

## Appendix A

### Minutes of committee meetings

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## **Natural Gas Exploration Feasibility Study Committee**

**October 16, 2008**

**10:00 a.m.**

**308 Gressette Building**

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Members present: Senator Campbell, Senator Hutto, Senator Verdin and Representative Duncan, Representative Thompson, Jon Rembold, Minh Tran, Carolyn Brown, Brad Dean, Ralph Thomas, Rafael Menendez, Sam Dozier, Dr. Dean and Senator Verdin.

Senator Campbell called the meeting to order at 10:20am, made opening remarks and asked attendees to introduce themselves. "We want to understand what the exploration and potential development of natural gas resources can mean to South Carolina, both the pros and the cons. This is an education process. We need to know how offshore drilling will increase revenue, if any, and how that same activity may or may not impact tourism. At the end of the process we want the General Assembly and all South Carolinians to know what natural gas can do for the state."

Senator Verdin, Chairman of the Senate Agriculture and Natural Resources Committee addressed the committee members, "Today's testimony was very informative. My hope is that at the end of the process the Governor and the General Assembly receive a favorable report about moving forward with natural gas exploration and drilling. South Carolina needs to be positioned to take advantage of the current lifting of the moratoria on offshore drilling and ramp up quickly to be a part of any future Federal plans."

Representative Thompson thanked the committee members for attending. Introductions of the committee members were made.

Trish Jerman, with the SC Energy Office, made a power point presentation and said the mission of the SC Energy Office is to increase energy efficiency and diversity, enhance environmental quality and save energy dollars for South Carolina. The programs currently in place address the following issues; Transportation Alternatives, Renewable Energy, Energy Efficiency, Energy Education and Outreach, Radioactive Waste Disposal, Energy Planning and Forecasting. South Carolina statistics reflect that nearly 20 billion dollars is spent on energy annually. South Carolina is ranked 15<sup>th</sup> nationally in total energy consumption per capita.

Renee Orr, Chief, Leasing Division and Michael Saucier, Regional Supervisor, Field Operations, with Minerals Management Service gave us an overview of Minerals Management's operations by managing Federal mineral resources on the Outer Continental Shelf and Federal and Indian mineral revenues to enhance public and trust benefit, promote responsible use and realize fair value. The programs include; Exploration Activity, Development Activity, Deepwater Plans, Facility Types, Decommissioning, Safety and Compliance.

Ms. Orr reported that the possibility exists for at least 14 million barrels of oil and 3.86 trillion cubic feet of natural gas to be found off the coast of South Carolina. Ms. Orr pointed out that the current estimates were developed with technology at least three decades old and stated that newer technology could increase those estimates.

Currently, 25 percent of homes in South Carolina use natural gas as the primary heating source. Although prices for natural gas continue to rise, the supply of natural gas is also on the rise. South Carolina pays approximately 35 percent more for natural gas than the rest of the country, due to a lack of infrastructure and current availability of the resource. Since the first quarter of 2007, the supply of natural gas in the U.S. has increased at least 9 percent. Over the next 20 years demand for natural gas in the U.S. is expected to grow approximately 10 percent, while global demand for natural gas is expected to rise 60 percent during the same time period.

At this time the meeting was recessed for lunch at noon, and was reconvened at 1:45pm with a greeting from Senator Campbell.

Chris Socha, from the office of Senator Jim DeMint, addressed the committee with his comments:

Over the next 20 years, the US demand for natural gas will increase by 10%; the world demand will increase by 60%. Foreign countries are freezing sales of natural gas to the US.

SC is paying 35% more for natural gas than the US average. Senator DeMint's "Drill Now" bill speeds up the process of Minerals Management Service's (MMS) 5-year plan, and creates a 50-50 split on revenue between Fed and state.

Kevin Collinsworth made a brief presentation on behalf of DHEC.

Hamilton Davis, representing the SC Coastal Conservation League, asked what regulatory measures are necessary in the Gulf states.

Senator Hutto asked if a county or municipality could exclude piping through their zoning.

Mike Rowe, with DHEC, responded that it could be done through eminent domain.

The meeting was adjourned at 2:30pm by Senator Campbell.

**Natural Gas Exploration Feasibility Study Committee**

**October 28, 2008**

**10:00 a.m.**

**308 Gressette Building**

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Members present: Senator Campbell, Senator Verdin and Representative Duncan, Representative Thompson, Jon Rembold, Carolyn Brown, Brad Dean, Ralph Thomas, David Winkles, Sam Dozier, and Dr. Dean.

Senator Campbell called the meeting to order at 10:10am, made opening remarks and asked attendees to introduce themselves.

The first speaker was Adam Jordan representing the Department of Commerce, made presentations to the committee covering a range of issues from the potential economic impact of offshore drilling to developing a better understanding of the subsurface geology of South Carolina's continental shelf. He said that pipeline construction will not bring a significant increase in jobs.

Senator Campbell asked if the presence of natural gas would create jobs.

Mr. Davis asked if it was important in which state the gas were found.

Mr. Dozier responded to Mr. Davis that the transportation cost would have a significant effect on a natural gas discovery outside South Carolina.

Senator Campbell pointed out that natural gas would a feedstock for the development of hydrogen as an energy source.

Dr. Dean asked if there would be an international market for the natural gas found in SC; Mr. Dozier responded that domestic production would probably be sold domestically, also.

Mr. Jordan stated that royalties from natural gas might not be significant enough to improve the state's economy.

Next to make a presentation was Marion Edmunds of PRT. He stated that a risk assessment needs to be done on any off-shore drilling.

Mr. Trinh asked if there was any impact to tourism in the Gulf States; Mr. Edmunds had no date to address the question.

Mr. Davis claimed there was "substantial harm to ecosystems" in the Gulf.

Next to speak was Bill Clendenin of DNR. He reminded the committee that SC had the second oldest geological survey in the country (1825). The US Geological Survey had not begun until 1848.

Mr. Clendenin explained that the natural gas found would be in “hydrates.” He described this as “ice that burns.” He further explained that the recovery of hydrates is a problem, but due to improving technology, yields are rising from this process.

Rep Thompson asked how long a survey would take. Mr. Clendenin responded that it was 10 years.

Senator Campbell thanked him and stated, “We have a good committee and this is a valuable education process,” says Senator Campbell. “We need to understand exactly what options are available and give the General Assembly the information necessary to take an informed course of action that leads to the best possible results for South Carolina.”

Senator Campbell introduced Virginia State Senator Frank Wagner, developer of the Virginia Energy Plan, who told committee members they are on the right track to understanding “the South Carolina way” to offshore drilling.

“There may be no silver bullet energy solution, but I like to think there is a silver shotgun shell,” says Senator Wagner. “Natural gas exploration is just one part of a very comprehensive energy plan South Carolina needs to develop. The overall plan must take advantage of the state’s strengths in nuclear power and research currently being conducted at universities across the state, which is tied together in a comprehensive package that allows the state to move forward.”

Senator Wagner went on to say, “South Carolina is taking the right steps in the study process, and I would suspect the conclusion will be very similar to Virginia; that given the proper environmental safe guards, it would be appropriate to take advantage of any resources that may be available.”

Senator Wagner, whose Senate district includes parts of Virginia Beach, has been a key leader on energy issues in Virginia. He chaired the state’s study committee on offshore natural gas production and authored the Virginia Energy Plan, a comprehensive statewide energy policy.

Senator Wagner reminded the committee that the US is spending \$700 billion in importing fossil fuels. He stated that off-shore activity in Texas, California, and Nova Scotia has not affected the appearance of the coast or the tourist industry. The effort in Virginia is supported by the Virginia Beach Chamber of Commerce and the Hotel Association.

Mr. Davis asked if there was study data related to tourism not being affected. Senator Wagner responded that there was not.

Senator Wagner explained that Virginia negotiated with MMS to allow for exploration only beyond 50 miles.

Dr. Dean, in response to the reference to Nova Scotia, asked Senator Wagner about the Canadian regulatory environment. He responded that he had no information about that.

Mr. Rembold asked if there were other considerations to the 50-mile barrier, such as military, fishing, etc. Senator Wagner responded affirmatively.

Representative Duncan asked if any problems had been associated with existing refineries. Senator Wagner responded that, in retrospect, they could have been located inland.

Senator Wagner mentioned that all Louisiana royalties are used for restoring the Delta. Furthermore, in regard to leases, he referred to the lines separating states' lease areas and said that work needs to be done on that.

Representative Thompson asked if royalty income goes to a state's general fund. Senator Wagner responded that Minerals Management Service would want to see a plan for the distribution of income by the state.

Mr. Rembold inquired as to whether or not SC had a comprehensive energy plan; he was told that we do not.

Senator Wagner, in closing his presentation, told the committee that, currently, 50 % of explorations are resulting in production.

In closing comments, Brad Dean pointed out the similarity of bringing pipes on shore to the outfall piping of storm water that Myrtle Beach currently does.

Mr. Winkler commented that the proceedings, thus far, have not addressed the effects on agriculture.

Senator Campbell stated, "Expanding our energy resources is top of the mind for everyone right now, but, we want to be responsible and look at all aspects of this issue. We want to look at the pros and the cons while at the same time protect tourism and the environment."

The committee plans to submit a preliminary report to the General Assembly by the end of the month, Senator Campbell would like to see the committee continue working toward a more comprehensive overview of its findings and the committee will meet again on November 20.

Senator Campbell - Adjourned the meeting at 11:59am

**Natural Gas Exploration Feasibility Study Committee**  
**November 20, 2008**  
**11:00 a.m.**  
**101 Blatt Building**

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Members present: Senator Campbell, Representative Thompson, Jon Rembold, Carolyn Brown, Minh Tran, and Dr. Dean.

Senator Campbell called the meeting to order at 11:11am, made opening remarks and handed out the report on the progress of the committee. He then asked attendees to introduce themselves.

Larry Boyleston, Assistant Commissioner, Agriculture Services Division, thanked the committee for inviting the SC Department of Agriculture to take part in the meeting. His report follows:

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**The Effects of Natural Gas Prices and Availability on SC Agriculture**

In a recent letter sent to all members of Congress, American Farm Bureau President, Bob Stallman stated the issue of natural gas supplies and prices best. "Today, record-high oil and natural gas prices underscore our nation's over-reliance on foreign energy sources," Stallman said. "These tight oil and natural gas supplies have driven U. S. farm inputs and energy prices to all-time highs, substantially increasing farm production costs. Increasing domestic energy supplies, from all sources, and enhancing our energy infrastructure are critical components of a balanced national energy strategy." In supporting his position to repeal the moratorium on drilling and leasing for energy resources off the outer continental shelf, U. S. Congressman from Iowa, Steve King stated, "Nothing has caused more concern for agriculture than the price of natural gas". These expressions of concern apply directly to South Carolina whose farmers are paying extraordinarily high prices for fertilizers, especially nitrogen, to produce its major crops.

Nitrogen is vital to a plant's ability to develop proteins and enzymes, which in turn, help the plant grow to produce food, feed, and fiber for animal and human consumption. The efficient use of nitrogen fertilizers is considered to be one of the main factors behind increased U. S. crop yields and the high quality of U. S. agricultural products.

Natural gas is the feedstock for producing ammonia, which is the building block for all nitrogen fertilizers. The cost of natural gas accounts for 70 to 90 percent of the production cost of ammonia. With U. S. natural gas prices increasing significantly since 2000, average U. S. ammonia production costs rose by 172 percent from 1999 to 2005 (The Fertilizer Institute).

The situation for fertilizer nutrients has gotten worse in the past two years. Fertilizer is a world market commodity with supply and demand factors in major markets around the

world impacting the price U. S. farmers pay for fertilizer and nitrogen. Average prices paid by U. S. farmers for the major fertilizer nutrients reached the highest level on record in September 2008, 121 percent higher than in September 2007 according to the U. S. Department of Agriculture.

High natural gas prices have caused 26 U. S. ammonia plants to close since 1999. Several plants also remain idle. As a result of ammonia plant closures, U. S. ammonia production fell by more than 42 percent since 1999. Consequently, the U. S. fertilizer industry, which typically supplied 85 percent of farmers' domestic nitrogen needs from U. S. based production during the 1990's, now relies on net nitrogen imports for more than half of new nitrogen supplies.

Currently, only 30 nitrogen plants are operating in the U. S. In about 10 years, we went from being basically self-sufficient in nitrogen fertilizer supply to being very dependent on foreign sources for a vital crop nutrient. Ammonia and nitrogen are imported primarily from Russia, Trinidad, Tobago, Canada and Venezuela. Further increases in natural gas prices could lead to a continuous decline in U. S. ammonia production and an increase in imports.

This puts U. S. farmers at a distinct competitive disadvantage in food production. In order to meet the world demand for plant nutrients, U. S. nitrogen producers need reliable and plentiful supplies of natural gas. More abundant supplies of domestic natural gas would be a boon for agriculture as it would for many industries in the U. S.

Fertilizer and nitrogen availability at reasonable prices is especially significant to South Carolina where soils do not hold nutrients well. Mild climate, rainfall, and sandy loam soils cause nutrients to deplete and thus require significant use of fertilizer materials to replenish the soils and produce adequate yields. Cotton, corn, wheat, tobacco, fruits and vegetables, and hay all require nitrogen applications. Even nitrogen fixing legumes such as soybeans and peanuts require early applications to get these crops off to a good start.

As we all know, natural gas is cheapest when sold close to the area of production because natural gas requires liquification or pipelines for transport. If South Carolina has an opportunity to produce natural gas off the coast it could provide a distinct competitive advantage in many areas. A major nitrogen plant sits on the Savannah River in Augusta, Georgia, running below capacity. That source of nitrogen close to us would be a great advantage for South Carolina producers.

Availability of adequate supplies of natural gas at reasonable prices would be an advantage to livestock operations, particularly poultry operations that use expensive propane for heating poultry houses. Biofuel plants would find an advantage in locating in South Carolina if an adequate and cheap source of natural gas were available.

Natural gas is important to agriculture because it is used both directly and indirectly in nearly every aspect of farm operations. Farmers are paying higher expenses for



electricity, fertilizers, farm chemicals, heating barns and poultry houses and drying grain due to the rising cost of natural gas.

The value of South Carolina agriculture exceeds \$2 billion at the farm gate level and when combined with forestry impacts the South Carolina economy to the tune of \$33.8 billion. As with any industry when a basic raw material is domestic, close at hand, available and reasonably priced, a competitive advantage exists. If domestic supplies of natural gas continue to fall short of industry needs, we will find ourselves in much the same scenario as oil, dependent on foreign sources for a basic industry input.

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Senator Campbell stated that if natural gas was more available it would be beneficial to South Carolina's ability to produce fertilizer. Mr. Boyleston replied in the affirmative.

Dr. Dean asked about the relationship between fertilizer production and natural gas availability. Mr. Boyleston stated that production will move to an available and cheap natural gas source. Sen. Campbell remarked that SC has among the highest priced natural gas in the nation. Gary Spires, SC Farm Bureau added that was one of the causes of tripling in price of agricultural inputs.

Dr. Dean asked about price spikes. Sen. Campbell hypothesized that it was due to security concerns in handling nitrogen, post-9/11/01. Dr. Dean further commented that the ability to produce, agriculturally, as a national security issue.

Hamilton Davis, SC Coastal Conservation League, asked if off-shore supplies of natural gas would affect price. Mr. Boyleston replied that the Department had no data on the subject.

The next speaker was Dana Beach, with the Coastal Conservation League; he stated that we need to ask the right questions:

1. Will offshore drilling will make us energy independent?
2. Will offshore drilling create more jobs?

He stated that no data supports that these two questions can be answered in the affirmative and that South Carolina's production will not be significant until 2030. He also said if we do move forward with offshore drilling there is no guarantee that the resources would be there.

He also referred to a "down-side." Specifically, he said the cumulative spills of Katrina and Rita were almost as great as the amount of oil spilled by the Exxon Valdez.

Mr. Beach called off-shore exploration a "diversion" and followed by saying "we can't do it all." He suggested the following, instead, to be put in place:

1. Lower the speed limit on interstate highways to 55 miles per hour.

2. Cut by half the energy used by commercial office buildings.
3. Have new legislation put in place to encourage people to become more energy conscience.
4. Move ahead with production of “wind energy” and other renewable sources.

Sen. Campbell asked for further data regarding wind energy. He stated that estimates showed that SC would need another 10,000 megawatts over the next 30 years and asked, “Why can’t we do both?”

Min Tranh stated that we are “handcuffed” with the lack of current natural gas availability.

Mr. Davis stressed that we need to know the economic impact of off-shore drilling.

Dr. Dean advocated speed limit reductions and other initiatives that we can control, unlike market factors.

John Rembold spoke of the world market being fickle, but emphasized that attitudes and perceptions will have an effect on it. Further, he spoke of the job opportunities in just the preparation to drill.

Mr. Spires asked for an explanation of Mr. Beach’s reference to 2030. Was that a product of regulation? He responded it was not, but was a product of construction. Sen. Campbell remarked that Virginia should be ready for production by about 2013, with most start-up expenses being underwritten by the companies involved in exploration and drilling.

Dr. Carolyn Brown stated that accidents occur and emphasized the importance of health issues when product is brought on shore.

Mr. Davis made reference to an Alabama study that showed elevated mercury levels in fish caught near platforms. Sen. Hutto asked Mr. Beach about a “superfund” applied to off-shore drilling – would Federal or state management apply? Mr. Beach did not know.

The next speaker to address the committee was Lewis F. Gossett, President, of the SC Manufacturers Alliance (SCMA). Mr. Gossett also chairs the Citizens for Sound Conservation. He stated that the goal of the SCMA is to balance economic prosperity and development with sound environmental practices. He went on to say that South Carolina is facing a most important issue -- resources will run out and when this happens, industry will leave the state for better opportunities elsewhere.

Mr. Gossett further went on to say that we need to get smart in this country regarding resources by planning far enough ahead and give industry a chance to make an investment in South Carolina. Debating this issue, he said, “doesn’t make a whole lot of sense.”

He talked about the increasing demand on resources by developing countries and the effect this demand has had on the prices we pay. At the same time, he says, we “unilaterally disarmed” by not making the most of our energy resources.

Mr. Gossett said the phrase “given what we know today” is often used in this debate and pointed to a couple of examples where inaccurate data understated resources:

- Prudhoe Bay, Alaska, was said to be contain no more than 9 billion barrels of oil, but has produced 15 billion, already, and is still productive
- Bakken Formation, Montana and North Dakota, is worth approximately 3-4 billion barrels of oil, 25 times the original estimates
- Gulf of Mexico resources were once estimated at no more than 9 billion barrels of oil; current estimates are 45 billion barrels

Mr. Gossett began to close by referring to the Wellman plant near Florence. The plant not only used natural gas as an energy source, but as a raw material. Severe price spikes resulted in the closing of the plant, costing the area jobs that will not return. He made the case to not take natural gas exploration “off the table.” Nor did he want the state to neglect renewable resources or conservation.

Mr. Davis asked about a cost-benefit analysis of off-shore activity. Mr. Gossett said the need for data supported exploration and that market forces would help to make that determination. Mr. Davis responded that hydrates, which encase the natural gas reserves, cause extraction to not be economically feasible.

Brent Campbell, Director of the Pipeline Division, Louisiana DNR, was the next speaker to address the committee. Mr. Campbell opened with some information about the petroleum and natural gas industries in his state, including the following:

- Louisiana has 17% of the US refining capacity
- The second largest refinery (Exxon) is located in Louisiana
- The Louisiana Offshore Oil Port (LOOP) accommodates 100,000 barrels per hour
- The first offshore gas pipeline was built in 1950 in Louisiana

Mr. Campbell stated that Louisiana enforces safety of intra-state transport lines for Federal government. He said that about 1500 spills are reported each year, with some reports being multiple. He went on to say that most spills are related to flow lines (from source to separation facility) and many of those are related to the age of the lines. Responding to a question, he said that South Carolina would have mostly transport lines.

Mr. Campbell referred to marsh damage, pointing out that Louisiana has 30% of the US marshland, but 90% of lost marsh area. More specifically, since 1956, 1300 square miles have been lost, including losses due to Hurricanes Katrina and Rita. In fact, these storms accounted for 42% of the losses projected for the next 50 years.

Mr. Campbell stated that the pipelines have had no negative impact on tourism. He attributed this to the long history of the pipelines, meaning that people were accustomed to them. Furthermore, he pointed out that fishing is an important part of the Louisiana tourism industry and it is, in fact, strengthened by the presence of fish near the platforms.

In regard to agriculture, Mr. Campbell acknowledged some detrimental impact from pipelines. He pointed out, however, that due to better technology, the impact is minimized. Furthermore, the owner is compensated through right-of-way agreements. This process is done through eminent domain, similar to highway projects. Sen. Campbell hypothesized that power line rights-of-way could be utilized. Mr. Campbell agreed.

Mr. Campbell made some recommendations if South Carolina chooses to pursue natural gas exploration and production, with education being the overriding and predominant one. He further recommended good communication, transparency and outreach by the regulators of the industry.

He closed his presentation by quoting Scott Angelle, Secretary of Louisiana DNR, in testimony before a US House committee:

“Offshore development and preserving the environment are compatible.”

Sen. Hutto asked about a “superfund” for pipeline users. Mr. Campbell replied that no fund is set up for transmission lines, but producers of oil and gas contribute to an environmental fund.

Mr. Davis asked about air quality. Mr. Campbell replied that Bator Rouge is under non-attainment in ozone standards, requiring the use of specially formulated gasolines. He followed with a question about remaining resources. Mr. Campbell stated that in state waters, the supply is declining. In regard to the Outer Continental Shelf (OCS), he deferred to the Minerals Management Service (MMS). He, then, asked about the state’s investment in this industry. Mr. Campbell did not have available dollar figures, but pointed out there were 43 regulators and all the requisite equipment. Following that, he asked about the impact of the hurricanes. Mr. Campbell pointed out that storms of the magnitude of Katrina and Rita will cause significant damage to anything in their path. Finally, he asked about resources available in “keeping the pipelines up to par.” Mr. Campbell responded that transmission line spills are, basically, due to human error or storms and safety standards are thorough.

Minh Tran asked if a SC natural gas source would be a benefit to the national market. Mr. Campbell responded in the affirmative.

Mr. Davis asked about any state investment in infrastructure. Mr. Campbell replied that it was all private investment.

Dr. Brown asked about impact on fisheries and oyster harvesting. Mr. Campbell reiterated previous statements about compensation for temporary damage and technology to reduce impact, but had no economic data available.

Senator Campbell thanked the committee for their attendance and told them another meeting would be held in December. The meeting was adjourned at 2:15pm

**Natural Gas Exploration Feasibility Study Committee**  
**December 03, 2008**  
**11:00 a.m.**  
**415 Brown Building**

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Members present: Senator Campbell, Jon Rembold, Carolyn Brown, Minh Tran, Ralph Thomas and Sam Dozier.

Senator Campbell called the meeting to order at 11:15am, made opening remarks and handed out the report on the progress of the committee, and made comments concerning the plan being created by Minerals Management Service (MMS). He stated that it's very important that South Carolina be included in the plan which will come out in January 2009.

Senator Campbell announced to the committee that there will be a Study Committee public meeting held in Charleston in January 2009. The meeting will take place in the evening in order to accommodate more attendees. The final committee report will then be sent to the Speaker of the House, President Pro Tempore and the Governor.

At this time Senator Campbell introduced Tom Moskitis with the American Gas Association, which represents over 200 utilities. He then addressed the committee.

Mr. Moskitis stated that higher oil prices are continuing to push us towards exploration and finding and using alternative fuels. Higher oil prices have had a wide spread detrimental effect on consumers and manufacturers. Our dependency on foreign oil is endangering our county, and getting access to alternate fuels should be a top priority to South Carolina and the rest of the country. He made several observations for the benefit of the committee, among them were:

- Natural gas is the cleanest fuel on earth
- Proponents of renewable resources tend to oppose drilling, but not so vice versa
- 27% of generated electricity makes it to the consumer, the balance is lost; with natural gas, 90% makes it to the consumer
- Fjords of Norway have not been blemished by off-shore drilling

Hamilton Davis, Coastal Conservation League, asked about the gas being held in hydrates, specifically, is the technology there to harvest it. Mr. Moskitis responded that conventional reserves could be there, also.

Mr. Davis stated that environmental impacts are of fact of off-shore drilling. Mr. Moskitis pointed out that importing product created a greater risk of spills, due to the presence of tankers.

Sen. Campbell reminded Mr. Davis that, in regard to the hydrates, no drilling would ever take place unless the companies believed the gas was available. Mr. Davis then

responded that wind power should be our focus – he stated there was a study that showed South Carolina could meet energy demand two times over using only wind power.

The next speaker to address the committee was Mr. Fred Palmer, with Shell Oil Company.

Mr. Palmer thanked the committee for inviting him to make a presentation. He began with a few facts regarding Shell's offshore operations:

- Shell is the largest private capital investor in the world
- Shell's current operations include "ultra-deep" exploration, 8-10 thousand feet
- Their industry is now paying leases not acted upon
- Non-success in offshore exploration is 20% or higher
- An offshore rig, alone, is \$600,000 - \$700,000 thousand a day to operate

Dr. Carolyn Brown asked what happens to the drilling mud. Mr. Palmer responded that its disposition was regulated by the Environmental Protection Agency (EPA) and MMS.

Mr. Palmer then gave some more facts regarding Shell's offshore operations:

- Approximately 15-16 thousand workers; all evacuated for Gustav and Ike
- The Perdido platform –
  - Cooperative effort with Chevron and BP
  - Operates at a depth of 7800 feet
  - Produces 130 thousand barrels a day
  - The first production from the Paleogene formation

Mr. Davis asked about expiring leases. Mr. Palmer responded that the owner may apply to MMS for renewal.

Dr. Brown asked about the feasibility of exploring for gas only. Mr. Palmer replied that often oil, gas and water are recovered together. She then asked if a company would be willing to sign a lease for only natural gas and Mr. Palmer answered that it would depend on the individual circumstance.

Mr. Davis asked if there were natural gas finds in the Gulf of Mexico. Mr. Palmer replied that most discoveries contain both oil and gas. Mr. Davis proceeded by asking, in light of new technology, will Shell go back to areas previously deemed non-productive? Mr. Palmer answered in the affirmative. Mr. Davis then questioned how Shell would operate in the Atlantic with no established infrastructure. Mr. Palmer's response was that, if necessary, shipment could be made to existing refineries. Finally, Mr. Davis asked Mr. Palmer if Shell had a plan for the Atlantic. His response was, "no."

Dr. Brown asked Mr. Palmer how leases were chosen. He explained to her that MMS makes them available in their "5-year plan" process. Mr. Davis asked if South Carolina would be included in a 5-year plan in 2010. Mr. Palmer replied that 2012 was more likely.

Mr. Palmer then cited a couple of facts to allay fears about the possible disruptive nature of offshore exploration:

- Offshore exploration led to the discovery of the Greenland Sleeper Shark, not previously known to exist in Gulf of Mexico waters
- The Florida Tourism Board is on record as favoring limited exploration in the Gulf

Sen. Campbell asked about hurricane evacuation. Mr. Palmer's reply included the following:

- A Hurricane Incident Command Team can evacuate the Gulf in three days – the team makes a daily assessment of lead times
- Mars Platform –
  - 9 months to repair after Katrina
  - Excellent safety record – 1 million man hours with no incidents

John Rembold asked for an estimate of some of the leases. Mr. Palmer answered the "most recent" leases were valued at approximately \$560 million.

Mr. Davis asked about the ramp-up time to beginning drilling. Mr. Palmer's response was that suppliers had the greatest impact on the time frame. He then asked Mr. Palmer if he knew of a situation similar to the Atlantic Coast. He referred to Tract #181 in the Eastern Gulf of Mexico, which has already yielded two discoveries. Mr. Davis closed by making a reference to an Alabama study from 2001, which he said Dr. Eric Van Nort could address.

Sen. Campbell asked for formal approval of the interim report, first presented at the previous meeting. Minh Tran, Piedmont Natural Gas, moved the adoption. Sam Dozier, SCANA, offered a second. Approval was unanimous. The meeting was adjourned



**Natural Gas Exploration Feasibility Study Committee**  
**February 12, 2009**  
**7:00 p.m.**  
**Trident Technical College**  
**North Charleston, South Carolina**

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Members present: Senator Campbell, Jon Rembold, Minh Tran, Ralph Thomas, Sam Dozier and Brad Dean. Attending on behalf of other members were Hamilton Davis, John Hartz and Gary Spires. Also in attendance was Sen. Rose.

Senator Campbell called the meeting to order at approx 7:10 pm. He gave a brief summary of the previous meetings, the areas of study and the individuals that addressed the committee. He stated that the task of the committee was to examine all aspects of the subject of offshore exploration, including the economic issues and whether it could be accomplished in a safe manner. Following these brief remarks, he opened up the meeting for public comment:

Christy Bethke asked if there were other alternative energy opportunities. Sen. Campbell responded that there were other opportunities and they, too, should be developed. He also referred to the opportunity of lease income for the state and outlined that leasing process through Minerals Management Service.

Ms. Bethke further questioned the issue of spills. Sen. Campbell responded that the most easily recognized disaster in spillage was a tanker, the Valdez, and was not due to offshore activity. She concluded her remarks by asserting that the people of the Lowcountry want to wean themselves from fossil fuels.

Angela Jones, representing the Sierra Club, emphasized their consistent opposition to offshore exploration and asked, "Why now?" in regard to this initiative and advocated a comprehensive energy plan. She began speaking about gas prices and drilling for oil. Sen. Campbell stated that all sources of energy should be sought and reminded her that the study is concerned only with natural gas.

Sharon Axson, from US Rep. Henry Brown's office, briefly introduced herself. She pointed out that Rep. Brown represents 70% of the SC coast and serves on both the Transportation and the Natural Resource Committees in the House.

Following her was Eugene Platt, representing the Charleston County Green Party. He stated that his party was unalterably opposed to drilling off the coast. He asserted that the Atlantic Coast was different from the Gulf and cited his experience as a Department of Interior employee in New Orleans. He also remarked that he was impressed with the Governor's opposition to the planned Santee Cooper coal plant, but that he favored the utilization of nuclear power.

Pat Sullivan rose to show her support for “fuels for the future” instead of oil. She also advocated conservation. Sen. Campbell agreed that conservation was important and that we needed to reduce dependence on oil, but that this current effort was about natural gas exploration.

At this point, no one else offered to make comment. Sen. Campbell asked each member of the committee to make a statement of 3-4 minutes each.

Hamilton Davis, Coastal Conservation League, asserted that prospects for offshore drilling are not promising. He further stated that it was a lengthy process and that the Gulf of Mexico has had problems with the on-shore infrastructure associated with its industry. He concluded by saying that the primary concern for his organization is the effect of offshore activity on the SC coastline, citing a reference by MMS to SC as the most environmentally sensitive area on the Atlantic coast.

Jon Rembold was the next member to speak. He stated that, as a resident of Beaufort County, the people in his area were concerned about environment and tourism, as well. He recalled the presentation by Virginia State Senator Wagner and advocated that South Carolina develop a similar comprehensive energy policy. He supported exploration because the risk would be borne by the companies, it would provide new data and it would create new “green collar” jobs, particularly in permitting.

Minh Tran followed, pointing out that petroleum products are not just for fuels, but for many products. He stated that all options should be open in pursuing energy sources and that the focus needed to be 30, 40 or 100 years into the future. He observed that even with wind energy, the paint used on the equipment was petroleum-based and that the turbines can change migration patterns of birds. He offered natural gas, in contrast, as one of the cleanest forms of energy available. He emphasized “due diligence” in pursuit of energy sources, reminding the committee of the natural disasters in the Gulf that disrupted pipeline flow and diminished the supply of natural gas to our state.

John Dozier, SCANA, brought attention to the rising costs of fertilizer and the effect that has on farmers as well as possible “double-digit” inflation. He emphasized that this is a complex issue and that the committee is here for the best interest of South Carolina. Specifically, in reference to the volatility of natural gas prices, referred to ships en route to the LNG terminal in Savannah that change destination in favor of better pricing elsewhere.

Brad Dean, Myrtle Beach Chamber of Commerce, thanked Sen. Campbell for his part in this process. Being involved in tourism, Mr. Dean stated that he was somewhat skeptical in initially assessing this subject. He supports safe, clean and efficient forms of energy and spoke of the need to know “what’s out there.” Furthermore, he described the study committee as instructive to him that there was no easy answer; various needs have to be balanced. The idea of wind turbines 3-4 miles off the coast did not appeal to him, but drilling he saw as a viable option – not the only answer, but part of the solution.

Gary Spires, Farm Bureau, attending on behalf of David Winkles, stated that the energy debate centered around two issues: 1) energy independence and 2) price stabilization. Relevant to his industry, he spoke of the difficulty for farmers caused by the spikes in fertile prices; this is directly affected by the price of natural gas.

Sen. Campbell then summarized the comments of the evening by saying potential natural gas deposits are “a big unknown.” He stated that it is clearly known that our natural gas prices are higher because of no access to the pipeline.

Mr. Davis asked about current legislation relative to offshore activity. Sen. Campbell referred to S.44 and the inherent problems in the wording.

Sen. Campbell then spoke of potential royalty income that could significantly improve the current economy. Furthermore, he referenced the Prudhoe Bay reserves that are 100 times the original estimates of resources present in that area.

Mr. Hartz asked about poor data from the 1970s. Sen. Campbell explained that improving that data is a function of better technology as well as the lifting of moratoria that had prevented exploration.

Sen. Rose pointed out that inaction was no longer an option. He referred to blackouts that can lead to rioting and anarchy. For these reasons, he believes informed risks are warranted in pursuing energy options. An unidentified woman accused him of “scare tactics.”

Michelle Cox asked what the General Assembly is doing in regard to renewable resources. Sen. Campbell responded that there were several bills that deal with energy efficiency, conservation, renewable portfolio standards, wind energy and energy policy.

Karen Clarke asked about the effects of seismic exploration on wildlife. Sen. Campbell cited testimony by a representative of Shell Oil in concluding that there has been no detrimental effect.

Angela Jones asked about leases on public lands which have not been utilized. Sen. Campbell reminded her that expired leases are put out for bid again.

Christy Bethke asked about water recovered in drilling and possible uses in hydropower. Sen. Campbell responded that gravity is required to utilize hydropower. He also referred to significant water withdrawal legislation now being considered. No further comment being offered, he adjourned the meeting at approximately 8:20 pm.

**Natural Gas Exploration Feasibility Study Committee**  
**April 08, 2009**  
**10:00 a.m.**  
**308 Gressette Building**

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Members present: Senator Campbell, Brad Dean, Dr. Carolyn Brown, Ralph Thomas, David Winkles, Dr. John Mark Dean, Jon Rembold, Hamilton Davis and Hank McCullough.

Sen. Campbell called the meeting to order and a draft proposal was presented to the committee. Response from members was invited and sections of the draft were discussed.

Mr. Davis presented a minority report on behalf of the Coastal Conservation League. Committee members discussed the content of that report, as well.

Sen. Campbell announced that he and staff will take the recommendations made and will issue a revised report for the committee's consideration. The meeting was adjourned.

**Natural Gas Exploration Feasibility Study Committee**  
**August 03, 2009**  
**2:00 p.m.**  
**Teleconference**

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Members present: Senator Campbell, Representative Duncan, Brad Dean, Dr. Carolyn Brown, Ralph Thomas, Sam Dozier and Hamilton Davis.

Sen. Campbell called the meeting to order. Rep. Duncan inquired as to whether or not a quorum was present. Sen. Campbell responded that there were no such requirements.

Mr. Thomas asked about the changes made to the draft that was previously submitted to the committee. Sen. Campbell summarized the differences.

Dr. Brown asked that the word “adequate” be removed in regard to environmental protection in the “bullet point” section of the document. Committee membership concurred. Mr. Thomas then spoke in favor of the bullet points, conditions for proceeding with natural gas exploration.

Mr. Davis asked for an additional bullet point regarding comprehensive state energy policy. Committee membership concurred.

Mr. Davis further referred to comments previously made by Dr. Dean regarding fish populations in the vicinity of platforms. Sen. Campbell offered to communicate with Dr. Dean prior to action being taken on this issue.

Mr. Davis also asked for language that related to the risks of a possible oil and gas industry in areas susceptible to hurricane activity. He said that he would send language to staff related to this matter.

Dr. Brown characterized the presenters to the committee as “biased,” asserting that they were concerned with the promotion of the industry. Sen. Campbell disagreed and pointed out the various regulatory agencies that addressed the committee. Mr. Thomas also spoke to the subject, agreeing with Sen. Campbell.

Rep. Duncan, in reference to Mr. Davis’ previous comments, suggested that language be used to refer to the potential climatic risks in the event that an oil and gas industry develops. Mr. Davis asserted that wherever natural gas is found, oil and gas deposits are present, as well.

Mr. Thomas referred to the dual concerns of energy needs and environmental concerns, stating that the state cannot “do one without the other.” He further stated that the draft was a balanced recommendation for the General Assembly.

Rep. Duncan moved that the amended draft be approved by e-mail. The committee concurred. Mr. Thomas then moved for adjournment, a second was heard and Sen. Campbell closed the meeting.