest challenge for the OCS Task Force came in March, 1979, when the results of the Call for Nominations for Lease Sale #56 were released. Of the 944 tracts nominated for the sale,

approximately one-half were located directly offshore North Carolina.

As discussed previously, no one had anticipated that there would ever be any interest offshore North Carolina; therefore, no planning had been done. The most pressing need involved the Environmental Studies Program. Since industry interest was expected to be concentrated in the Georgia Embayment and Blake Plateau areas far to the south of North Carolina, virtually every funded study terminated at the North Carolina-South Carolina border. It was obvious that the first order of business was to get the studies shifted northward to cover the tracts nominated and expected to be included in the sale.

Representatives from the Task Force attended a post Call for Nominations meeting in Atlanta. Shortly after the results were released, verbal requests to immediately alter the Studies program to include those areas receiving nominations offshore North Carolina were denied by the Bureau of Land Management as impractical for at least two years due to funding levels, contract requirements and the integrity of the Environmental Studies planning process. This meant that the Draft Environmental Impact Statement (DEIS) for Lease Sale #56 would be completed prior to the commencement of any studies. Because of the total lack of available data for those nominated areas in particularly deep water beyond the 200 meter line, the OCS Task Force believed that the impact study mandated by the National Environmental Policy Act (NEPA) would be inadequate without a shift in the Studies program.

Within a few days of the Atlanta meeting, the OCS Task Force met and adopted a comprehensive needs list for changes in the Studies program. Because of the pressing need to change the program quickly, it was decided that utilizing the State's full political resources would be the most advantageous strategy. Letters from the Governor and the full Congressional delegation were sent directly to the Secretary of the Department of Interior. Within a few months, the State received word that a number of the changes recommended were being implemented.

The OCS Task Force had come through its first real challenge with flying colors. A timely and appropriate response indicated that the process worked. Success in recruiting the help of the Governor and the Congressional delegation indicated that the Task Force was an effective, working entity rather than a do nothing review mechanism.

The Task Force continued to function with representatives participating in all levels of OCS activities. Although different people represented North Carolina on the OCS Policy Committee and Regional Technical Working Group (RTWG), consistent policy recommendations were offered because of the review and coordination effort of the Task Force. Also, when illness or other pressing matters prevented the regular member from attending, a well informed substitute could meaningfully represent the State.

During this period, the policy of the State with regard to offshore energy development became more focused. North Carolina supports the development of domestic sources of oil and gas in order to reduce our nation's dependence on foreign suppliers; however, this is not unqualified support. North Carolina requires that the OCS program be conducted in a manner which is in the best interests of the citizens of the State. With this policy direction the Task Force began its review and comment responsibilities on Lease Sale #56.

The topics of concern ranged from fisheries and tourism to oil spills and local social structure. Throughout the process the Task Force worked with experts within BLM and the North Carolina University system to reduce the topics of concern down to one: the risk of an oil spill reaching shore. North Carolina General Statutes prohibit oil spills; therefore, the Task Force has to decide whether any of the tracts in LS #56 represented an unreasonable risk of an oil spill reaching shore in light of the potential for discovery of commercially producible quantities of oil and gas. This law is also reflected in the consistency criteria list in the Coastal Management Plan.

The Task Force did identify six tracts located 12 - 16 miles off of Cape Lookout. According to the Draft EIS, these tracts represented the highest risk of an oil spill reaching shore; approximately five times greater risk than any other tract in the sale. On the other hand, the six tracts represented only 2% of the acreage of the lease sale and had not been nominated by industry earlier in the process. The Task Force recommended that these tracts be deleted from the sale based on the benefit-risk analysis cited above and the statutory prohibition against spilling oil in North Carolina. This recommendation was initially made during the DEIS hearing process in September, 1980.

Shortly thereafter a new administration came to power in Washington and the OCS program, along with many others, was set in a new context. The Task Force, however, continued to recommend the deletion of the six tracts within the administrative review process.

The sale date was set for August, 1981 and as the milestones were reached and passed, it became apparent that the Secretary of the Interior did not intend to accept the Governor's recommendation. It also became apparent that the conflict resolution mechanism called for under Section 19 of the OCSLA was not being used. At this point, the problem was substantive, procedural and political. Upon receipt of the Final Notice of Sale from Interior, the State had never received any explanation of its decision to ignore the Governor's recommendation, much less was there any effort to consult and compromise with the State, as called for under Section 19.

On the consistency front, Interior had also chosen to ignore Section 307(c)(1), CZMA, and had not issued a consistency certification for the proposed lease sale. At this point the State filed

its lawsuit claiming violations of Section 19, OCSLA and Section 307(c)(1), CZMA and requested an injunction on the six tracts.

During the 30 days prior to the sale date, Interior finally conducted the consultation and compromise exercise required by Section 19. A compromise was reached which presumed the right of the State to enjoin the leasing of the six tracts in the event that bids were received by Interior. No such bids were received and the causes of action in the suit were moot.

The impacts of this suit were considerable. First, the best interests of the citizens of North Carolina were protected without affecting the productive potential of the Lease Sale. Next, the integrity of the federal legislation guaranteeing States the right to participate in an active and meaningful manner was vindicated. Finally, the credibility of the Task Force was established since it had successfully managed the administrative process and prepared the Governor to use all legal options to protect the interests of the State.

Other ramifications of this suit included the approval by OCZM of the State's amendments to its Coastal Management Plan which had been submitted by the State in 1978 and had languished in Washington for almost three years. The suit forced the approval of these amendments because the State's consistency case was based on the amended coastal plan.

Interior attempted to offer the same six tracts in 1982 under another sale; however, the tracts were deleted early in the administrative process. The Department of Interior was aware of the sincerity of North Carolina's position and was willing to adopt a more reasonable position than before. In fact, all of the subsequent correspondence with Interior reflected a greater degree of concern with the procedures outlined by the law and regulations.

Conclusion

The North Carolina OCS Task Force has been and continues to be an effective planning and participatory mechanism for handling the State's OCS responsibilities. Despite personnel changes on the Task Force, including the Coordinator, the Task Force has continued to handle a growing agenda well.

In addition to the two specific incidences discussed previously, the Task Force has organized and/or participated in a number of activities including an offshore trip, local government briefings, voluntary industry briefings, a regular quarterly newsletter, a State fair exhibit, and numerous public meetings and hearings. The hard work has paid off in effective advocacy for the citizens of North Carolina and growing respect from the industry and all levels of government.

The principal key to the success of the program has been the support given by the State's leadership -- the Governor, Congressmen, and Cabinet members. This support, more than anything, put teeth into the Task Force's recommendations.

The story of OCS planning in North Carolina is a story of success. It is a system that works even in a complicated, multi-layered process. The Task Force system has significantly reduced typical cross agency bickering making compromise, balance and professionalism the standard.

North Carolina, a state with very little previous oil and gas experience, can be proud of its OCS participatory experience. As a result of the early struggles, OCS problems are now ironed out around a conference table with representatives from all concerned interests rather than a courtroom.

North Carolina's Governor outlined the State's OCS goal by saying that "North Carolina supports oil and gas drilling activities off our shore, so long as decisions are based on accurate information, and the environment and the quality of life of our citizens are protected." The atmosphere of cooperation fostered by the Task Force is making thi challenging goal a reality.

COASTAL ZONE 83

The Third Symposium on Coastal and Ocean Management

June 1-4, 1983

Dear MS. SKELTON,

Your paper titled: OCS PLANNING: THE NORTH CAROLINA MODEL (S-20) has been accepted for presentation at the Third Symposium on Coastal and Ocean Management, Coastal Zone 83 to be held in San Diego, June 1-4, 1983. On behalf of myself and other conference organizers, I wish to congratulate you on the acceptance of your paper.

Enclosed is information concerning preparation and submission of your completed paper. Please note that the paper must reach the address below not later than February 1, 1983 in order to be included in conference proceedings. (This supersedes instructions in the Call for Papers, which showed a New York City address).

The time and session for presentation of your paper will appear in the CZ 83 program, which will be forwarded early next year. If you have any questions or needs, please contact us at the address below or by calling Ms. Kathleen Hom at (415) 556-5352 or 6390. We are looking forward to seeing you at Coastal Zone 83.

Sincerely,

Enclosure
As Stated

Orville T. Magoon
General Chairman
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