OUTER CONTINENTAL SHELF (OCS) OIL AND GAS ISSUES

OVERSIGHT FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

OF THE

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U.S. HOUSE OF REPRESENTATIVES

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OUTER CONTINENTAL SHELF (OCS) OIL AND GAS ISSUES

Monday, May 14, 2001
U.S. House of Representatives
Subcommittee on Energy and Mineral Resources
Committee on Resources
New Orleans, Louisiana

The Subcommittee met, pursuant to call, at 2:35 p.m., in Room 101, TRAC Building, University of New Orleans, 2000 Lakeshore Drive, New Orleans, Louisiana, the Honorable Barbara Cubin, Chairman of the Subcommittee, presiding.

Ms. CUBIN. The Committee on Energy and Mineral Resources will please come to order.

I would like to start off by asking unanimous consent that our colleague, David Vitter, sit at the table with us today and be allowed to ask questions as a member of the Subcommittee.

We have a lot of people to talk to and to hear from, so we are just going to get started right away. I would like to introduce Congressman Jim Gibbons from Nevada. Right now there are two Representatives from Nevada; one is Las Vegas and Jim is all the rest.

[Laughter.]

Mr. GIBBONS. 99.8 percent of the State.

Ms. CUBIN. That is right. And how many thousand square miles?

Mr. GIBBONS. 110,000.

Ms. CUBIN. And I am Barbara Cubin, I represent the entire state of Wyoming. We have one Congressman. We do have three Senators—

[Laughter.]

Ms. CUBIN. We are the least populated state, but we have three Senators, we have two that were elected and then the Vice President, so you know, that is three. But it only takes one woman to do the job so it is not a problem at all.

[Laughter and applause.]

STATEMENT OF THE HON. BARBARA CUBIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING

Ms. CUBIN. Anyway, it is time to get started, we have a lot of work to do.

I want to thank all of you for being here.

Today's hearing is the sixth in a series of oversight hearings which The Energy and Mineral Resources Subcommittee has con-

ducted to examine issues concerning energy supplies from our public lands, including the outer continental shelf.

We have come to New Orleans at the invitation of members of the Louisiana delegation, including my dear friend Billy Tauzin, who would be with us today but he is ill. He is in Washington with a sinus and ear infection and cannot go up in a plane with the pressure. Also, David Vitter, I am delighted that he is here with us today and we are here in large part because of his invitation as well.

Several of our hearings that we have held in Washington, D.C. have included testimony about the energy contribution of submerged lands of the outer continental shelf, or the OCS, as you know it. But we have not dedicated an entire hearing to learning about the potential for new oil and gas supplies, as well as the constraints upon their development, which certainly in the land where I live, I am very aware of those constraints and very aware of those prohibitions to access. So that is why we are here today, I want to be able to learn as much as we can so we can put this in the mix and try to meet our nation's energy needs.

We have invited a large number of witnesses to testify today about these matters, so I will be brief.

I would like to say to those of you who do not know that much about Wyoming, Wyoming is the leading Federal mineral royalty recipient in the country. I think we get about $280 or $290 million a year in Federal mineral royalties, primarily from coal, but we are also a large oil producer and a big gas producer as well. Coalbed methane is another unconventional gas project that really is putting Wyoming on the map as far as on-shore hydrocarbon exploration. So I am not without knowledge on these issues but we do it on dry land, often very dry land.

[Laughter.]

Ms. CUBIN. Louisiana's energy contribution to the nation is enormous, especially when the Federal waters off your coastline are factored in. I appreciate what it means to your economy and I appreciate what it means to your environment, as you struggle to try to help give an energy hungry nation the supplies that it needs, while maintaining the infrastructure at the same time—it certainly is a challenge. And yes, I do agree that the coastal states which host oil and gas production off their shorelines ought to receive a portion of the Federal revenues generated by this activity in the same manner that public states like mine share in the gross receipts with the Federal Government.

I mention this because, as Congressman Tauzin knows, I was opposed to the broader effort of CARA to redistribute royalties. I cannot, in my wildest imagination, understand why we should make Iowa a coastal state.

[Laughter.]

Ms. CUBIN. But I do believe that a portion of the royalties that are produced offshore ought to go to the states that have exploration and production so they get some of that money to deal with the environmental issues that they have, the infrastructure issues that they have. And I will work for that with Representative Tauzin and with Representative Vitter.

The other thing that—well that is enough as far as—we will talk about CARA later.

We are here today to learn about how the OCS can supply additional oil and gas to stave off an energy supply and demand imbalance, and what we can do in Congress to help do this in a timely manner, and what we should not do if our goal is to be self-sufficient in gas from our North American sources. These are simple questions, but they have tough answers.

[The prepared statement of Mrs. Cubin follows:]

Statement of The Honorable Barbara Cubin, Chairman, Subcommittee on Energy and Mineral Resources

Today's hearing is the sixth in a series of oversight hearings which the Energy and Mineral Resources Subcommittee has conducted to examine issues concerning energy supplies from our public lands, including the outer continental shelf. We have come to New Orleans at the invitation of Members of the Louisiana congressional delegation, including my dear friend Billy Tauzin, a valued member of the Subcommittee, and the chairman of the Energy and Commerce Committee upon which I also serve.

Several of our hearings in Washington, DC, have included testimony about the energy contribution of the submerged lands of the outer continental shelf or OCS. But, we have not dedicated an entire hearing to learning about the potential for new oil and gas supplies, as well as constraints upon their development, in the various regions surrounding our Nation's coastline. Until today, that is.

We have invited a large number of witnesses to testify about such matters, so I will be very brief in these remarks, such that we will have time to listen to these experts. I would like to say to those who don't know me, that I represent the energy-rich state of Wyoming. We lead the nation in coal production most years, and oil and gas production has been very important to our economy in the Cowboy State for decades. Coalbed methane and other "unconventional" gas projects are putting Wyoming in the forefront of onshore hydrocarbon exploration. So, I am not without some knowledge on these issues, but we do it on dry land - often very dry.

Louisiana's energy contribution to the nation is enormous, especially when the Federal waters off your coastline is factored in. I appreciate what this means to your economy and your environment as you struggle to give an energy-hungry nation what it wants while maintaining the infrastructure to do so.

So, yes I do agree that coastal states which host oil and gas production off their shorelines ought to receive a portion of the Federal revenues generated by this activity, in the same manner that public land states like mine share lease receipts with the Federal Government. I mention this because Congressman Tauzin knows I opposed the broader effort to redistribute royalties in legislation which passed the House last year known as CARA. But I did so for other reasons, one of which was the issue of rewarding coastal states which oppose exploration and development off their coastlines with a portion of OCS receipts derived from the central and western Gulf of Mexico.

But, I digress. We are here today to learn about how the OCS can supply additional oil and gas to stave off an energy supply and demand imbalance. What can Congress do to bring this potential to bear in a timely manner? And what should we not do if our goal is to be self- sufficient in natural gas from our North American sources? Simple questions with tough answers, no doubt.

Ms. CUBIN. So with that, I would like to recognize the Vice Chairman of this Subcommittee for any opening comments that he might have.

STATEMENT OF THE HON. JIM GIBBONS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEVADA

Mr. GIBBONS. Thank you, Madam Chairman. It is indeed a pleasure to be here.

And since you were bragging on Wyoming, it is only my fair share to brag on Nevada a little bit, but as the only geologist in Congress—

Ms. CUBIN. I am the only chemist.

[Laughter.]

Mr. GIBBONS. I want to share with you my—

Mr. VITTER. I am the only lawyer.

[Laughter.]

Mr. GIBBONS. That is one too many.

Ms. CUBIN. We wish you were the only lawyer.

Mr. GIBBONS. But I wanted to say that Nevada is not a coastal state either, but we will be, just as soon as the San Andreas fault moves California up north off the Oregon coast.

Ms. CUBIN. And if you will allow drilling off your shores, I will see to it you get some money too.

Mr. GIBBONS. Then we will allow drilling off our shores for oil and gas.

Nevada is not richly abundant in oil and gas. We do have some oil and gas. As a measure of pride, we have the largest producing single oil well I think in the United States, but we only have one of those, so it does not help out a lot. We have a lot of gold.

Ms. CUBIN. Yes, you do.

Mr. GIBBONS. And we will trade gold for your oil.

But anyway, it is great to be here, and I do not want to take up a lot of time because I know the time is short and we have a lot of people who are spending their day here listening to us.

Ms. CUBIN. The Chair now recognizes Mr. Vitter.

STATEMENT OF THE HON. DAVID VITTER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF LOUISIANA

Mr. VITTER. Thank you, Madam Chairman. Thank you for including me in this hearing, I appreciate the invitation. I have been looking forward to being here.

When you were talking about the three Senators from your state, I was not even thinking of the Vice President, I assumed you meant yourself, since you were elected statewide and do the work of those two other guys in the other chamber. But it is a pleasure to be here.

I wanted to make a few very brief points. I am absolutely convinced that this issue of development of the outer continental shelf, and specifically OCS Lease Sale 181 is absolutely crucial as we begin this debate about a national energy policy. And if we do not effectively move forward as is planed with OCS Lease Sale 181, in particular, I think we have no credibility to talk or act about domestic production in any other region, because here in the Gulf is where it has been proven to work and to be able to be done in a responsible and ecologically careful manner. So if we are not going to move forward here, I do not know we can even begin to talk about ANWR or anything else. And that is why I think this is so important, for not only the Gulf region, Louisiana and other states, but for our national energy policy. I also think it is extremely important in terms of our national security. Steven Ambrose is from this university, UNO, great author—Undaunted Courage, Eisenhower, many other books. Before he wrote those books and became

more famous, he wrote a book called A Rise to Globalism, which compares America in 1988 to America in 1939.

In 1939, we produced all of our own oil, all of our own automobiles, all of our own electronics. But we had a minuscule standing army, the 18th largest in the world entering World War II before we built up for that. And the fact that we had this incredible industrial base allowed us to virtually overnight go from the 18th largest army to something that literally saved the world.

Today, the situation is reversed, and we should ask ourselves in which situation are we really at more peril. Today, of course, we have an enormous military and the most effective on earth, but over half of the fuel that military uses comes from foreign countries—56 percent of our oil supply comes from overseas, a 20 percent increase from the 1973 Arab oil embargo levels and 10 percent more than just in 1991, with the outbreak of the Gulf War.

So which situation is more perilous, that situation or in 1939? And also, you know, I am very sensitive and concerned about ecological issues, but those people who raise them about OCS Lease Sale 181 in particular should come down here and go fishing off the Louisiana coast, because you know what, the best spots are right under oil rigs and other associated structures in the Gulf of Mexico. And that, in a very simple but straight-forward and vivid way makes the point that we can and are doing this very responsibly.

So with that, let me stop and I look forward to the comments of our witnesses.

Ms. CUBIN. Thank you, Congressman Vitter.

I would now like to introduce our first panel. We have with us today, the Honorable Hunt Downer, State Representative for the State of Louisiana; the Honorable Guido DeHoratiis—I hope I am saying these names correctly and if I am not, please correct me—who is the Acting Deputy Assistant Secretary for Natural Gas Petroleum Technology with the Department of Energy; the Honorable Jack Caldwell, Secretary of the Louisiana Department of Natural Resources; Mr. Ted Falgout, Executive Director of the Port Fourchon. I will start now—well, first of all, I would like to remind the witnesses that your oral testimony is limited to 5 minutes, signaling lights will be running. But your written statement will appear in its entirety in the record.

Mr. Downer.

STATEMENT OF THE HONORABLE HUNT DOWNER, STATE REPRESENTATIVE, STATE OF LOUISIANA

Mr. DOWNER. Madam Chairman, thank you and welcome to Louisiana and welcome—thank you for the pronunciation correctly of all of those names, including Billy Tauzin. So you did good.

[Laughter.]

Mr. DOWNER. Let me just be brief. We are in session, so I will have to excuse myself after. We are doing the appropriations bill as we talk and you know how that is if you are not there, something happens, generally not good to you.

I thought I would just speak to you just very briefly today as a 26-year veteran of the state legislature, coming out of south Louisiana, the area that is impacted most by oil and gas exploration, and is probably the only legislator in the State House who

is a former roughneck, roustabout—I did any job in the oil field I could in order to work my way through college. With that in mind, I have seen it.

What has happened to us in Louisiana, as my former colleague, Congressman Vitter, knows, our infrastructure is taxed to the max. We can no longer handle it. If we could do more oil and gas drilling offshore—we are already doing over 80 percent of it—we just cannot get it to the market. Our highway infrastructure is really seriously lacking. It needs to be modernized. We cannot build the roads fast enough, but furthermore, we cannot afford them—that is, our state budget. At one time, we were getting over 40 percent of our state general fund revenue from oil and gas. We are now down to under 9 percent. A lot due to inflation, but with oil and gas prices waxing and waning, you know, long term commitment on bonds and infrastructure for that takes time.

What we see is pretty much what you were laughing, sir, about the San Andreas fault. I explain to my colleagues when we need money in the southern part of the state that if they do not give us the money to protect our land loss and to work with our coastal restoration, that my legislative district will be moving north, and I do plan to run again. Which helps them understand why they should put money in the south.

[Laughter.]

Mr. DOWNER. And we actually are looking for a partner. Louisiana, from the state perspective—during my tenure as the Speaker of the House, I traveled the state. We have oil and gas in the northern part of the state, but nothing like the southern part. What we need is a partner, we want to partnership with the Federal Government in order that we can work together to address the natural—the energy problems and issues of this country. It is a shame to say when we have to depend so much on foreign oil and gas, and we look every day at the newspaper to see what is the price of oil in OPEC to determine for us our state budget, number one; and then secondly, to see whether or not we are going to have enough oil and gas at the pumps, what are the prices.

I guess my concern is more from the need. As we address oil and gas exploration, not only do we need a national energy policy, we need to formulate state energy policies that complement and work with the overall energy policy. No longer can we think parochial. It is in our backyard. No longer can Louisiana, as one of the seven or eight states—and I am sure Secretary Caldwell will give more on that—can Louisiana bear the brunt of producing the oil and gas for the rest of the country. We need help. Now we can try to meet those needs, but to do that, we will need some help in that partnership.

Congressman Vitter was one of those who, even though his district when he was in the state legislature was from the city, he understood our needs and worked with us. He was, as we said, one of the friendly votes when we got to those issues.

You will hear from Mr Ted Falgout, who let me tell you, he is where it is happening at Port Fourchon, and what is happening offshore. It must come through them.

Secretary Caldwell hails from Lafayette, Louisiana, former oil and gas attorney before coming to the state as the Secretary.

We all speak from practical experience. And I must apologize first to your Committee for not having written comments. In the state legislature, if someone asks you for written comments, you sure would not let them be a witness, because you knew they would talk too long. We want to keep them short and brief.

But I guess my whole thrust is we need help in a partnership, in an infrastructure. You have seen it on dry land, you ought to see it offshore. Once you pull it out of the ground, you have got to move it, it has got to go either through a pipeline, through a barge or some way. And then once we get it to land, not only is it the oil and gas, it is the support services, which is a large segment of our energy industry—it is the support services, but you have got to have a jumping off point and that is—for example, Port Fourchon, our port, the LOOP, Louisiana Offshore Oil Petroleum, the largest port to bring in those super-tankers. But they are not bringing super tankers in with U.S. produced products, it is foreign crude oil. And with that, of course, in your infrastructure, you need your refineries. You have got to be able to get a product to a refinery and then after it is at the refinery, you have got to get it out to the distribution points, to the supply points. All of that takes highways, rail or inland barge or waterways.

Be glad to answer any questions. Want to thank you for your time. Good to see you again, David and I will take care of your district. Thank you.

Ms. CUBIN. Thank you, Representative Downer.

The Chair now recognizes Secretary Caldwell.

Mr. DOWNER. With your permission, may I be excused?

Ms. CUBIN. Yes, and thank you for being here.

Mr. DOWNER. And welcome again, to Louisiana. We would love to take you around and show you more of our state.

Ms. CUBIN. Wish we had the time to do that.

Mr. DOWNER. Thank you.

Ms. CUBIN. Thank you.

STATEMENT OF THE HONORABLE JACK CALDWELL, SECRETARY, LOUISIANA DEPARTMENT OF NATURAL RESOURCES

Mr. CALDWELL. Madam Chairman, members of the Committee—

Mr. DOWNER. Your budget is all right, Mr. Secretary.

Mr. CALDWELL. Thank you. Glad I got one vote anyway.

[Laughter.]

Mr. CALDWELL. —as Secretary of the Louisiana Department of Natural Resources, I also have the honor to serve on the Minerals Management Service Policy Committee and more specifically on the Natural Gas Subcommittee, which has recently submitted recommendations concerning natural gas policy on the OCS and we are hopeful that some of our recommendations may be incorporated into the President's energy policy, which is coming out this Thursday, as you know.

So we see, as many people do, that natural gas is the fuel of the future. It is not only fuel efficient, it is environmentally friendly and the demand is increasing tremendously and is predicted to increase even more. The prediction is in the next 10 years production

of—demand for natural gas is going to go up by 50 percent from 20 Bcf per year, a trillion cubic feet, up to 30.

The problem is we are falling behind. Since 1993, the number of wells drilled has gone from 10,000 a year to 15,000 a year, that is a 50 percent increase but they are not finding as much gas. And the gas reserves have only increased from 61 billion to 67. So at that rate, we are not going to get it done.

So something must be done. What is it? The answer is obvious, as Representative Vitter has mentioned. We must drill on the rest of the OCS. Louisiana alone cannot provide the gas that is going to be needed. At the present time, up to date, offshore Louisiana has provided 88 percent of all of the oil produced on all of the offshore. Also, Louisiana offshore has produced 82 percent of all of the natural gas that has ever been produced.

So what our gas policy committee has recommended is that in order to enlighten the debate in the other states, in the other offshore areas, that the Federal Government should begin a seismic exploration program to develop pilot seismic studies so we can find out what is out there and what can be done, and also to develop and continue to improve the environmentally friendly methods of drilling, which is getting better all the time.

Right here on Lake Pontchartrain, Louisiana has a moratorium on drilling in the lake, but we are studying environmentally safe methods of doing directional and horizontal drilling from the shore and we hope—we are going to base that on seismic exploration of the lake so we can make informed decisions about it.

So what can be done offshore? There are still tremendous reserves of gas offshore, even on the shelf, but they are deep, deep sands. And we must have incentives to develop the deeper sands on the shelf as well as the deep water sands offshore.

Now the MMS has recently adopted a royalty incentive program whereby the first 20 billion cubic feet is royalty free. But it needs to be strengthened. That is not enough because it taps out when the price hits $3.50. That is just not enough incentive and we must develop those reserves. Also, the tax problem you mentioned on the coal bed methane tax relief program, that was highly successful and that should be adapted for natural gas drilling in the OCS area.

The other thing I want to emphasize today is the need for infrastructure that Mr. Downer mentioned. If you look at the map, this is a 1986 map that shows the pipelines crossing the coastline. Today it looks like a bowl of spaghetti. I have attached today's map to my testimony and the number of pipelines is enormous. At the same time, the coast is receding and all of this infrastructure is being exposed to tremendous danger from hurricanes. Twenty percent of all the U.S. production of oil, both by tanker, barge or pipeline crosses this coast. So I welcome your support, Madam Chairman, for additional help to the producing states to address the looming catastrophe of failing to do anything on our eroding coast.

Thank you.

Ms. CUBIN. Thank you, Secretary Caldwell.

[The prepared statement of Mr. Caldwell follows:]

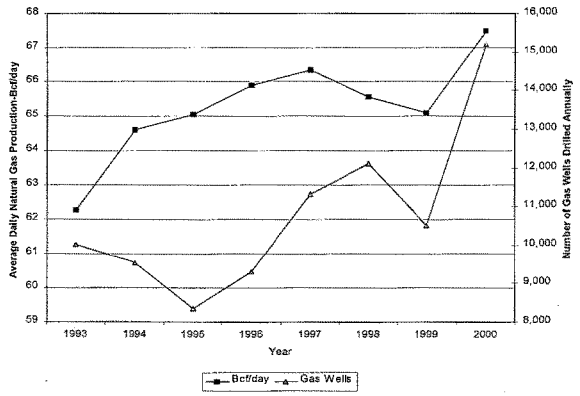
Testimony for the United States House of Representatives Committee on Resources
Subcommittee on Energy and Mineral Resources
Submitted by
Jack C. Caldwell, Secretary, Louisiana Department of Natural Resources
May 14, 2001

Many critical issues face the future development of oil and gas development in the OCS, particularly if the full potential of the OCS is to ever be realized, many of which are mentioned below.

Natural gas is touted as the fuel of the future. Current demand for natural gas is 22 trillion cubic feet per year. The National Petroleum Council projection for 2010, just ten years away is for a demand of 30 trillion cubic feet. Where is all of this gas going to come from? Natural gas is a wonderful fuel, feedstock, and energy source, but it has to be produced from somewhere. The OCS is looked to as a key component of the supply source, but action is needed if the OCS is to supply its proportionate share of this future supply. Something has to be done to reverse the current decline rate. Deep water slope production is not adding to the production base as quickly as the shelf production is declining.

Nationwide, drilling has increased significantly over the past seven years, but gas deliverability is not keeping up with demand for gas. As Figure 1 shows, between 1993 and 2000, the number of gas wells drilled in the U.S. has increased more than 50% from about 10,000 per year to 15,000, but average daily natural gas production has grown by only a little over 10% from about 61 billion cubic feet per day to 67.5 billion cubic feet per day.

Figure 1
U.S. NATURAL GAS DELIVERABILITY CAPACITY HAS NOT KEPT PACE WITH ECONOMIC GROWTH AND DEMAND



Source: "Monthly Energy Report", EIA.

For the full potential of the OCS to be contemplated, all areas of the OCS must be opened up to exploration and production. The U.S. cannot pretend to have a comprehensive OCS development policy when most of the coastal waters of the U.S. are off limits to exploration. The Louisiana OCS territory is the most extensively developed and matured OCS territory in the U.S. Louisiana OCS territory has produced 88.1% of the 12.8 billion barrels of crude oil and condensate and 82.9% of the 139 trillion cubic feet of natural gas extracted from all OCS territories from the beginning of time through the end of 2000. But, Louisiana OCS gas production peaked at 4.16 trillion cubic feet in 1979 and was at 4.1 trillion cubic feet in 2000. It is illogical to continue to base the future OCS contribution to the nation's energy supply almost entirely on production in the central and western areas of the Gulf of Mexico, while keeping the eastern Gulf, the entire Atlantic coast, and the Pacific Coast off limits to future exploration and development.

Not only is the Louisiana (Central Gulf) a mature producing area, but the infrastructure is aging and in need of attention. The offshore and onshore pipeline infrastructure is old, with some of it deteriorating. There is a need to expand the capacity of pipelines to handle hoped for increases in production volumes of oil and gas. The onshore support infrastructure is in need of substantial improvement and modernization.

To fully develop the OCS potential, we must develop the deep reservoirs. Shallow deposits have been widely exploited; whereas the deep deposits have gone almost untouched. An immense resource base lies at subsurface depths of 20,000 feet or more as shown in Figure 2.

Figure 2
ESTIMATED NATURAL GAS RESERVES IN THE
15,000 - 30,000 FOOT DEPTH RANGE, LOWER 48 AND ALASKA

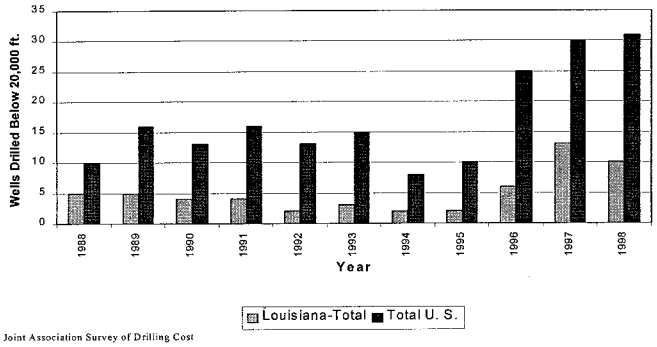
Lower 48	Drilling Depth	Probable Resources	Possible Resources	Speculative Resources	Total Resources	Louisiana Most Likely
On shore	15-30,000 ft	26,005	42,315	49,403	117,723	30,275
	Water Depth					
Offshore	0-200 m	10,295	27,580	14,650	52,525	35,810
Sum - Lower 48		36,300	69,895	64,053	170,248	66,085

Alaska	Drilling Depth	Probable Resources	Possible Resources	Speculative Resources	Total Resources
On shore	15-30,000 ft	0	0	0	0
	Water Depth				
Offshore	0-200 m	2,400	12,700	50,350	65,450
Sum - Alaska		2,400	12,700	50,350	65,450
Totals		38,700	82,595	114,403	235,698

Table 59. Potential Gas Committee estimates of traditional natural gas resources by Area, December 31, 1998 (Most Likely Values, billion cubic feet)

To tap this vast deep resource base, we need to be drilling something in the range of 300 wells per year below 20,000 feet rather than the current 30 shown in Figure 3.

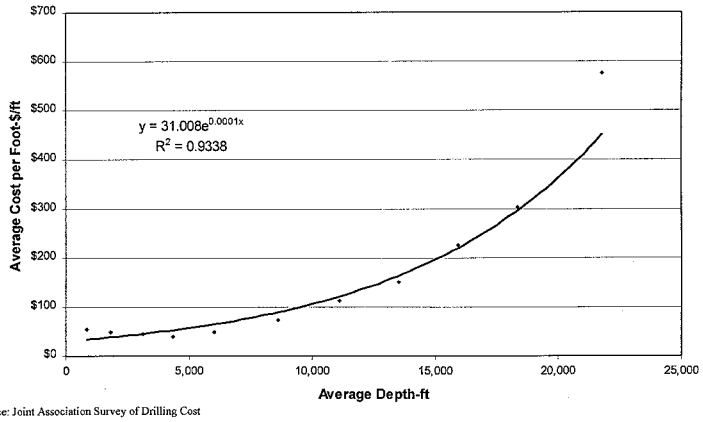
Figure 3
DEEP DRILLING IN THE U.S. AND IN LOUISIANA



Source: Joint Association Survey of Drilling Cost

Unfortunately deep drilling costs increase exponentially with the subsurface depth as shown in Figure 4.

Figure 4
Drilling Costs Increase Exponentially with Subsurface Depth



Source: Joint Association Survey of Drilling Cost

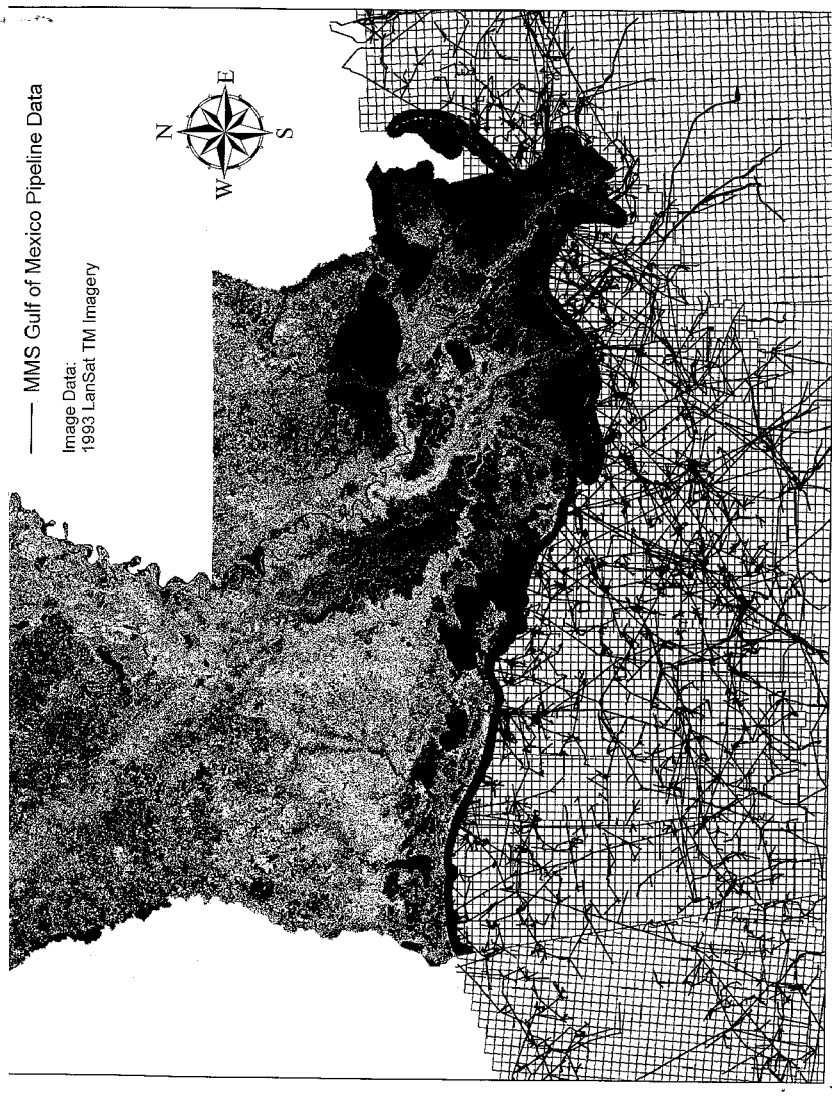
To counteract this extremely high cost, MMS should consider expanding the Deep Gas Initiative introduced for Central Gulf Lease Sale 178 and proposed Western Gulf Sale 180, which eliminates royalty for the first 20 billion cubic feet of gas production from leases at greater than 15,000 foot depth until a gas price trigger limit of $3.50 per million Btu's is reached. Expanding the price limit to something like $5.00 - $7.00 per million Btu's is warranted for this expensive drilling domain. It would also be high enough to get some attention in times like today when the spot market price of gas is well above $3.50.

The unconventional gas incentives for coal bed methane and tight sands gas production is an excellent precedent for establishing a deep gas incentive for onshore and offshore drilling. The 1979 Section 29 Federal Tax Credit bill generated a $60 billion investment in the recovery of coal bed methane.

Development of new technology and greater penetration of existing state of the art technology in the field is needed to fully develop the potential of the OCS. Some of this new technology that is still expanding its application and capabilities include:

Directional drilling
3-D seismic
4-D seismic
Slimhole drilling
Horizontal drilling
Measurement-while-drilling techniques
Improved drill bits
Advanced synthetic drilling fluids
Corrosion resistant alloys
Improved completion and simulation technology
Improved offshore and deepwater drilling and completion technology
Better reservoir management
Non-damaging fluids
Advanced hardware for high efficiency directional drilling with quicker penetration and lower cost

Finally, but not least important, addressing environmental impacts and perceptions of offshore development on onshore ecosystems and life needs to be adequately addressed by placing more attention and funding for impact assessment and amelioration.


MMS Gulf of Mexico Pipeline Data
Image Data:
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I would like to welcome Congressman William Jefferson. I am sure you all are familiar with him.

If you would like to give an opening statement, Congressman, we will take time to do that now or we can continue with the testimony and you can do it after the panel is finished, whatever you prefer.

STATEMENT OF THE HONORABLE WILLIAM JEFFERSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF LOUISIANA

Mr. JEFFERSON. Thank you, Madam Chair, let me speak very briefly.

I am, as you know, not a member of this particular Committee or Subcommittee, but this is an area that I have a vital interest in because it is so important to our state's economy, so important to our nation's energy security.

I, of course, am on the Ways and Means Committee and we are exploring important alternatives, I believe, to the way we now go about taxing this industry, to see if we cannot find ways to incentivize those who invest in drilling and seeking more opportunities for our own energy security. So we are looking at things like immediate expensing of drilling costs. We are looking at things like taking off the AMT. We looking at things like accelerating depreciation for capital expenses. Because we noticed that although prices have increased since 1999, I guess, there has been no appreciable increase in drilling activity, largely because there is still deep concern about the security of investing in this area. And we want to incentivize those who—we know a lot of the money that goes to drilling comes from folks who are not necessarily in the business, but who are investing in the business. And so we have to incentivize them to get more involved in it.

And from where I stand on the Ways and Means Committee, I just wanted to let you know that we are already holding hearings on our Select Committee on Revenue, already looking at these issues and going to make, I think, some important statements about them fairly soon. So I hope they will address some of the needs that are going to be talked about here today.

I am talking almost breathlessly, both because I have to consider the admonition of the Chairwoman to get things done here quickly, but also because I have to catch a plane to Washington. So all these things at one time. But I wanted to come by and let you know that we are definitely committed to working in an area where I work trying to find some answers that can get some immediate relief and some immediate incentives to develop more energy in deep water in Louisiana. So thank you very much for letting me make those remarks. Thank you.

Ms. CUBIN. Thank you, Congressman.

Mr. JEFFERSON. And forgive me if I leave before this is over.

Ms. CUBIN. You will not be the first one to have left.

[Laughter.]

Ms. CUBIN. The Chair now recognizes the Honorable Guido DeHoratiis.

STATEMENT OF THE HONORABLE GUIDO DEHORATIIS, ACTING DEPUTY ASSISTANT SECRETARY FOR NATURAL GAS PETROLEUM TECHNOLOGY, DEPARTMENT OF ENERGY

Mr. DEHORATIIS. Thank you for the opportunity to appear before you today. I represent the Office of Natural Gas and Petroleum Technology in the Department of Energy. My office is responsible for natural gas and oil technology research and development as well as policy analysis. We manage the RD&D program of new and improved technologies to help industry—the U.S. industry—develop the nation's oil and gas resources in a more cost-effective manner and also in an improved environmentally protective manner.

My comments today are going to focus on the insights we have gained over the years in the development and deployment of improved technologies and in the evaluation of policy initiatives to support the nation's energy supply objectives. As a result of this experience, we have found that technology changes in the U.S. oil and gas industry can be characterized as a history of continuous innovation, going back to the first oil well drilled by Colonel Drake in Pennsylvania in 1859. This trend extends to today, to the latest advances in technology that allow for exploration in waters of the Gulf of Mexico that are over two miles deep. In fact, finding, developing and producing oil and gas today are extremely high tech ventures requiring cutting edge technologies that rival the most sophisticated technologies of any of our most advanced modern day industries.

Technological advances have led to impressive gains in productivity and efficiency. Industry is now able to explore and develop prospects in ever more diverse and challenging settings. Moreover, these same advances have contributed something else of profound importance to the nation—significant benefits to the environment.

To expand public awareness of the environmental benefits associated with advanced exploration and production technology, the Department published a report in 1999 entitled "Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology." You have a copy of it available to you. This report provides more detail than I can present today on this remarkable story of environmental progress in this technology, but I am going to briefly review a few key points: First, this record of technological progress is critical to many national objectives, including:

Ensuring secure, affordable energy supplies;

Fostering responsible development by industry, by emphasizing the importance of environmental stewardship and ensuring that government policies stimulate, rather than stifle, technological innovation;

Facilitating continued U.S. technological leadership, and its associated economic and environmental benefits; and,

Inspiring future technologists, to ensure a skilled workforce that can implement new ideas and pursue further progress in science and technology.

Oil and natural gas provide most of the energy America uses for transportation, industrial, residential and commercial applications. Moreover, domestic production enhances our nation's energy security, provides public revenues and other benefits. And as our econ-

omy continues to expand, the demand for oil and natural gas is expected to grow.

In terms of oil and natural gas, the U.S. is the most explored and developed region of the world. Despite this, industry has continued to add new supplies of oil and gas to replace what has been produced. The reason is continuous technological development.

Technological progress has allowed industry to keep pace with the effects of resource depletion. As technology and understanding of our nation's resource endowment advance, previously lower quality, higher cost resources become accessible and economic, thereby making a larger contribution to our domestic supplies.

These types of technological advances have allowed producers to access new frontiers, including deeper waters, deeper horizons within the earth, cold frontiers of the arctic as well as new resource settings such as coal bed methane, which has been discussed earlier.

We also find oil and gas more efficiently. Drilling successes have doubled in the last two decades resulting in fewer dry holes.

Additionally we are finding more oil and gas per well drilled, reducing costs and extracting more oil and gas from discovered fields and leaving less oil behind.

And the environmental benefits are that we need fewer wells to produce the same amount of oil and gas; we have lowered the amount of drilling waste; lower volumes of produced water; smaller footprints for facilities; reduced air pollution and greenhouse gas emissions; and enhanced worker safety.

Examples of the technologies we are talking about are:

Three and four-dimensional seismic technology that allows us to image the reservoirs and to pinpoint the areas that we want to explore;

Remote sensing that we can upgrade the areas and pinpoint the areas of higher potential;

Directional drilling and other advancements.

In summary, I would just like to say that there are three main reasons why we need to continue to adopt advanced technology.

First, the cumulative effects of technological advances are key to yielding the greatest benefits.

Second, a comprehensive R&D portfolio and sustained investment in new technology are key to yielding significant energy and environmental benefits, and

Third, advanced technology applications are often situation-specific and need to be applied where they can be best utilized.

This completes my statement and I will be happy to answer any questions.

Ms. CUBIN. Thank you very much.

The Chair now recognizes Mr. Falgout.

[The prepared statement of Mr. DeHoratiis follows:]

Statement of Guido DeHoratiis, Acting Deputy Assistant Secretary for Natural Gas and Petroleum Technology, U.S. Department of Energy

Thank you for the opportunity to appear before you today. I represent the Office of Natural Gas and Petroleum Technology, in the U.S. Department of Energy (DOE). My office is responsible for natural gas and oil technology research and development and policy. We manage the research, development, and demonstration of new and improved technologies that can enable the U.S. petroleum industry develop

the Nation's oil and gas resources in a more cost effective and environmentally protective manner.

My comments today focus on the insights we have gained over many years in the development and deployment of improved exploration and production technologies and in the evaluation of policy initiatives to support the Nation's energy supply objectives. As a result of this experience, we have found that technological change in the U.S. oil and gas industry can be characterized as a history of continuous innovation, going back to the first oil well drilled by Colonel Drake in Pennsylvania in 1859. This trend extends to today, to the latest advances in technology that allow for exploration in waters of the Gulf of Mexico that are over two miles deep. In fact, finding, developing, and producing oil and gas today is an extremely high-tech venture, requiring cutting edge technologies that rival the most sophisticated technologies of any of our most advanced modern-day industries.

Technological advances have led to impressive gains in productivity and efficiency. Industry is now able to explore and develop prospects in ever more diverse and challenging settings. Moreover, these same advances have contributed something else of profound importance to the Nation: significant benefits to our environment.

To expand public awareness of the environmental benefits associated with advanced exploration and production technology, DOE in 1999 published a report entitled Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology. This report provides more detail than I can present today on this remarkable story of environmental progress in E&P technology, but let me briefly review some of its key points:

First, this record of technological progress is critical to many national objectives, including:

- Ensuring secure, affordable energy supplies;
- Fostering responsible development by industry, by emphasizing the importance of environmental stewardship and ensuring that government policies stimulate, rather than stifle, technological innovation;
- Facilitating continued U.S. technological leadership, and its associated economic and environmental benefits; and,
- Inspiring future technologists, to ensure a skilled workforce that can implement new ideas and pursue further progress in science and technology.

Oil and natural gas provide most of the energy America uses for transportation, industrial, residential and commercial applications. Moreover, domestic production enhances our Nation's energy security, and provides public revenues and other benefits. And as our economy continues to expand, the demand for oil and natural gas is expected to grow in the foreseeable future.

In terms of oil and natural gas, the United States is the most explored and developed region of the world. Despite this, industry has continued to add new supplies of oil and gas to replace what has been produced. The reason is continuous technological development.

Technological progress has allowed industry to keep pace with the effects of resource depletion. As technology and understanding of our Nation's resource endowment advances, previously lower quality, higher cost resources become more accessible and economic, thereby making a larger contribution to oil and gas supplies.

Technological advances have enabled oil and gas producers to:

- Access new frontiers—drilling in deeper waters, deeper in the earth, in the cold frontiers of the arctic, and new resource settings, such as coal seams, thought uneconomic not too many years ago.
- Find oil and gas more efficiently—Drilling success rates have doubled in the last two decades, resulting in fewer dry holes.
- Find more oil and gas per well drilled—Today, fewer than half as many wells must be drilled to locate the same amount of oil and gas reserves as two decades ago.
- Reduce costs—In inflation-adjusted dollars, wells can be drilled today to the same depth 20 percent cheaper than in the 1980s.
- Extract more oil and gas from discovered fields—Enhanced recovery now allows industry to produce a higher proportion of the hydrocarbons in discovered reservoirs, leaving less behind.

And, these same technological advances have yielded considerable environmental benefits:

- Fewer wells to add the same level of oil and gas reserves;
- Lower drilling waste volumes;
- Lower volumes of produced water;
- Smaller footprints for oil and gas rigs and other field facilities;
- Reduced air pollutant and greenhouse gas emissions; and
- Enhanced worker safety.

Examples of the technology advances that have enabled this success include:

- Three and four-dimensional seismic technology now provide the capability for virtually "seeing " the formation—including how the reservoir changes over time. This, in turn, allows better targeting of exploration prospects and improved recovery in discovered fields;
- Remote sensing technologies now include satellite imagery and aeromagnetic surveys that boost exploration success.
- Directional and multi-lateral drilling now enable industry to access oil and natural gas resources miles away from a surface drill site. Multiple boreholes can now be drilled into different producing horizons from a single wellbore—again minimizing surface disturbance.
- Advances in dynamic positioning now employ thruster units and sophisticated computer and navigation systems that can hold offshore drill ships, floating production, storage, and offloading systems, and survey vessels on location without anchors and mooring lines in deep water.
- New, high performance synthetic drilling fluids can be safely discharged without harm to the environment. These new fluids greatly improve the economics of drilling, allowing the pursuit of resources in complex geological settings.
- Developments in offshore platform technology now take advantage of advances in materials and computer-aided design. This has resulted in lower cost, modular production facilities that enable producers to pursue smaller prospects in deepwater settings.

Many of these technologies have been developed and demonstrated as a result of partnerships among government, industry, and academia. Examples of work supported by the Department include the demonstration of four-dimensional seismic in the Gulf of Mexico, near Eugene Island. The analysis showed that the field was being drained of oil over time, except for an area in the reservoir where no depletion was occurring, despite recovery from nearby wells. Suspecting that the anomaly represented an untapped pocket of oil, the team drilled a well into the area and recovered an estimated two million barrels of additional oil.

Another example was the development of cross-well seismic imaging technology first developed at a National Laboratory. This work expanded the use of seismic waves to image the reservoir by applying the technology downhole between wells rather than from the surface. This new seismic system generates images with much greater clarity, for example, surface seismic can detect features as small as fifty feet, cross-well imaging can detect features as small as five feet. This technology can be used to increase natural gas recovery, as well as increase the effectiveness of enhanced oil recovery technologies

In the DOE report I mentioned earlier, we describe 35 distinct categories of technological advances, and the energy supply, economic, and environmental benefits that each of these has provided.

From the insights gained in DOE's technology research and development programs, let me conclude my testimony by sharing three observations concerning the reality of industry's adoption of advanced technology:

- First, the cumulative effects of technological advances are key to yielding the greatest benefits. Advances in technology take place along a continuum, from scientific and technology concept, to applied research and development, to demonstration and early deployment, to market saturation. Moreover, each new advance often fosters new concepts with even greater potential.
- Second, a comprehensive R&D portfolio and sustained private sector investment in new technology is key to yielding significant energy and environmental benefits. The benefits characterized do not result from just one or a few "breakthrough " technologies, but often are the result of squeezing more efficiency and cost effectiveness from existing technologies.
- Third, advanced technology applications are often situation-specific. New technologies are rarely applicable everywhere, for use by everyone. Their applicability depends on site conditions, project economics, and operator sophistication and financial capability.

Innovation in exploration and production technology will be critical to the Nation's energy and environmental future. And while the challenges to the domestic oil and gas industry over past decades have been significant, the future could be even more challenging.

This completes my statement. I will be pleased to answer any questions Members of the Subcommittee may have.

STATEMENT OF TED FALGOUT, EXECUTIVE DIRECTOR, PORT FOURCHON

Mr. FALGOUT. And you say that so well.

[Laughter.]

Ms. Chair, Committee members, I am going to focus my remarks on a specific area in south Louisiana that is playing a dominant role in supporting this country's energy supply. Representative Downer mentioned this area, of course, that is Port Fourchon, Louisiana.

This port is far removed from the limelight of the California energy crisis or the drilling issue in ANWR, but this little dot on the map, as the commercial says, is "where the beef is."

The post Royalty Relief shift to deepwater has been significant. It is a decision of this nation that has been very rewarding, with record lease sale revenue, reduction in the growing dependency on foreign oil and an offset of the escalating trade imbalance.

Nowhere—again I repeat, nowhere—is the impact of OCS activity more evident than in Lafourche Parish where Port Fourchon has become the focal point of intermodal transfer for support of over 75 percent of the deepwater projects in the Gulf of Mexico. In addition, Port Fourchon serves as the land base for LOOP. This is the nation's only offshore oil port. LOOP handles 15 percent of the country's foreign oil and a rapidly increasing amount of domestic oil as well. It is connected to over 30 percent of the U.S. refineries by pipeline.

When you combine Port Fourchon's ever-increasing role in the deepwater Gulf of Mexico and LOOP's role in the domestic and foreign oil supply, all of a sudden, this tiny area in south Louisiana is playing a leading role in producing and transporting nearly a quarter of this nation's energy supply—one fourth of its energy supply.

The most alarming part about this situation is that you would think this country would have some kind of energy policy that would recognize the extreme significance of such a strategic area and would spare no cost so it could continue reaping the bounty of more than $3 billion a year, annually, in royalty payments. The reality is that this country's energy policy—or lack of it, I should say—has allowed and even encouraged a stampede to the lucrative Gulf of Mexico and really has virtually done nothing to prepare the coastal communities for the surge of activity that has totally consumed us.

Today, over 90 percent of our business at the port is directly tied to the Federal OCS. Like a boom town, our port has tripled in size since Royalty Relief and 1000 trucks a day are winding down a 30-mile stretch of substandard highway, making it twice as deadly as similar highways.

This thread of a highway, which meanders through the most rapidly eroding wetlands in this country, extremely vulnerable to total destruction by a hurricane, is now forced to carry the burden of supporting OCS activity.

The U.S. Minerals Management Service recently completed a study which concludes that as a result of the heavy usage resulting from increased deepwater oil and gas development, Louisiana Highway 1, the only road access to Port Fourchon, will not be able

to provide the level of services needed and will become increasingly strained. The study projects an 80 percent increase in truck traffic over the next decade, when the national average is 3 percent a year.

This same agency, in an environmental impact statement, cites impacts on landside infrastructure, especially in focal point areas like Port Fourchon. The EIS includes statements like, and I quote, "OCS program activities will continue to have a significant impact on infrastructure in south Lafourche Parish, due to increases in deepwater activity" and other statements like, "The cumulative impact is expected to result in the potential for increased strain, deteriorating conditions of existing infrastructure and difficulties in delivering satisfactory levels of public services." If this is how our country treats the friends of OCS production, how can we blame others for not wanting a piece of this action?

I appeared before this Committee 2 years ago in support of CARA and said many of the same things. The Federal agency in charge of managing offshore oil and gas recovery in Federal waters puts the impact in black and white; yet, very little has happened to rectify this injustice. The Federal Government just keeps collecting three to four billion dollars a year with little or no consideration for the landside activities that help to generate this revenue.

Now we find ourselves in a national energy crisis. One can hardly wonder why when we ignore those who are willing to produce the energy.

I again ask this Subcommittee to develop, as part of its national energy policy, a mechanism to mitigate the landside impacts of OCS oil and gas development and that it especially recognize and mitigate threats to strategic focal point areas like Port Fourchon. If the U.S. fails to address these threats, we will soon find ourselves in an energy crisis of disastrous proportions.

I thank you and I will be glad to answer any questions.

[The prepared statement of Mr. Falgout follows:]

Statement of Ted M. Falgout, Executive Director, Greater Lafourche Port Commission

Experts have informed you about the growing significance of the Gulf of Mexico to the United States' energy supply.

I'm going to focus my remarks on a specific area in South Louisiana that is playing a dominant role in supporting this activity.

This area is Port Fourchon, Louisiana. Far removed from the limelight of the California Energy Crisis and ANWR drilling issue, this little dot on a map is, as the commercial says, "where the beef is." Unlike many states, Louisiana has embraced the offshore oil and gas industry, and we do it well with very little fanfare.

In 1995, with the passage of the Royalty Relief Act and the advancement of new technology, the Gulf of Mexico has transformed from what was once called the Dead Sea to what is now America's New Frontier. This transition occurred seemingly overnight and made way for the Black Gold Rush to deepwater.

The post Royalty Relief shift to deepwater is significant - a decision of this nation that has been very rewarding, with reduced foreign energy dependence, balance of trade, record lease sales, and fat bonuses.

Much like the Gold Rush of the 1800's, this country has pursued the Golden Gulf with virtually no policy and very little concern about the landside infrastructure needed to retrieve this bounty.

Nowhere is the impact of OCS activity more evident than in Lafourche Parish where Port Fourchon has become the focal point of intermodal transfer for support of over 75% of the deepwater projects on line today.

In addition, Port Fourchon serves as the land base for LOOP, this nation's only offshore oil port. LOOP handles about 15% of this country's foreign oil and is connected to over 30% of this nation's refining capacity.

When you combine Port Fourchon's ever-increasing role in the deepwater Gulf of Mexico and LOOP's role in both domestic and foreign oil, all of a sudden, you have this one tiny area in South Louisiana playing a leading role in producing and transporting nearly a quarter of this country's oil supply.

Port Fourchon, Louisiana is quietly providing the necessary support services to meet this nations energy demands, a job that nobody else wants to do.

The most alarming part about this situation is that you would think this country would have some kind of energy policy that would recognize the extreme significance of such a strategic area and would spare no cost so it could continue reaping the bounty of more than 3 billion dollars annually in royalty payments. But the United States has no such policy.

The reality is that this country's energy policy, or lack of it, I should say, has allowed and even encouraged a stampede to the lucrative Gulf of Mexico and has done virtually nothing to prepare coastal communities for this surge of activity that has totally consumed us.

Today, over 90% of our business at the Port is directly tied to the Federal OCS. Like a boomtown, our Port has tripled in size since 1995 from 40 to over 120 companies, and a thousand big trucks a day are winding down a 30 mile substandard 2 lane highway, making it twice as deadly as similar highways.

This thread of a highway built for our grandparents to go visit each other on Sundays is now forced to carry the burden of OCS activity. It also happens to meander through the most rapidly eroding wetlands in this country and is extremely vulnerable to total destruction by a hurricane.

The U. S. Minerals Management Service recently completed a study which concludes that as a result of heavy usage resulting from increased deepwater oil and gas development, LA Highway 1, the only road access to Port Fourchon, will not be able to provide the level of services needed and will become increasingly strained. The study projects an 80% increase in truck traffic over the next decade, when the national average is 3% per year.

This same agency (U.S. MMS) in an EIS, describes the impacts on landside infrastructure, especially in focal point areas like Port Fourchon. The EIS includes statements like "OCS Program activities will continue to have a significant impact on infrastructure in South Lafourche Parish, due to increases in deepwater activity" and other statements like "The cumulative impact is expected to result in the potential for increased strain, deteriorating conditions of existing infrastructure, and difficulties in delivering satisfactory levels of public services." If this is how our country treats the friends of OCS production, can you blame others for not wanting a piece of this action?

I appeared before this committee 2 years ago in support of CARA and said many of the same things. The Federal agency in charge of mining puts the impacts in black and white. Yet very little has happened to rectify this injustice. The Federal government just keeps on collecting its 3–4 billion dollars annually with little or no consideration for the landside activities that help generate this income.

Now we find ourselves in a national energy crisis. One can hardly wonder why. When we ignore those who are willing to produce energy, then we add insult to injury by failing to pass legislation such as CARA which would assist in mitigating OCS impacts.

I again ask that this subcommittee develop, as part of this nation's energy policy, a mechanism to mitigate the landside impacts of OCS oil and gas development, and that it especially recognize and mitigate threats to strategic focal point areas like Port Fourchon before we truly witness an energy crisis of disastrous proportions.

Ms. CUBIN. Thank you very much.

Now we will start with a round of questioning of the panel and I would like to remind the Members that the Committee rules limit our questioning to 5 minutes each. I will begin with the questioning.

Mr. Falgout, I really do understand how passionately you must feel about the conditions that you described in your testimony. I opposed CARA and continue to oppose CARA because, as I alluded to earlier, Indiana is not a coastal state, Wyoming is not a coastal state. And one of the things that I think CARA does, because it

made so many states coastal states that really are not coastal states, is it encourages the other states that are coastal states to not explore in their waters.

Also, it put a lot of money in the Land and Water Conservation Fund, the purpose of which is to acquire more Federal lands. My state is 50 percent owned by the Federal Government, Mr. Gibbons' is 87 percent owned by the Federal Government. And we do not think that is a good use of those funds.

There are other reasons, but the point I am trying to make is I absolutely understand that you have a problem, not only with the infrastructure, but with also losing the coastline. And I am totally committed to trying to do what I can for the states that are producing, to make sure that they have the money that they need out of the royalty revenue stream. I talked with Mr. Tauzin about this and I am prepared to do whatever this Committee can do to see that that happens.

Does that position satisfy you, short of CARA?

Mr. FALGOUT. Well, I would like to hear that yes, we are crafting an energy policy as we speak, and in this energy policy we promise we will direct and take care of situations like Port Fourchon, take care of the infrastructure that we have that is producing the minerals that we need, and focus on these as part of our energy policy, not necessarily have to be a CARA or any other side type of legislation. It should be part of our energy policy. And I think we will have a much more favorable policy and people willing to go out and explore and develop more energy.

Ms. CUBIN. Well, certainly when the President's task force reports later this week on proposed energy policy, infrastructure maintenance and development will be part of that.

Mr. FALGOUT. Thank you.

Ms. CUBIN. Now, I would like to ask Mr. DeHoratiis a question. Already, before it is even out, people are describing the President's energy policy as drill, drill, drill. But my recollection is that drilling peaked in the United States decades ago, at least with respect to the number of wells that were spudded. Could you give us a true picture of what historic exploration is like versus today?

Mr. DEHORATIIS. Well, most recently, drilling has picked up since the low prices of 2 years ago, but obviously we are still way below the peaks that we have had in the past.

The good news is that technology has enabled the industry to find and develop more by drilling less. But it still has not been able to keep up with the increased demand that we are seeing in both oil and natural gas.

We think that technology can play a key role in helping to do that, but it is not going to do it alone. There needs to be other policies enacted in order to push forward to help our domestic oil and gas situation.

Ms. CUBIN. Another quick question, because my light is still green. The fossil energy folks at DOE clearly have a lot to offer technology-wise to DOI's OCS planning efforts. Can you describe the involvement that the DOE has had with MMS in developing the next 5-year plan?

Mr. DEHORATIIS. Sure. We work very closely with all the agencies within the Department of Interior, including MMS. We will be

there at the OCS Policy Committee meetings and I have made several presentations myself to that committee concerning energy policy. We will definitely put in official comments to the Department on the 5-year leasing plan and we will continue to promote OCS development. I think that the Department has gone on record many times stating the importance of the outer continental shelf to domestic supply and it is going to play an even bigger role in the future.

Ms. CUBIN. Thank you. The Chair now recognizes Mr. Gibbons.

Mr. GIBBONS. Thank you, Madam Chairman. And I do appreciate all the witnesses taking time out of their busy day to be here to help enlighten us and educate us on these very important issues that face a nation that is itself facing a crisis in its energy needs.

Secretary Caldwell, I was taken by your statistics of the increase in the number of wells from 10,000 a year to 15,000 a year, but not much gas is being found, even with that increase in the number of wells.

Let me say that you talked about the deeper drilling efforts, deeper water off the Gulf, but it is my understanding that most of those areas are more oil prone than they would be gas prone. Would that not indicate to you that perhaps we should be looking at more shallow or shelf type drilling, perhaps even into the eastern area of the Gulf or up into the mid and north Atlantic states, into some of those areas, for gas production?

Mr. CALDWELL. That is correct. A lot of gas is below 15,000 feet and particularly below 20,000 feet. But we are not drilling it fast enough. Last year, I think there were only 30 wells drilled in the OCS on the shelf below 20,000 feet and that is just not going to get it. That is why I was emphasizing both the royalty incentive and the tax incentive to do the deep drilling.

But with respect to deepwater off the shelf, you are correct that it is largely going to be oil, but there is also anticipation there will be large gas reserves as well. This is told to me by the president of Shell Oil Company recently and they are the biggest player out in the deepwater and that is where they see the future. So yes, there is hope.

Ms. CUBIN. If you cannot believe the president of Shell Oil, who can you believe?

Mr. GIBBONS. That is right.

Mr. DeHoratiis, thank you for being here today as well. Your Energy Department, of course, that you represent, has talked a lot about technology development, technology advancements and my question would be getting that message out to states that have potential, like Florida, as to the environmental benefits and for the ability to drill without environmental detriment, I should say. Where is your Department with regard to putting that message out, interfacing with Florida or other states for that matter, California, Atlantic coast states—what efforts have you been attempting to demonstrate the technology and the development of drilling to enable us to develop those resources in those areas?

Mr. DEHORATIIS. Well, I would like to point out two things. One is that a couple of years ago, we realized that there was not any information out there that would enable you to actually make that point. And that was one of the reasons why we put the environ-

mental benefit study together, and that is this study that you have available to you. And we thought that that was a good first step in trying to get the word out.

We have been promoting this study over the last year and will continue to speak about it when we speak about the energy policy. We think an important part of any future energy policy is responsible environmental management.

Another smaller point is that our Department also put together an assessment of Florida's energy needs and we put together an assessment of how much the state uses and how much they produce and the difficulties of trying to put that all together. We put that together and I know that it's been used extensively. So we try to bring the science and the technology, we put it out on the table, we make it available, we try to promote it as much as we can wherever we speak, and hopefully it will be heard more and more in the future.

Mr. GIBBONS. What has been the reaction of those states to your report.

Mr. DEHORATIIS. You know, it is always a mixed bag. I think that you get a few people that do not realize these issues and it makes them pause and think a little bit more, but it is very difficult, it is a slow process of converting folks to the realities of oil and gas. They have the wrong image of what the oil and gas industry even looks like. They do not realize that small independents with a dozen employees drill 85 percent of the wells in this country. So those are the types of information we try to get out to the public.

Mr. GIBBONS. Are you doing any public information programs?

Mr. DEHORATIIS. We have both a technology transfer program and also an outreach program where we go around to the various states. I will be speaking at the Permian Basin Society of Petroleum Engineers later this week, but we also try to get out into the non-producing states also so that they can hear the message of oil and gas.

Mr. GIBBONS. Madam Chairman, my time has expired, but I thank you for the opportunity.

Ms. CUBIN. Yes, it is.

I would like to ask Mr. DeHoratiis, if you could provide for the Committee for the record, that study of Florida's energy needs.

Mr. DEHORATIIS. Sure.

[The information referred to follows:]

FLORIDA ENERGY PROFILE

Florida, like other highly populated states, is a large energy consumer. Florida consumed 3.4 quadrillion British thermal units (Btu) of energy in 1994 (most recent data available), ranking it 8th in the Nation in energy consumption. 80 percent of this energy came from burning fossil fuels (Figure 1).[1] In 1994 the State consumed:

- 1.7 quadrillion Btu of petroleum, most of which was used as transportation fuel and to generate electricity,
- 642 trillion Btu of coal, largely consumed by coal-burning electric utilities,
- 544 trillion Btu of electricity,[2] most of which was generated by burning petroleum and coal, and

[1] DOE/EIA–0214 (93), State Energy Data Report, 1993, p.9. "Imp. Elec" is electricity imported from out of State.

[2] Electricity sold to end users, not including the losses incurred in the generation, transmission, and distribution of the electricity.

- 393 trillion Btu of natural gas, mostly consumed by gas-burning electric utilities and industrial consumers.

Fossil Fuel Production

Florida produces few of the fossil fuels on which it heavily depends.

- In 1994, the State produced 7.7 Bcf of natural gas, barely two percent of its annual consumption.
- While it produced 6 million barrels of crude oil in 1994,[3] Florida's crude oil production is steadily decreasing. In 1981, Florida was the Nation's 8th largest producer of crude oil. Today it ranks 21st.[4] Moreover, Florida has no crude oil refineries. All of the crude oil Florida produces is shipped out of State, refined, and returned as petroleum products.[5]
- Finally, while Florida consumes about 26 million short tons of coal,[6] it produces none.

This imbalance between consumption and production makes Florida one of the Nation's largest net fossil fuels consumers.

Petroleum is the fossil fuel on which Florida most heavily relies (Figure 1). The State is the Nation's 3rd largest consumer of petroleum products. In 1994, it ranked 1st in consumption of residual fuel oil,[7] 3rd in consumption of motor gasoline, and 5th in consumption of jet fuel. Most of the residual fuel oil is used to produce electricity.

Electricity Consumption

Florida is also a leader in electricity consumption. In 1994 it was the 3rd largest electricity consumer in the Nation. Most of this electricity was generated by burning petroleum products (residual fuel oil), natural gas, and coal (Figure 2). Florida Power & Light Company, the Nation's top residual fuel consumer, used nearly 5 times the amount of residual fuel as the Nation's next highest utility consumer, Consolidated Edison of New York.[8] In addition, Florida Power & Light Company, Gulf Power, Jacksonville Electric, and Tampa Electric consumed more than 60 percent of the 4.9 million short tons of coal imported into the United States in 1994.[9]

Air Quality Impacts

Relatively large amounts of sulfur dioxide, nitrogen oxides, carbon dioxide, and particulates are released when electric utilities burn oil and coal. In 1994, out of all the petroleum-burning electric generating units in the U.S., Florida's ranked highest in sulfur dioxide emissions at 250 thousand short tons. This was nearly half of the total U.S. sulfur dioxide emissions from petroleum-burning utilities. Florida's petroleum-burning utilities also ranked number one in the Nation for nitrogen oxide emissions, at 50 thousand short tons.

Although Florida's coal-burning electric generating units have lower emissions compared to other states, the emission amounts are substantial. Sulfur dioxide emissions from coal-burning electric generating units totaled 444 thousand short tons, ranking it 12th in total sulfur dioxide emissions in the U.S. in 1994. Florida's nitrogen oxide emissions amounted to 192 short tons in 1994, ranking it 11th in total nitrogen oxide emissions from coal-burning electricity generation.[10]

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[3] The Oil and Gas Producing Industry in Your State, 1995–1996, Independent Petroleum Association of America.

[4] Information provided by Florida Geological Survey.

[5] Crude oil produced in Northern Florida goes by pipeline to Mobile, Alabama. Crude oil produced in Southern Florida is transported via pipeline across the State to Port Everglades where it is shipped by tanker to refineries in Texas and Louisiana.

[6] DOE/EIA, Coal Industry Annual 1994, p. 131.

[7] Residual fuel oil is the heavier oil that remains after the lighter or distillate fuels are distilled away in refinery operations. Distillate fuel oil is a general classification for several types of lighter oil including: fuel used for space heating, on-and-off highway diesel engine fuel and some fuel used in electricity generation.

[8] DOE/EIA–0191(94), Cost and Quality of Fuels for Electric Utility Plants, 1994, p.114

[9] Ibid., p.37.

[10] Florida's emissions of nitrogen and sulfur dioxide would be even higher if it weren't for several DOE Clean Coal Technology projects in the State. One, the Tampa Electric Company Project, is employing the Integrated Gasification Combined Cycle System to remove nearly 98 percent of sulfur pollutants from high sulfur coal being used at a new 250 megawatt power plant in Lakeland. A second, the Selective Catalytic Reduction (SCR) Project, applies ammonia to flue gases exiting the boiler at Gulf Power Company's Plant Crist in Pensacola. Since operations began in 1993, nitrogen oxide emissions have been reduced over 80 percent. DOE has spent over $140 million on these projects.

Oil Spill Risks

Because Florida has no refineries and is not served by any interstate petroleum product pipelines, nearly all of the petroleum products consumed in state are imported from overseas [11] or from out-of-state refineries [12] (Figure 3). Moving these imports in and out of Florida seaports, and off-loading them at onshore terminals, does not come without risks. For example, on August 10, 1993, two tank barges carrying jet fuel, diesel, gasoline, and fuel oils, collided with a freighter south of Mullet Key near the entrance to Tampa Bay. Over an 18-hour period 32,000 gallons of jet fuel and 330,000 gallons of No. 6 fuel oil spilled from the tank barges into lower Tampa Bay. Some of the spill initially came ashore at Ft. Desoto Park but winds and tides carried much of the spill out into the Gulf of Mexico. Two days later, however, a storm with strong west winds carried the oil ashore and into Boca Ciega Bay. Over 16 miles of shoreline were affected as were large areas of Tampa Bay, the Gulf of Mexico, and Boca Ciega Bay. Damage to the environment (mangroves, sea grasses, birds, sea turtles, salt marshes, shellfish beds, beaches, and bottom sediments) was extensive. [13] Moreover, the tourist, fishing, shipping, and associated businesses in the area were seriously hurt by the spill. The impact of the spill on the Tampa/St. Petersburg economy was substantial.

Comparisons with Other States

As noted earlier, Florida is the Nation's 3rd largest consumer of electricity. To generate this electricity, Florida consumes huge amounts of energy. From 1960–1994, the amount of energy Florida consumed to produce electricity increased nearly 700 percent. Figure 4 compares this growth with that of fiveother of the Nation's most populous states. In 1994, 42 percent of the energy consumed in Florida was used to produce electricity while California used 19 percent, Texas used 26 percent, and New York used 32 percent of the energy they consumed to produce electricity.

Most of the energy consumed to produce electricity was obtained from fossil fuels. Between 1960 and 1994, Florida increased its use of fossil fuels in electrical generation by 551 percent. By 1994, 80 percent of Florida's electricity was produced by burning fossil fuels. By way of comparison, California relied on fossil fuels for 45 percent of its electricity, and New York used fossil fuels to produce 43 percent of its electricity. Alaska, the Nation's largest producer of fossil fuels, relied on fossil fuels for only 74 percent of its electricity—6 percent less than Florida. [14]

Future Energy Demand

To this point, we have presented a profile of Florida's energy present. But what of its future?

Keep in mind two important facets of Florida's energy profile:

- Florida has a limited supply of non-fossil (nuclear and renewable) energy, and,
- Florida's consumption of electricity is a function of the State's population growth and commercial development, not the demands of the State's heavy industries.

Ordinarily the second point would not be a concern, because demand side management, increasing imports (gas, electricity, coal, petroleum), peak loading, etc., could meet the higher electricity demands of a slowly increasing population. However, over the next 30 years, Florida's population is expected to soar. The population of South Florida, almost 40 percent of Florida's total population, is projected to double to 8 million by the year 2010 and triple by the year 2050. [15] Further, the use of renewable (hydroelectric) and non-fossil (nuclear) fuels is expected to decline. The Governor's Commission for a Sustainable South Florida has unofficially acknowledged that there will be no increases in the number or size of Florida's nuclear power plants. In addition, environmental concerns are expected to prevent the initiation of new hydroelectric projects.

Renewable Energy Alternatives

On the national level, renewable energy sources are not likely to replace fossil fuels by significant amounts in the near future. Although the Energy Information Administration (EIA) estimates that solar electricity generation will increase somewhat in the U.S. during its 1996–2015 forecast, most applications will be on a small scale. In 2015 solar reaches its highest level in EIA's forecast, but it still accounts for less than 1 percent of electricity generation in the U.S. Even if most of the Na-

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[11] Florida Department of Commerce, Bureau of Economic Analysis.

[12] DOE/EIA Form 817, Monthly Tanker and Barge Movement Report.

[13] Damage Assessment and Restoration Plan for the August 10, 1993, Tampa Bay Oil Spill, prepared by: Florida Department of Environmental Protection; National Ocean and Atmospheric Administration; and, U.S. Department of the Interior, December, 1995.

[14] DOE/EIA–0214 (93), State Energy Data Report, 1993, pp. 53–292.

[15] Initial Report of the Governor's Commission for a Sustainable South Florida, p. 26.

tion's projected solar power is produced in southern states such as Florida, the small amount of electricity generated from solar power will not be enough to replace fossil-fuel-fired generation.

Turning to another renewable, wind power, EIA predicts moderate growth in electricity generation from this source over the forecast period. However, the higher price of wind energy remains less attractive to electric utilities than inexpensive fossil fuels, particularly natural gas. Most of the growth in windpowered electricity generation is expected in the western U.S., where resources are favorable. In EIA's forecast, electricity generation from wind will reach its highest level in 2015, accounting for about 1 percent of total generation in the country.

The largest renewable source of electricity generation in the U.S. is conventional hydropower. In 2015, hydropower is expected to account for 77 percent of all renewable energy sources of electricity generation. In the same year, total electricity generation from renewable sources and generation from hydropower reach their highest levels in EIA's forecast. Even at its peak, hydropower accounts for only 8 percent of the Nation's electricity generation by 2015. The vast majority of this hydropower continues to be generated in the western and northwestern U.S.

Fossil Fuel Demand Will Surge

Instead of relying on limited renewable energy sources, Florida may be tempted to increase the amount of electricity it imports from other states (since 1960, Florida has gone from a net exporter of electricity to an importer of 266 trillion Btu). But this would leave the State's consumers vulnerable to price increases and supply disruptions. Based on its continued reliance on fossil fuels to produce electricity and its projected population growth, Florida's demand for coal, oil, and natural gas can be expected to surge over the next 30 years.

Florida is already committed to increase gas-fired electricity generation. From 1995 to 2004, twenty-four new electricity generating units are projected to be added, producing 3,614 megawatts of electricity. Twenty-one of these units, producing 2,691 megawatts of electricity, are expected to be gas powered.[16] In addition, Florida's end-use market for natural gas is extensive. By 2005, the annual consumption of gas in the residential and commercial sectors may increase as much as 19,218 billion Btu (107 percent) and 10,297 billion Btu (19 percent) respectively, over 1991 levels.[17]

Natural Gas as an Alternative

As a fossil fuel, natural gas has far fewer harmful effects on the environment than coal or petroleum. It has virtually no sulfur emissions, lower emissions of nitrogen oxides, and extremely low particulate emissions. Natural gas has approximately 30 percent lower carbon dioxide emissions than oil and 45 percent lower carbon dioxide emissions than coal, on an energy-equivalent basis, and natural gas does not generate solid waste.[18] In addition, increased use of natural gas in the residential and commercial sectors could, by 2005, avoid the need for approximately 962 megawatts in electric utility peak capacity. Combined, the increased use of natural gas in electricity generation and end-use markets would result in significant reductions in the emissions of carbon dioxide and nitrogen and sulfur oxides.

Florida can meet this increased demand for natural gas by tapping into the resource reserves off its Gulf coast. Studies by the Department of Interior, U.S. Geological Survey indicate that Florida has 40 million cubic feet of undiscovered natural gas resources in its State offshore waters. Meanwhile, the Minerals Management Service (MMS) estimates that the outer continental shelf off Florida's Gulf coast contains reserves of .537 trillion cubic feet (Tcf) of natural gas. Further, MMS estimates that vast amounts of hydrocarbons, nearly 8 Tcf of natural gas, remain undiscovered in this area. This equates to nearly nine quads of energy or Florida's projected total natural gas demand for the next 40 years.[19]

Economic Benefits

Exploring for, producing, and processing the natural gas off its coasts would not only help Florida meet its future energy requirements but also could significantly help the Florida economy. The South Florida Regional Planning Council notes that personal incomes have declined over the last two decades and that throughout the State, earnings from wages, salaries, and professional fees have been lower than the

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[16] DOE/EIA–0095(94), Inventory of Power Plants in the United States, 1994, p.32.

[17] Natural Gas Growth Potential in the State of Florida, Draft Report prepared for the Florida Energy Office by Tellus Institute, August 1995.

[18] Department of Energy, Sustainable Energy Strategy, 1995, p. 3940.

[19] Table E(1), Summary of the 1995 Assessment of Conventionally Recoverable Hydrocarbon Resources of the Gulf of Mexico and the Atlantic Outer Continental Shelf.

national average—and are falling. To reverse this trend, the Council recommends that Florida's current economic base must be broadened and shifted toward higher value-added industries.[20] The oil and gas industry, and its associated service, refining/processing, and petrochemical industries, is one of the Nation's leading value-added industries. It is an important source of capital formation, technological development and high paying jobs. Exploring for, producing, and processing this gas could be expected to create thousands of jobs in Florida and the nearby Gulf States. Further, the Bureau of Labor Statistics reports that these jobs pay wages 30 percent higher than those paid the average U.S. worker.

Summary

Florida is one of the fastest growing states in the Nation. Its population and, as a result, its energy consumption are increasing at a substantial rate. To satisfy its appetite for energy, especially electricity, Florida will consume increasing amounts of fossil fuels. The burning of these fuels, as well as their movement in and out of Florida's ports, pose a serious threat to Florida's environment and, as demonstrated by the 1993 Tampa Bay Spill, to Florida's economy and tourist industry.

Florida could improve both its environment and its economy by developing the vast natural gas resources that exist off its Gulf coast. These resources could be used to displace coal and residual fuels in Florida's power plants, cleaning the State's air and creating thousands of high-wage jobs. Moreover, these natural gas resources could be explored for and produced in a way that poses less of a threat to Florida's coast and coastal waterways than does the continued annual import of more than 250 million barrels of petroleum products.

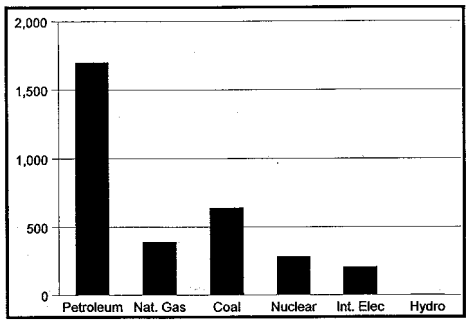


Figure 1. Florida Energy Consumption (trillion Btu).

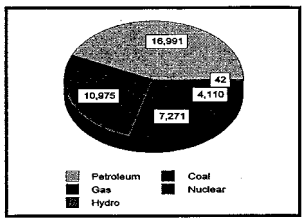


Figure 2. Operable capacity (megawatts) of Florida electric utilities, 12/31/94.

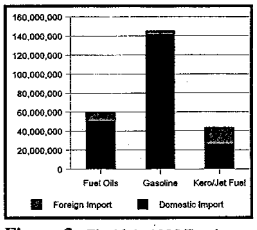


Figure 3. Florida's 1995 Foreign and Domestic Imports of Petroleum Products (bbls).

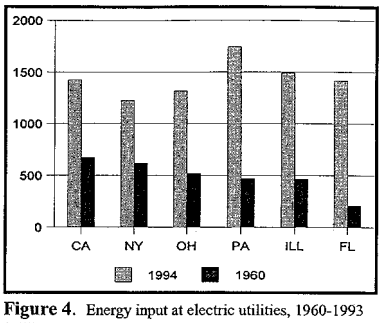


Figure 4. Energy input at electric utilities, 1960-1993 (trillion Btu).

[20] South Florida Regional Planning Council, Strategic Regional Policy Plan Part Two; Goals and Policies, pp 17–18.

Ms. CUBIN. Also, I am always a little careful about—and I realize the circumstances are not the same, but for example, comparing Florida's consumption of energy with its production. If Wyoming had to produce a share of oranges, we would be in a lot of trouble.

[Laughter.]

Ms. CUBIN. Congressman Vitter.

Mr. VITTER. Thank you, Madam Chairwoman.

Secretary Caldwell, I wanted to follow up on Congressman Jefferson's comments about tax issues, and you touched on that. I happened to be talking by phone with Pat Taylor this morning, he is a leading independent oil man in this area. He specifically talked about the alternative minimum tax issue as a big, big issue particularly for independents.

If we were to make a list of three or four or five key royalty or tax issues at the Federal level that we should act upon to spur production, what do you think they would be?

Mr. CALDWELL. AMT would be number one. Number two would be to craft a policy applicable to natural gas that is based on the tight gas sands legislation and the coal bed methane legislation, would be a starting point for the tax incentives.

But I think the AMT would be number one on the list.

Mr. VITTER. Okay, thank you.

Mr. DeHoratiis, this is not a question really, just a comment. I really want to encourage the Department and other folks involved in the effort to continue these education efforts. What I find most stunning and most depressing about our fledgling national energy debate is the amount of misinformation out there, particularly about environmental issues. People talk about production in the Gulf like this is some risky cutting edge thing. It has been going on there very responsibly, very carefully for decades. And as I said, where is the best fishing? Underneath those platforms. And if there is any way to increase environmental risk, it is to increase—which we are doing—the amount of oil that needs to be transported around in tankers versus produced and put in pipelines. That is exactly what we are doing by increasing moratoriums and decreasing domestic production and everything else. So just want to encourage the Department in those efforts.

And Mr. Falgout, of course, I have been to Port Fourchon several times, I have driven Highway 1, I have flown in a helicopter above it. I can tell you, when you drive it, it is very vivid because it is a little highway that is literally linking the connection to a quarter of our nation's energy supply to the rest of the nation. It is even more vivid when you look at it from a helicopter because it is a little highway surrounded by water, it is basically going out into the Gulf. I mean it is marshland, but it looks like it is going out into the Gulf.

I wonder if you could describe some of those images for our guests today, because this is an amazingly important and vulnerable link in terms of the whole national energy supply.

Mr. FALGOUT. I guess when people ask me about this, I raise the question of how long can you tread water, because actually—and Secretary Caldwell knows this more than anybody—the coastal land loss issue the way it is in Louisiana and geographically there are very few places where you can access the Gulf of Mexico in

Louisiana by highway, and this is one of them. The other is in extreme southwest Louisiana. So in the central part of the Gulf of Mexico where the oil and gas energy is being produced, this is the only place—geographically, environmentally. There is just no better place for it to occur.

So you would ask why would we not move this inland or some other question of that nature, it just cannot happen. Imagine moving 200 to 300 vessels a day that move through this part, moving that inland, the environmental problems of that. So it is very strategic to have this location on the Gulf of Mexico. It saves dollars, it saves oil and gas costs, it saves numerous things.

So the connection to it, to inland, coming back to your question, is the highway. There is no rail, no other method of transportation other than this two-lane highway system to service all of this energy.

What would you do, how would you restructure it, of course an elevated highway—this is an on-the-ground highway, no part of it is above a plus-four elevation. Most of it is about a plus-two and a half elevation. Just during tropical season, it goes under water. So, you know, we are not talking about inland areas here.

So you would have to build an elevated highway system. Of course, that would be ideal for hurricane evacuation. There are 13,000 people working on oil rigs in the Gulf of Mexico on any given day that have to go through this highway to get to their vehicle and go back to Mississippi and Indiana and Wyoming and anywhere, back to their regular homes. Because it is conducive to doing that when you work 21 days on and seven off. So they come from all over the country and they add insult to injury on this highway because the residents are competing to get out and thousands of offshore OCS workers are also—and equipment.

An elevated highway across about a 13-mile expanse would be necessary and then the remainder would be more inland and would be on ground, but unless you do that, we are just dickering with a time bomb.

Mr. VITTER. Just to add to the comment, I am convinced this is an enormous national need that is going to be recognized some day. The question is if it is recognized in advance or if it is recognized when a hurricane comes through and cuts off a quarter of the nation's energy supply for some significant period of time because the highway is gone. And that is going to be—if that were to happen, and it is utterly predictable when you are on the ground or in the air looking at it—that is going to be a major dislocation, not just for LaFourche, but for the nation.

Mr. FALGOUT. And it will not feel very good to say I told you so.

Mr. VITTER. That is all my comments.

Ms. CUBIN. Thank you.

I just have one question. I understand the financial status of the State of Louisiana has been like a lot of energy producing states, and there has not been a lot of tax money to go around to meet the needs. But what are the attempts that have been made at the Federal level to get funding for this? Is there legislation—has anybody proposed doing anything? I am speaking, anybody in Congress, in the House or in the Senate.

Mr. FALGOUT. Very good question. In the last TEA-21 bill, we did get about $7 million to do some initial studies. We are conducting an EIS, as we speak, it should be finished in the next couple of months, on the elevated part. But we do not have the big dollars to build it. And the Federal Government keeps on going back to say well, how come we give you state money to build the highway, and our state, like most states probably, has about a billion dollars in backlog on highway bills. And how can a state justify building a highway, which is in its view a deadend highway going to the Gulf of Mexico and stopping, when they are generating no income from this OCS activity. If this OCS activity was on state lands, we would have built that highway 20 years ago, we would be generating two to three billion dollars a year in Louisiana.

Ms. CUBIN. Sure.

Mr. FALGOUT. We would probably have a golden laid highway by this time.

[Laughter.]

Mr. FALGOUT. But it has not happened. So how can—you know, how can we say Louisiana should build this highway when it is getting none of the revenues that are generated, one half of the people coming out of the Gulf through Port Fourchon are not even from Louisiana. They are taking their pay checks out of state, Louisiana is getting none of that revenue and then nation is truly benefitting from this.

Ms. CUBIN. That is exactly right. Jim wanted to point out that the gold lining on the highway would have come from Nevada.

[Laughter.]

Mr. FALGOUT. Oh, okay.

Ms. CUBIN. But you know, you make a great point and I think the timing is very good to be able to get something done about this because like you said in your testimony, if anybody—all of you—if anybody has been watching, this is totally predictable. And a problem with the highway is totally predictable and we need to do something about it now.

Well, I would like to thank the panel for their testimony and for the answers to the questions and I would like at this time to recognize the second panel.

Now Mr. Melvin, is it Baiamonte?

Mr. BAIAMONTE. Yes.

Ms. CUBIN. With the Independent Petroleum Association of America; Mr. James D. Abercrombie, General Manager of Offshore Production of Dominion Exploration and Production; Mr. Dave Golder, Senior Vice President of Commercialization and Development of Marathon Oil Company and Mr. Mark Davis, the Coalition to Restore Coastal Louisiana.

Thank you very much. Again, I would like to remind the panel that your oral comments are limited to 5 minutes under the Committee rules, but your entire testimony will be in the record.

So I would like to recognize Mr. Melvin Baiamonte with the Independent Petroleum Association of America.

STATEMENT OF MELVIN BAIAMONTE, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Mr. BAIAMONTE. Madam Chairwoman, members of the Subcommittee, I am Melvin Baiamonte, Offshore Land Manager of Forest Oil's Gulf of Mexico Business Unit. I am testifying on behalf of the Independent Petroleum Association of America, IPAA.

Increasingly, independent producers are bringing offshore reserves to market. Not only do independents now hold 80 percent of the OCS leases—

Ms. CUBIN. Mr. Baiamonte, could you pull the microphone closer and speak into the microphone?

Mr. BAIAMONTE. Is that better?

Ms. CUBIN. A little more.

Mr. BAIAMONTE. Okay.

Ms. CUBIN. Thank you.

Mr. BAIAMONTE. Not only do independents now hold 80 percent of the OCS leases, but independents have amassed as much acreage in the deepwater as have majors and they have participated in half the wells drilled in the deep Gulf in 2000.

I will summarize my written statement which contains more detailed recommendations.

There is no debate that Federal offshore production, mainly from the Gulf of Mexico, contributes substantially to the nation's energy supply. However, without new policies, the offshore will fail to deliver the oil and natural gas Americans will be demanding in a few short years. My remarks today will address the issues we face in two broad areas—providing land access and providing access to capital through royalty incentive policies.

First, it is important to note that our access is so limited offshore that we are allowed in fewer places than we are kept out of.

For new leasing opportunities, we are barred from even leasing off the west coast, the east coast and most of the eastern Gulf of Mexico, as well as parts of Alaska OCS. We have access to only 18 percent of the offshore. We think it is time to rethink this policy.

The MMS' next 5-year leasing plan is a good starting point. It needs to support a sound energy policy, but beyond providing for important annual sales in the western and central Gulf, we need to find ways to find effective state buy-in for targeted exploration in top geological places contained in off-limit areas.

Sale 181, scheduled in non-moratorium areas in the eastern Gulf is an important step to take this December, and take it we must, with all tracts on times, with terms and stipulations that will encourage development and production. This sale, previously agreed to by all interested parties, has been on the drawing board since the mid-1990's. Coastal zone management policies could have a chilling effect on offshore land access.

During the coastal zone reauthorization process, we need to reduce risk associated with vague policies, lengthy appeals and loss of property rights. Coastal states deserve to be part of the process but we need to examine to what extent offshore activities are truly impacting their state.

To aid in the promotion of offshore production, we support adequate funding of the MMS offshore program such as the President's request for additional $14.7 million in the upcoming fiscal year.

Madam Chairwoman, IPAA applauds your proposal for using part of the onshore oil and gas royalty streams to fund those BLM offices responsible for generating production. Similarly, we recommend that a part of the offshore royalty stream be directed to offshore programs. Managers receiving this funding should be held accountable for their decisions that affect energy supply. In the area of encouraging capital investment, IPAA believes that improving the government's royalty policies like royalty in kind could foster a better OCS investment environment. Deepwater royalty relief policies on a going-forward basis have all but disappeared with the expiration of the Deepwater Royalty Relief Act. MMS' post-Act relief volumes in deepwater range from non-existent for water depths from 200 to 800 meters to a small fraction of what was previously extended for water depths greater than 800 meters.

Some of our members are finding that leases they acquired from 1995 through 2000 under the Act's terms do not qualify for royalty relief due to MMS' application of relief policies on a field basis rather than on a lease basis. This greatly restricts the benefit of such relief. We would recommend a Congressional review of these policies and support the extension of the terms of the Deepwater Royalty Relief Act on a lease-by-lease basis.

But royalty incentive policies should not be limited to deepwater. We support an examination of incentive policies to all water depths, beginning with high risk exploration on the shelf. Our ideas here include wells drilled to 15,000 feet or more where there is no current production; subsalt prospects and prospects located in abnormal pressure conditions; and highly deviated wells off existing platforms.

Finally, we believe marginal production on the shelf could benefit from royalty incentives. All royalty incentives should be subject to a price trigger. It is important to encourage leasing of offshore today and have them in production tomorrow to meet the growing consumer needs.

In conclusion, providing access to the resource base and attracting capital are critical for increasing domestic production. It is time for this country to take its energy issues seriously and develop a sound future policy.

Thank you again for allowing me to appear before you today.

Ms. CUBIN. Thank you.

The Chair now recognizes Mr. Abercrombie.

[The prepared statement of Mr. Baiamonte follows:]

STATEMENT OF MELVIN BAIAMONTE
FOR THE
INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Madam Chairwoman, members of the committee, I am Melvin Baiamonte, Land Manager of Forest Oil's Gulf of Mexico Business Unit. Forest Oil Corporation is engaged in the acquisition, exploration, development, production and marketing of natural gas and crude oil in North America and selected international locations. Forest's principal reserves and producing properties are located in the United States in the Gulf of Mexico, Louisiana, Texas, Cook Inlet, Alaska and in Canada in Alberta and the Northwest Territories. Forest's common stock trades on the New York Stock Exchange under the symbol FST.

Today, I am testifying on behalf of the Independent Petroleum Association of America (IPAA). IPAA represents thousands of independent petroleum and natural gas producers that drill 85 percent of the wells drilled in the United States. With regard to the offshore, according the *American Oil and Gas Reporter* on January 17, independent producers are increasingly bringing the reserves to market. The Minerals Management Service (MMS) data over the last 10 years show the drilling gap continuing to widen between independents and majors, with independents outpacing majors in both exploratory and developmental drilling. Not only do independents now hold 80 percent of all acreage under lease on the Outer Continental Shelf (OCS), but as a group, independents have amassed as much acreage in the deepwater as have the majors, and they participated in half the wells drilled in the deep Gulf in 2000. We agree with the *American Oil and Gas Reporter*, "whether large and established Gulf players with extensive lease positions, or smaller companies engaged in their first offshore ventures, one thing at least appears certain: independents are going great guns in the Gulf - from ultra-shallow state waters practically within a stone's throw of the coastline to ultra-deep federal waters many miles from shore."

It used to be said the deepwater was the playground of majors only. This is no longer true. *The Oil and Gas Investor* reported that, as of the first quarter of 2000, the number of independents in the offshore had jumped from 56 in 1993 to 1,202. This assessment came from Convergent Energy Group Inc., a company formed to help independents finance deepwater developments. In 1998, according to Convergent, independents spent three times as much as majors to acquire deepwater leases. In total, it has been estimated that independents hold more than 40% of the active leases in the deepwater Gulf.

The March 2001 sale in the central Gulf of Mexico further demonstrated the substantial presence of independents in the offshore. The results of Sale 178 bode well for this Administration's efforts to put the Nation back on a firm energy footing. With high bids from 90 companies totaling over $505 million – up from around $300 million a year ago – industry has clearly stepped up its activity level in response to today's marketplace. Of 4,390 tracts comprising approximately 23.19 million acres offshore Alabama, Louisiana, and Mississippi that were offered, the MMS received 780 bids on 547 tracts. Bidding activity was very heavy in the shallow water; 338 tracts in less than 200 meters of water received 502 bids. This amounts to 64 percent of the sale. Approximately 9 % of the tracts receiving bids are in ultra-deep water (more than 800 meters).

Of the 90 companies bidding in sale 178, 77 were independents (86%). Said MMS Acting Director Tom Kitsos, "Strong bidding by the independent oil and gas companies was a major part of the sale, and we are particularly pleased with the high interest shown in the shallow water area

where deep gas deposits may be present." Kitsos noted that there were 11 companies who were first-time bidders.

However, IPAA is concerned about the modest bidding activity during sale 178 in the 200 to 800 meter water depth, which is an important area of access for independents. Only 15 blocks were bid on the entire 200 to 400 meter water depth range (apparent high bids of $13 million) and only 37 blocks were bid on in the 400 to 800 meter water depths (apparent high bids of only $50 million). Sale 178 was the first sale in over five years that offered blocks in these water depths with no royalty relief incentive volumes. IPAA has encouraged the MMS to be more accommodating with its royalty relief policies in these water depths and will continue to work with the Agency on these terms in future lease sales. Specific suggestions will be presented later in this testimony.

This hearing focuses on the size of the estimated oil and gas reserve base on federal submerged land, the level of production that this resource base can support, and the statutory and regulatory constraints preventing additional hydrocarbon supplies from the OCS. This testimony will focus first on several key factors that influence the future of oil and gas production from the federal offshore. Second, it will describe issues that are specifically related to Gulf of Mexico operations and suggest solutions.

A Nation Dependent on Fossil Fuels

There is no doubt, the nation will be dependent on fossil fuels for the foreseeable future. In particular, petroleum and natural gas currently account for approximately 65 percent of the nation's energy supply – and will continue to be the significant energy source. Natural gas demand, for example, is expected to increase by more than 30 percent over the next decade. Specifically, the federal offshore supplies 19 percent of the oil and 27 percent of the gas produced in the United States. Offshore production promises to play an even more significant role in the future. The Department of Energy forecasts that offshore production will rise to nearly a third of our domestic oil and natural gas supply within a decade.

Recognizing The Role of The Market

Future energy policy should rely on market forces to the greatest degree possible. For natural gas the market is strong and active. Natural gas supply is essentially North American and overwhelmingly from two countries that rely on private ownership and the free market – the United States and Canada. Currently, exploration for and development of natural gas in both countries is being aggressively pursued when the opportunities are there, and can be accessed. In the United States drilling rig counts for natural gas are running at rates that are as high as they have ever been since natural gas drilling was distinguished from petroleum. The principal constraints are finding the capital to invest, getting access to the resource base, finding competent personnel, and obtaining rigs. If the market is allowed to work, financial and human resources will be brought forth to produce this critical resource for domestic consumption.

Oil, however, is a different situation. In making decisions regarding developing domestic petroleum resources, the nature of the world petroleum market must be recognized. Although the United States remains the second or third largest producer of petroleum, it is operating from a mature resource base that makes the cost of production higher than in competitor nations. More importantly, most other significant petroleum producing countries rely on their petroleum sales for their national incomes. For them, petroleum production is not driven by market decisions. Instead, their policies and their production are determined by government decisions. Most are members of

OPEC, the Organization of Petroleum Exporting Countries. Several are countries hostile to the United States like Iraq, Libya, and Iran. Even those that are generally supportive of the United States, like Saudi Arabia and Kuwait, are susceptible to unrest from both internal and external forces.

Thus, the market price for petroleum will be largely framed by production decisions driven not by the market, but by the politics of these countries – both by internal issues and global objectives. United States domestic policy decisions must reflect this reality – looking to this factor in taking actions that can affect domestic production and producers. But, more importantly, it must recognize that a healthy domestic oil production industry is also essential for a healthy domestic natural gas industry, because they are inherently intertwined.

For example, the failure of the United States to recognize the need to respond to the low oil prices of 1998-99 resulted in adverse consequences for both oil and natural gas production. The nation has lost about 10 percent of its domestic oil production – most of which has been made up by imports from Iraq. And, in addition, the tight natural gas supplies this past year are partially attributable to the drop in natural gas drilling in 1998-99 when oil prices were low and capital budgets for exploration and production of both oil and natural gas were slashed by producers because drilling under those conditions made no economic sense.

The Federal Role

The predominant areas where the federal government plays a major role in promoting or inhibiting domestic oil and natural gas production are: providing access to the natural resource base and providing access to essential capital.

I. Access and Permitting Constraints

A national energy policy must recognize the importance of accessing the natural resource base. In 1999, the National Petroleum Council (NPC) in transmitting its natural gas study, *"Meeting the Challenges of the Nation's Growing Natural Gas Demand"*, concluded:

> *The estimated natural gas resource base is adequate to meet this increasing demand for many decades.... However, realizing the full potential for natural gas use in the United States will require focus and action on certain critical factors.*

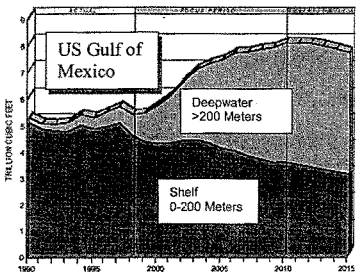
Much of the nation's natural gas underlies government-controlled land both offshore and onshore. These resources can be developed in an environmentally sound and sensitive manner. The Department of Energy recently released a comprehensive report, *Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology*, demonstrating that the technology is available. And, it is being employed, when exploration is allowed.

Without policy changes, the nation may not be able to meet its needs. The NPC study projects demand increasing by over 30 percent over the next decade. This will require not only finding and developing resources to meet this higher demand, but also to replace the current depleting resources. While many analysts are focusing on how much more natural gas demand will grow, it is equally important to recognize what is happening to existing supply. All natural gas wells begin to deplete as soon as they start producing. However, as our technology has improved, we now are able to identify probable reservoirs more effectively. This allows us to find and more efficiently produce smaller fields.

Unlike petroleum, natural gas supply is dependent on North American resources with 80 to 85 percent coming from the United States. However, much of this domestic supply is accessible

only from government controlled lands. The current restrictions affecting access to these lands differ depending on the area, but all must be altered to meet future demand.

Offshore – Western and Central Gulf of Mexico



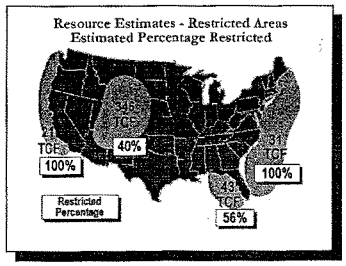
These portions of the Gulf of Mexico have proven to be a world-class area for natural gas as well as petroleum production, accounting for over 25 percent of domestic natural gas production. Production comes from the continental shelf, the deepwater, and the emerging ultra-deepwater. The NPC study projects that future production increases in these areas are essential to meet projected demand.

An MMS report on Future Natural Gas Supply from the OCS, estimates the future natural gas production from the shelf and slope of the Gulf of Mexico in a high case peaking at 6.7 Tcf in 2010 followed by a decline. However, recently published MMS data indicates much lower expected natural gas from the Gulf of Mexico. Using new data, the high case estimation could peak in 2002 at about 5.22 Tcf.

The Subcommittee on Natural Gas on the U.S. Outer Continental Shelf of the OCS Policy Committee recently reported, "Based on this projection, it can be concluded that unless exploration and development scenarios in the Gulf of Mexico changes dramatically, the production from the Gulf of Mexico may not be able to meet the expected share of natural gas supply to meet the expected future natural gas demand of the U.S." Later in this testimony, I will discuss what IPAA believes needs to occur to reach the expected 8 Tcf of natural gas annual production from the Gulf of Mexico (National Petroleum Council's estimate for 2010) and, as well, to increase oil production.

Offshore – Eastern Gulf of Mexico, Atlantic Ocean, and California

The substantial domestic natural gas reserves in these three areas in unavailable because of Congressional or Administrative moratoria. President Clinton extended these moratoria until 2012 saying, "First, it is clear we must save these shores from oil drilling." This is a flawed argument ignoring the state of current technology; it results in these moratoria preventing natural gas development as well as oil. In fact, both the Eastern Gulf and the Atlantic reserves are viewed primarily as gas reserve areas, not oil. Too often, these policies seem to be predicated on the events that occurred 30 years ago. Federal moratoria policy needs to be reviewed. It needs to be based on a sound understanding of today's technology. Based on the MMS' 2000 resource assessment, the MMS determined that offshore moratoria forgo conventionally recoverable 16 billion barrels of oil and 62 trillion cubic feet of natural gas. Of course these estimates are based on little or no exploration and could be much more significant if exploration is allowed. In the western and central Gulf of Mexico, estimates have proven to be much greater after exploration.



IPAA Recommendations for Increasing Access to Production from the OCS:

Future production increases from the OCS will hinge on federal offshore policies. In the area of access, IPAA recommends:

1. Sale 181

IPAA and its members companies have long considered Sale 181 to be a high priority issue. It represents an important component of our future in the offshore. Scheduled for December 2001, it would be the first eastern Gulf of Mexico Lease Sale since 1988, and for our members that confine their activities to the Gulf of Mexico, the first opportunity to bid outside the central and western Gulf of Mexico ever.

The Sale 181 area is estimated to hold about 7.8 TCF of natural gas and perhaps 1.9 billion barrels of oil. The natural gas resources could be used to meet the nation's growing natural gas demand---estimated to increase by 30% from today's level to nearly 30 TCF/yr by the year 2010. It is noteworthy that the NPC natural gas study cited earlier, assumes Sale 181 occurs on time, with all tracts offered, and that development proceeds without delay. The NPC study projects that Sale 181 could result in adding 400 BCF/yr in new gas production – production that would be lost if the sale were not held or restrictions inhibited exploration and production.

Back in the early to mid-1990's the MMS engaged in a comprehensive consultation with Alabama and Florida as well as other coastal states, about leasing in the eastern Gulf of Mexico. Both States expressed concerns about leasing and both requested that leasing not occur within certain distances to their states – 15 miles in the case of Alabama and 100 miles in the case of Florida. Sale 181 met both of these criteria and was placed on the current 5-year schedule by the MMS. This decision was subsequently ratified by Congress through the appropriations process.

Based on this buy-in from coastal states, industry began to prepare for the Sale – accumulating seismic data, reviewing geologic trends, conducting preliminary engineering studies – in anticipation of Sale 181. Independents have spent millions of dollars with the expectation that the Sale would occur as scheduled.

Today, the debate continues as to whether the Sale should go forward. But, after ten years of consultation, it is now time to open up to leasing a relatively small area of the eastern Gulf of Mexico that was established after exhaustive consultation with coastal states.

2. The Five-year OCS Lease Sale Schedule

Every five years, the MMS takes on a very thorough process to draft a new five-year OCS Leasing Schedule. That process is now underway to establish a leasing program for the period 2002-2007. Industry, and other interested parties, provided comments to the MMS during the earlier stages of the process. A draft schedule should be ready for review very soon.

IPAA vows to work with the MMS to establish a schedule that helps meet the nation's growing appetite for energy. For many of our members, those that confine their activities to the Gulf of Mexico, it has meant annual sales in the central and western Gulf of Mexico. It is essential that these annual sales continue.

As this Country drafts a national energy policy, now is no time to be timid. Yet, we know that resistance in some regions to offshore exploration and production remains a major impediment despite the obvious energy needs. We have our work cut out for us if we are to be successful at making enough offshore lands available to meet the nation's energy needs.

One possible approach interested parties should consider during development of the next five year plan, in consultation with industry and affected states, the identification of a small number of prime natural gas plays in moratoria areas to determine if limited pilots could demonstrate how oil and gas operations could be safely conducted in new areas. Such an approach would require congressional funding for scientific, environmental, and social/human impact studies. Any piloting would require site-specific stakeholder consultations.

3. Coastal Zone Management Issues

Coastal zone management (CZM) matters are increasingly important to independents operating in the Offshore. These matters play a direct role in land access for the offshore. CZM issues have not historically been seen as a priority issue for independents operating in the western and central Gulf of Mexico, as states have not attempted to obstruct offshore activities under the Coastal Zone Management Act (CZMA). With an increased interest in the eastern Gulf of Mexico, independents' interest is CZM is heightened. It is one thing to have a lease sale; it is quite another to be allowed to explore, develop and produce from that lease once it is purchased.

A coastal state with a federally-approved coastal zone management plan is empowered to block offshore exploration and production plans, if the state can allege that the federal lessee's activity will have some affect on resources in the coastal zone. If the lessee's activity will have an effect, the activity must be consistent with the state's coastal zone management plan.

The coastal zone itself generally extends only 3 miles offshore, but extends 9 miles in the Gulf of Mexico off Texas and Florida. The effects test, however, can be used to extend the state's reach great distances from shore. The Interior Department itself determines before issuing leases that the projects it expects lessees to undertake will be consistent with the plans of any affected states. But states can change their minds after the leases are issued.

A Federal lessee offshore must certify that both its exploration plan and production plan are fully consistent with the coastal zone plans of affected states. If a state disagrees, the lessee faces considerable delay in an appeal before the Secretary of Commerce.

Chief risks to lessees in current CZMA implementation are:

- Compliance costs caused by unexpected interpretations of vague policies in state CZM plans,
- Delay costs caused by lengthy appeals process before Department of Commerce,
- Risk of losing lease rights without compensation when state changes its mind on what its plan requires.

IPAA, through its Offshore Committee, will be active in an industry-wide effort to review CZMA and its consistency provisions. The review will include:

- A review of the Coastal Zone Management Act, particularly as amended in 1990,
- Implementing regulations, especially those finalized late in 2000 by the National Oceanic and Atmospheric Administration on consistency,
- State implementation programs, and
- Process issues, particularly as the process is used to delay projects.

4. Congressional Funding

IPAA recommends that the Congress adequately fund the MMS to ensure that its mission is not compromised during this critical period in which the Nation aggressively seeks new energy resources to meet growing demand. Specifically, IPAA recommends:

- Support the Administration's FY 2002 budget request increasing the MMS budget by $14.7 million to meet increased workload brought about by offshore program services and to implement royalty in-kind.
- Fully fund the MMS and other related agencies in future years to ensure they have the resources available to increase gas and oil supplies from the OCS.
- Require that appropriated funds be directed to education and outreach regarding the benefits the OCS program provides the Nation.

Funding is always difficult during budget reductions and tax cuts. However, investing in the offshore program provides taxpayers a great return on their investment. In FY 2000 alone, the MMS collected and distributed about $7.8 billion in mineral leasing revenues from federal and American Indian lands. Madam Chairwoman, IPAA applauds your proposal for using part of the onshore oil and gas royalty streams to fund those BLM offices responsible for generating production on which royalty payments are based. The vast majority of royalty payments come from offshore production and, similar to your proposal for the onshore, we recommend that a part of the offshore royalty stream should be directed to offshore programs that will promote increased production, especially natural gas.

For example, IPAA supports a collaborative effort for research, development, and transfer of technologies used in the production of natural gas, so long as there are not additional charges or costs such as increased royalties, taxes or surcharges.

5. The National Energy Security Act of 2001, S.388

Additionally, IPAA would draw your attention to two provisions of S.388 (The National Energy Security Act of 2001):

- Section 101 is the single most important section of S.388. It requires energy accountability when federal agencies make decisions affecting energy supply. If all federal agencies associated with decisions affecting offshore oil and gas development are held accountable for how their decisions impact national energy supply, production from the OCS will increase.
- Section 310 – Program on Oil and Gas Royalties In Kind. By giving more tools to the federal government to maximize return to the American taxpayer when taking in kind, the program can be expanded. When royalty in-kind is expanded, more certainty is provided to the government and the oil and gas lessees; thereby making federal lands more attractive for development.

II. Providing Access to Essential Capital

Because oil and natural gas exploration and production are capital intensive and high-risk operations that must compete for capital against more lucrative investment choices, much of its capital comes from its cash flow. The federal tax code and royalty policies play a critical role in determining how much capital will be retained. The Administration and Congress need to enact

provisions designed to (1) encourage new production, (2) maintain existing production, and (3) put a "safety net" under the most vulnerable domestic production – marginal wells.

However, given that this Subcommittee has jurisdiction over royalty policies, not the tax code, I will not discuss IPAA's tax proposals. Rather, I will address the area of royalty policies.

IPAA Recommendations for Increasing Access to Capital for the OCS:

Here, IPAA recommends the following:

1. Deepwater Royalty Relief

The Deep Water Royalty Relief Act of 1995 (Act) provided for automatic royalty relief for all new oil and gas leases issued from 1995 through 2000 in waters deeper than 200 meters in order to stimulate exploration and production of natural gas and oil in the deeper waters of the central and western Gulf of Mexico. The portion of the Act that provided this automatic relief for new leases expired in November 2000.

The MMS has now put in place regulations that would leave to its discretion the use of any upfront royalty relief for future Gulf of Mexico lease sales. IPAA is concerned that, although the new MMS royalty incentives put into place for water depths greater than 800 meters, subsalt, and deep gas drilling are a good first step, they fall short of truly accelerating the rate of development and production of natural gas and oil in the Gulf of Mexico. Additionally, the MMS is not offering any relief for water depths between 200 and 800 meters.

To this end, IPAA supports the reauthorization of the original automatic royalty suspension volumes as contained in the expired provision of the 1995 Act. These terms led to a boom in natural gas and oil activities in the deep waters of the Gulf of Mexico in the five short years they were in place. And as demonstrated in sale 178, without such relief for water depths of 200 to 800 meters, bidding activity may continue to fall short of what is needed. We believe if the Act would have been reauthorized, there would have been substantially more interest in these water depths and in ultra-deepwaters.

Would such a reauthorization of the Act cost the American taxpayer revenues? Simply put – no. Third party modeling demonstrates that a reauthorization of the act would have provided additional, not less, revenues to the American Taxpayer. Increased production would occur, far outweighing the temporary loss of royalty. We should remember that prices will not always be this high and we need to encourage aggressive leasing now, to meet our production needs for the future.

We agree with Senator Murkowski's recommendation that under the auspices of a National Energy Policy Taskforce that the Secretaries of the Interior and Energy form a Gulf of Mexico Leasing Incentives Review Team to determine what level of incentives for all water depths are appropriate in order to ensure that we optimize the domestic supply of natural gas and oil from offshore areas that are not subject to current leasing moratoria. In particular, the team should further examine the field size distribution of the Gulf of Mexico resource base and the international competitiveness of the Gulf. Recommendations, as a result of this review, should be made in the context of the importance of the development of the natural gas and oil resources of the Gulf of Mexico to the Nation's future energy and economic needs. These recommendations should be implemented prior to the August 2001 western Gulf of Mexico lease sale.

2. Deepwater Leases Issued prior to November 2000

During Sale 178, the MMS adopted an important approach that greatly stimulated activity in the 800 meter plus water depths – royalty incentives were offered on a lease-basis . For deepwater lease issued prior to sale 178, the MMS only offered royalty incentives on a field basis. If the MMS would retroactively offer such relief on a lease-basis, this would greatly stimulate production from the deepwaters. Too many leases issued during the term of the Deepwater Royalty Relief act were found to be ineligible for royalty relief because of the existing policy of relief to be offered on a field basis (vs. lease-basis) or the MMS' interpretation of the rules implementing this policy.

3. High Risk Exploration on the Shelf

In addition to the deepwaters, independents are quite interested in the significant natural gas and oil reserves that could be developed by deep drilling, drilling into subsalt structures, and drilling highly deviated wells. IPAA recommends royalty incentives be offered for (1) wells below 15,000 where there is no current production AND (2) extend royalty relief as embodied in Central GOM Sale 178 for new and existing leases for drilling of sub-salt prospects or prospect located in abnormal pressure conditions AND (3)for drilling highly deviated wells off existing platforms which might not otherwise have been attempted. In other words, these incentives would apply to expensive, high risk plays on new and existing leases. Such relief would, of course, be phased out at higher prices.

During Sale 178, the MMS took some important first steps. They offered a royalty incentive for new leases whereby natural gas is discovered for drilling in excess of 15,000 feet for water depths of 0 to 199 meters. Similar relief is needed for existing leases where production has not yet been established.

With regard to subsalt, the MMS recognized the high risk nature of exploring such a play in the OCS by offering for new leases a 2 year extension of the 5 year term should a well be drilled. What is truly needed is more incentives to encourage drilling.

4. Marginal Production on the Shelf

Independent producers report that there are significant resources still remaining on the Shelf that would be developed if royalty incentives were available. Marginal properties and/or fields are being left behind. IPAA understands that DOE had initiated modeling of different royalty incentives to stimulate production from marginal fields. This modeling effort should be completed and, if appropriate, royalty incentives implemented.

5. Royalty Reinvestment in America

The National Energy Security Act of 2001, S.388 contains a provision entitled Royalty Investment in America. This provision allows lessees to forgo federal royalty payments during periods of low energy prices and instead make capital investments in energy production. During low prices this type of provision will reduce the likelihood of dramatic decreases in exploration, such as those during the 1998-99 downturn.

Royalty incentives, in conjunction with new tax policies, must be developed to encourage renewed exploration and production needed to meet future demand, particularly for natural gas. The NPC gas study projects future demand growth for natural gas and identifies the challenges facing the development of adequate supply. For example, the study concludes that the wells drilled in the United States must effectively double in the next fifteen years to meet the demand increase. Capital expenditures for domestic exploration and production must increase by approximately $10

billion/year – roughly a third more than today. Generating this additional capital will be a compelling task for the industry. As the NPC study states:

> *While much of the required capital will come from reinvested cash flow, capital from outside the industry is essential to continued growth. To achieve this level of capital investment, industry must be able to compete with other investment opportunities. This poses a challenge to all sectors of the industry, many of which have historically delivered returns lower than the average reported for Standard and Poors 500 companies.*

In fact, as the past year has shown, capital markets have not shifted to supporting the energy sector. For the industry to meet future capital demands – and meet the challenges of supplying the nation's energy – it will need to increase both its reinvestment of cash flow and the use of outside capital. The role of royalty incentives and the tax code will be significant in determining whether additional capital will be available to invest in new exploration and production in order to meet the $10 billion annual target.

There's No Short Term Fix – Recovery Will Take Time

It will take time for any realistic future energy policy to achieve results.. There is no simple solution. The popular call for OPEC to "open the spigots" failed to recognize that the low oil prices of 1998-99 reduced capital investment from the upstream industry all over the world. Only Saudi Arabia had any significant excess production capacity and no one knew just how much or whether the oil was of a quality that it could be refined in most refineries. The collateral damage of low oil prices on the natural gas industry is affecting gas supply today and will until the industry recovers. The producing industry lost 65,000 jobs in 1998-99. While about 40 percent of those losses have been recovered, they are not the same skilled workers. If measured by experience level, the employment recovery is far below the numbers. Less obvious, but equally significant, during the low price crisis equipment was cannibalized by operating and support industries who were decimated. It will take time to develop the infrastructure again to deploy new drilling rigs and provide the skilled services that are necessary to rejuvenate the industry.

Conclusion

Providing access to the resource base will be critical and requires making some new policy choices with regard to the onshore and offshore federal lands. A critical first step is to require agencies to measure and document the impact of their decisions on the development of energy resources.

Overall, attracting capital to fund domestic production under these circumstances will be a continuing challenge. This industry will be competing against other industries offering higher returns for lower risks or even against lower cost foreign energy investment options. The slower the flow of capital, the longer it will take to rebuild and expand the domestic industry.

These two issues are the ones that are particularly dependent on federal actions, and should be the immediate focus of this Congress and the Administration.

It is time for this country to take its energy supply issues seriously and develop a sound future policy. Certainly, there is room in such a policy for sound energy conservation measures and protection of the environment. But, energy production – particularly petroleum and natural gas – is an essential component that must be included and addressed at once. Independent producers will be a key factor, and the industry stands ready to accomplish our national goals, if policies reflect that reality.

STATEMENT OF JAMES D. ABERCROMBIE, GENERAL MANAGER OF OFFSHORE PRODUCTION, DOMINION EXPLORATION AND PRODUCTION

Mr. ABERCROMBIE. Good afternoon, Madam Chair, and members of the Committee. On a personal note, it is a pleasure and a pleasant surprise to testify before my personal Representative here, Mr. Vitter. I was not expecting that.

I am here representing Dominion Exploration and Production, which is one of the nation's largest integrated electric and natural gas companies in the United States. I am also pleased to be here today as a representative of the largest independent natural gas and crude oil exploration and production company comprised of the Domestic Petroleum Council. Together, these companies including my own, are strong players in the offshore Gulf of Mexico, with almost 3700 total OCS leaseholds, of which more than 1100 are in the deepwater areas. Many of those companies are also operators.

I would like to talk about an independent's technical ability that we have right now. There has been a lot of development over the past 10-15 years of seismic technology in the Gulf of Mexico. We are one of the major users of it, as are a number of other independents. And that seismic technology has allowed us to basically see geological structures and potential oil and gas reservoirs below the sea bed of the Gulf of Mexico. We have even gone to the extent of going to four-dimensional seismic and technology that allows us to even better resolve those particular reservoirs in the Gulf of Mexico.

Combined with that, there has been a number of major engineering innovations, which has allowed industry to develop deepwater fields where conventional solutions would not have been economic. A clear example of that is the design and installation of the world's first production spar, FPS Neptune, which is a floating cylindrical structure that is anchored to the sea floor in nearly 2000 feet of water. That was developed jointly by Dominion and Kerr McGee. One of the real unique traits of it is when reserves from one portion of the fields have been depleted, you can literally move it to another portion of the field and produce untapped reserves that are there. It is a trail blazing concept that has opened up numerous areas in the deepwater Gulf of Mexico to production that has not occurred prior to that point in time.

We need to go where the resources are and we applaud and strongly support the efforts of the Bush administration as well as the Resources Committee here in hearings like this to step back and examine where there are areas in which we should have even greater exploration and production access. I am not talking about national parks or wilderness areas or marine sanctuaries. But the record in the Gulf of Mexico of our technology improvements over the past decade should be taken into account as we think about the resources that are currently off limits off of our coast. It may be time to gather more seismic information and other information to revisit those access choices. And certainly in areas that have already been the subject of careful analysis, they should be available for appropriate exploration and production activity.

Lease Sale 181 in the eastern Gulf of Mexico, which comes up in December, provides us an outstanding example of what we need

to be doing. It alone could make up a significant 400 billion cubic feet a year contribution to providing natural gas for Florida and the surrounding southeastern states. That is basically Florida's use of about one-third of their energy supplies in the year 2015. Clearly, the administration should assure that that sale 181 is held as scheduled.

We also believe that early approval of floating production storage and offloading vessel technology be made so that additional deepwater gas and oilfields can be developed more efficiently and more cost effectively. In addition, Congress should consider extension of the deepwater royalty provisions of the Deepwater Royalty Relief Act of 1995.

In the last Federal offshore lease sale in March, Sale 178, the fewest number of blocks offered, 214, and the fewest number of bids, 52, were in the 200 to 800 meter water depths. These are the depths of which the MMS eliminated automatic royalty suspension and of which the Domestic Petroleum Council disagreed. Our strong belief is that all deepwater areas would have been more robust, seen more robust bidding and will in the future, if Congress reinstates a more realistic royalty review.

While on the subject of royalties, we strongly support the administration's efforts to expand and make permanent the taking of royalties in kind or the royalty in kind program. It makes Federal leases much more attractive to companies like ours and eases the Federal Government's burden on administrative and potential litigation.

With that, I would like to answer any questions you have.

Ms. CUBIN. Thank you, Mr. Abercrombie.

Mr. Golder.

[The prepared statement of Mr. Abercrombie follows:]

Statement of James D. Abercrombie, General Manager of Offshore Production, Dominion Exploration and Production, Inc., on behalf of the Domestic Petroleum Council

My name is James D. Abercrombie, General Manager of Offshore Production for Dominion Exploration and Production, Inc.

I am pleased to be here today as a representative of the largest independent natural gas and crude oil exploration and production companies in the United States who make up the Domestic Petroleum Council.

Together these DPC companies, including my own, are strong players in the offshore Gulf of Mexico, with almost 3,700 total OCS lease interests, many as operator. More remarkable, they have more than 1,100 deepwater lease interests in the Gulf of Mexico, including a number of operator designations. They are among the high-tech leaders in finding developing and producing the natural gas and oil resources we need to generate electricity for our computers, heat and cool our homes and businesses and provide the mobility we need to get to our jobs and other activities.

Against that background, let me emphasize that we in the DPC are most concerned about meeting the challenge of supplying the dramatic increase in gas demand that you will continue to hear about. We at Dominion and our counterpart companies are betting our capital everyday on our technical ability to find and produce the supplies that we'll need from a very substantial gas resource base in the offshore Gulf and other areas. But we'll need your help in meeting a number of other challenges, principal among them being access to that resource base.

Let me say a word first about our technical ability. Dominion is among the most active and high-tech explorers in the offshore Gulf of Mexico. Many of the major petroleum service companies have led in the development of innovative geoscience technology that is being applied today to enhance our ability to find and produce oil and gas efficiently. Seismic technology that allows us to "see" geologic structures and potential oil and gas reservoirs below the seabed in the Gulf of Mexico is perhaps the most exciting area of change, especially in view of our need to work in

deepwater areas. The conversion from analog to digital technology, combined with the development of "4–D" seismic and "4–C" technology has allowed significantly better resolution and imaging of reservoirs and has resulted in more efficient development plans, utilizing multi-well and multi-lateral completions and more cost effective designs.

Major engineering innovations have also allowed the industry to develop deepwater fields where conventional solutions would not have been economic. A clear example is the design and installation of the world's first production spar, "FPS Neptune", jointly developed by Dominion and Kerr–McGee.

The Neptune Spar is a floating cylindrical structure anchored to the sea floor, in 1,960 feet of water.

The hull is 705 feet long, 72 feet in diameter, weighing 12,000 tons, while the topside is 3,600 tons in weight, supports the production facilities and crew accommodations. A unique trait of the Spar concept concerns effective field development. When reserves from one portion of the field have been depleted, the Spar is moved to another area to produce untapped reserves. This is especially useful when reserves are located over a wide area. The trail-blazing concept has led to the use of Spar type designs in a number of previously undeveloped deepwater areas, thus increasing oil and gas supply to the U.S. New drilling and well completion technologies have also expedited new production in the Gulf of Mexico Deepwater.

Again, we're willing to spend our money and devote our human resources to meeting consumer needs.

But we need to go where the resource is.

We applaud and strongly support the efforts of the Bush Administration, as well as the Resources Committee in hearings like this, to step back and examine whether there are areas to which we should have even greater exploration and production access. I'm not talking about national parks, wilderness areas or marine sanctuaries.

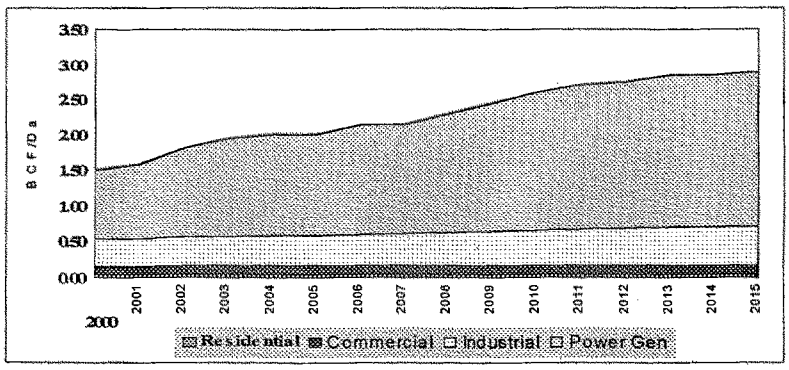
But our record in the Gulf of Mexico, and our technology improvements over the past decades should be taken into account as we think about the resources that are currently off limits off all our coasts. It may be time to gather more seismic and other information and to revisit the policy choices we are making in selected areas.

And certainly areas that have already been the subject of careful analysis should be available for appropriate exploration and production activity.

Lease Sale 181 in the Eastern Gulf of Mexico, scheduled for December of this year, provides an outstanding example of what we need to be doing. It alone could make a significant 400 BCF per year contribution to providing natural gas to Florida and the surrounding region to meet increasing electricity generation needs.

The development of supply sources in close proximity to key growth markets like Florida will result in timely responses to the needs of consumers. This is especially important when we consider that projected electricity demand in Florida will include a growth of approximately 25 thousand megawatts. Since almost all of that growth is expected to be fueled by natural gas, Florida gas demand (shown below) is expected to double over the next 15 years.

Florida Gas Demand



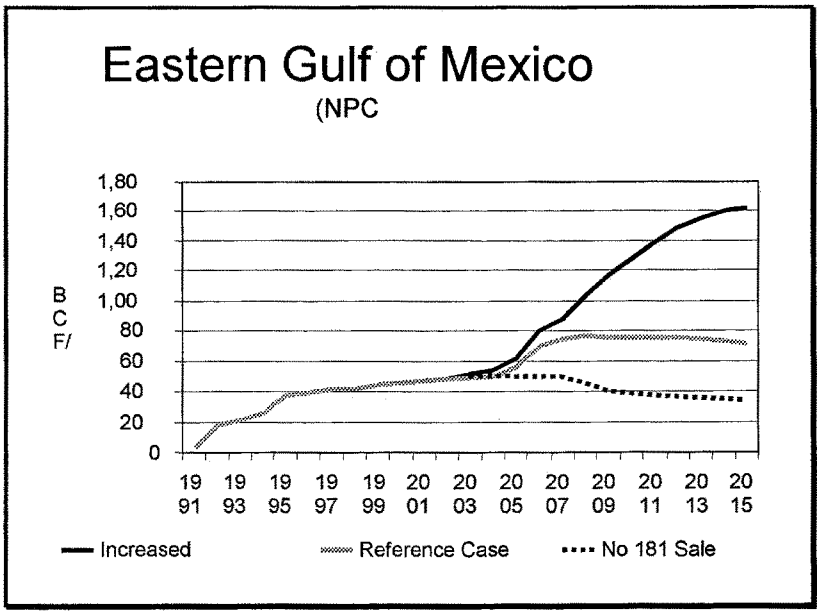
NPC REFERENCE CASE

The chart below illustrates a National Petroleum Council projection of the natural gas supply impact of access restrictions in the eastern Gulf of Mexico. The Reference Case curve (middle line) assumes that Western Norphlet, off the coast of Mobile, Alabama, and MMS Lease sale 181 will be the only areas in the eastern Gulf that will produce gas.

Also shown here is the impact if sale 181 did not happen (bottom line). As noted a moment ago, this is a potential 400 BCF per year loss of valued natural gas resource—or the amount of gas that could meet one-third of Florida's projected electricity demand growth by 2015.

(The top line indicates the NPC study's projection of substantial additional gas supplies to feed the country's growing energy demand if industry is allowed access beyond the Western Norphlet and Sale 181 areas.)

Clearly the Administration should ensure that Sale 181 is held as scheduled.



We are also looking forward to early approval of Floating Production Storage and Offloading vessel (FPSO) technology so that additional deepwater gas and oil fields can be developed more efficiently and cost effectively.

In addition, Congress should consider extension of the deepwater royalty provisions of the Deep Water Royalty Relief Act of 1995 that spurred much of the activity we have seen in waters deeper than 200 meters.

Under the previous Administration, the Minerals Management Service proposed, and the current Administration allowed to go into effect, royalty incentives for deep gas wells on the OCS, and some relief for those seeking gas beneath offshore salt formations. That was positive. But, unfortunately, the MMS also significantly increased the royalty burdens for deepwater leases in the Gulf of Mexico above where they had been for five years under the 1995 law by failing to provide for an automatic suspension of royalties.

In the last Federal offshore lease sale in March, the fewest number of blocks offered (214) and the fewest number with bids (52) were in the 200–800 meter water depths. These are the depths for which the MMS eliminated automatic royalty suspension (action with which DPC disagreed.) Most blocks offered were in shallow waters (1305) for which deep gas incentives have been put in place (with which we agree) and ultra-deep waters (2460) where royalty suspension volumes were significantly reduced. There were 338 blocks in shallow waters receiving bids that averaged a total of $670,000 per block. There were only 47 ultra-deep blocks that attracted bids totaling an average of $3.66-million per block. Our strong belief is that all deepwater areas would have seen more robust bidding—and will in the future if Congress reinstates a more realistic royalty regime as was in place under the DWRRA.

While on the subject of royalties, we strongly support the Administration's efforts to expand and make permanent the taking of its royalties in kind. This "R–I–K" approach, now being extensively pilot tested in the Gulf of Mexico, makes Federal leases more attractive to companies like ours, and eases the Federal Government's administrative and potential litigation burdens. (Currently, 360 million cubic feet of gas and 7,000 barrels of oil are being taken as royalties in kind.)

Finally, we at Dominion and the DPC look forward to continuing to work with you to meet the energy challenges ahead.

STATEMENT OF DAVE GOLDER, SENIOR VICE PRESIDENT OF COMMERCIALIZATION AND DEVELOPMENT, MARATHON OIL COMPANY

Mr. GOLDER. Yes, thank you, Madam Chairman and members of the Subcommittee.

Previous speakers have been pretty articulate about a number of the items I would like to speak about, so in the interest of time, I will just focus on one area that is of interest to Marathon, where we have a long history.

Before I do though, I would very much like to second Mr. Falgout and his concerns about the infrastructure needs in the Fourchon area. As one of the companies who is very dependent on the infrastructure there and as the operator and major interest owner in LOOP, we certainly understand the strategic significance of this area to the country.

Basically I would like to comment just solely on the Deepwater Royalty Relief Act and the continuing need for incentives for exploration and development of the OCS.

Marathon Oil started back in 1992 by distributing a white paper to Congress called "A Proposal to Encourage Development of OCS Deep Water Leases." This became the genesis of what ultimately became the 1995 Deep Water Royalty Relief Act. This Act provided limited suspension of royalty payments on production volumes in various water depths and had automatic provisions for such royalty relief from November 1995 to 2000. Unfortunately, these automatic relief provisions expired in late November of 2000, but the MMS does retain broad authority to offer royalty relief on new leases in deepwater with suspension of royalties based on time, volume or value. They also have the authority to grant relief on a lease sale basis or on a case-by-case basis. The purpose of my testimony is to encourage the proactive use of this authority to further the intent of the original legislation.

The Deep Water Royalty Relief Act program was an unequivocal success. I have included a graph in my written testimony that illustrates the dramatic increase in deepwater leases in the 3 years that followed. I think it speaks very plainly to the benefits from this program. Rarely has a government program been so effective and immediate in obtaining its objectives. Positive results were manifold, but primarily they resulted in $3 billion of additional deepwater lease bonuses over the first 5 years. But further, it stimulated the investment of additional billions of dollars for development after successful exploration and this has been critical in trying to stimulate research and development expertise in our domestic industry to help keep us a world leader in technology and applications around the world.

Employment in the U.S. oil and gas sector has fallen by more than 50 percent, from 750,000 to around 300,000, since 1982. The quality of our technology and our personnel still leads the world, but it takes cutting edge technology applied in areas like the deepwater to maintain that.

Energy security today, as we have heard previous speakers talk about, is limited because nearly 57 percent of U.S. oil consumption is supplied by imports. We think the Deep Water Royalty Relief Act was a positive first step toward reducing our dependence on imports. Long cycle times, however, require that we maintain and sustain a program over a long period, because you cannot turn things on and off.

Deepwater was once the nearly exclusive province of the supermajors prior to enactment of the Deep Water Royalty Relief Act. The oil and gas industry has seen clear benefits from having many smaller companies follow the majors. As you have heard, many of them have been very successful in deepwater. Companies of diverse size allow each to focus on projects that suit their corporate risk and reserve goals, which in turn allows for more complete exploitation of the entire deepwater OCS. Former deepwater players like Mobil, Amoco, Arco, Vastar, and soon, Texaco have disappeared from the scene as they have been merged into other companies, reducing competition and increasing the niches for smaller companies to play.

We think it is important to provide the necessary incentives to ensure that smaller companies remain in the deepwater, in order to have a viable and competitive OCS. Our own experience indicates that royalty relief in deepwater can be a key, in fact a necessary factor. We are working together with BP, TotalFina Elf and several other companies to jointly develop three small marginal gas fields in up to 7200 feet of water. This would not have been possible without sharing infrastructure in the Canyon Express project, but I can tell you, without royalty relief on those three fields, we would not be going forward. Today, we expect to have the world's deepest water production on line flowing to the U.S. gas markets by the middle of next year.

Although the deepwater royalty relief expired in 2000, there are many of us who are urging the MMS to continue to offer deepwater royalty relief incentives and to use their administrative ability to focus on a number of things. One of the areas we have talked about is the shallow water. It is critical that we continue to offer incentives in shallow water portions of the Gulf for the high risk, high cost subsalt and other areas that we have heard referred to. Secretary Caldwell has discussed this, so I will skip the details, but it is important.

Finally, our recommendation is that we continue to review and revise the current regulatory and administrative policies in all water depths and provide additional incentives. Specifically, we would like to see the MMS extend administrative royalty relief for water depths of 1600 meters and greater, for larger volumes than those contained in recent sale 178.

Any relief program must provide incentives that are predictable and sustainable over at least 5 years so that we can reasonably plan our business. A program that changes from year to year will

not be effective. A relief program should also contain significant relief volumes and other incentives to ensure the smaller companies who have been enticed into the deepwater can remain viable there.

It was disappointing that the MMS more than doubled rentals on leases awarded at the first lease sale under the Deep Water Royalty Relief Act because by doing so, they diluted some of the benefits and offset some of the incentives. We hope that that will not be a trend in future sales.

Thank you for the opportunity to appear before you and I look forward to answering any questions.

Ms. CUBIN. Thank you.

The Chair now recognizes Mr. Davis.

[The prepared statement of Mr. Golder follows:]

Testimony of Dave Golder

Senior Vice President, Commercialization and Development

Marathon Oil Company

Before the

Committee on Resources

Subcommittee on Energy and Mineral Resources

House of Representatives

May 14, 2001

Madam Chairman and Members of the Subcommittee, I appreciate the opportunity to appear before you today to present testimony on the positive results of the Deepwater Royalty Relief Act (DWRRA) and the continuing need for incentives to encourage exploration and development in the Outer Continental shelf.

Background:

Marathon Oil Company distributed a white paper to Congress in 1992 entitled "A Proposal to Encourage Development of OCS Deep Water Leases". This white paper was the genesis of what ultimately became the 1995 Deep Water Royalty Relief Act. This act provided limited suspension of royalty payments, on production volumes ranging from 17.5 MMBOE to 87.5 MMBOE, depending on water depth, for Central and Western Gulf of Mexico (GOM) and certain Eastern GOM leases issued between late November 1995 and late November 2000, in water depths of 200 meters or greater. The automatic relief provisions (Section 304) of the act expired in late November 2000, but MMS retains broad authority to offer royalty relief on new leases in deep water with suspension of royalties based on time, volume, or value. (Suspensions may vary based on the price of production from the lease.) MMS also has the authority to grant relief on a lease sale basis or on a case-by-case basis.

Success of the Program

The DWRRA program was an unequivocal success! Early in the DWRRA program, Carolita Kallaur, associate director of the MMS said, "Deepwater royalty relief for new leases has contributed to the record-breaking lease sales in the Central and Western GOM over the past two years, a clear indication that the Gulf of Mexico is now one of the world's leading oil and natural gas plays". (ref .1) Figure 1 illustrates the dramatic increase in deepwater leasing in the three years immediately after the passage of the legislation. Rarely has a government program been so effective in attaining its objectives. The positive results of this legislation include:

- **Increased Treasury revenues**

Under the five year royalty relief program the MMS collected more than $ 3 billion in deepwater lease bonuses (Ref. 2). The DWRRA has resulted in increased oil and gas production as well as expedited federal revenues in the form of royalty, tax and higher bonus payments.

- **Stimulated investment and employment**

Beyond the bonuses, royalty relief has stimulated the investment of billions of additional dollars to search for and develop oil and gas in the US. Keeping these investment dollars in the US stimulates the research and development expertise of our domestic industry, helping the US remain a world leader in innovative techniques to explore and extract hydrocarbons in the deepwater OCS. Employment in the US oil and gas sector fell by more than 50% from 750,000 to around 300,000 from 1982 thru 1999 (ref. 3). While the new economy is attracting many new graduates, the oil and gas industry is consolidating rapidly and we must provide appropriate incentives to maintain this expertise in the US.

- **Energy Security**

Today, US imports represent nearly 57% of US oil consumption (ref. 4). The DWRRA was a positive first step towards reducing our dependence on imports by expediting the leasing and exploration of deepwater leases. The long cycle times required to bring a deepwater discovery to first production do not allow us to wait for a crisis and then react. The US needs a viable energy strategy to develop our energy resources in anticipation of our future needs. Continuation of the DWRRA can be part of the foundation on which we can build.

- **Increased competition and diversity in deepwater OCS**

Deepwater was once the nearly exclusive province of the super-majors prior to enactment of the DWRRA. The oil and gas industry has seen clear benefits to having smaller companies follow the majors. Companies such as British Borneo (Allegheny-3100 feet); Mariner (Pluto- 2700 feet) and many others entered the deepwater arena after passage of the DWRRA. Companies of diverse size allow each to focus on the projects that suit their corporate risk and reserve goals, which in turn allows for a more complete exploitation of the deepwater OCS. Former deep-water players like Mobil, Amoco, Arco, and Vastar have merged with larger companies, making it even more important to provide the necessary incentives to insure that smaller companies remain in the deepwater to maintain a viable, competitive OCS program.

Camden Hills

Our own experience indicates that royalty relief in deepwater can be a key factor to enable the development of marginal accumulations that would not otherwise be produced. In a paper presented jointly by BP, TotalFina Elf and Marathon in November, 2000, at the Deep Offshore Technology Conference, this impact can be seen. The paper noted that the companies each operated a small field with royalty relief that ranged in water depths up to 7,200 feet. Faced with a three-fold challenge of low reserves per field, very deep water and increasing tieback distance, a joint venture company called Canyon Express was formed to own common infrastructure that includes the flowlines, umbilicals and topsides control systems. In conclusion, the paper noted "As Operators move into Deepwater ... remote from existing infrastructure, joint development of fields, particularly for those with smaller reserves, will be required to allow them to be developed commercially and with acceptable risk". It was clear to the operators of these fields,

however, that royalty relief was a significant factor in the decision to sanction the overall project. Even with shared infrastructure, the project would not have been economic without royalty relief at the Camden Hills, Aconcagua and King's Peak fields. With royalty relief, the world's deepest water depth production should be developed by mid-2002.

Administrative Incentives offered at Sale 178

Although the DWRRA expired in 2000, Marathon and many other companies have urged the MMS to continue offering deepwater royalty relief incentives and to consider additional incentives for other high cost/risk areas of the OCS. In response to industry requests, the MMS offered deepwater royalty relief on much smaller volumes than those contained in the original legislation. Unfortunately, however, all this changed with the sunset of the automatic relief provisions of the DWRRA in November 2000, and royalty relief has been largely eliminated so far in 2001 leasing. The chart below illustrates these changes. You can see that relief for water depths less than 800 meters was completely eliminated and relief in water depths greater than 800 M was significantly reduced. Even when you take into account that relief volumes for Sale 178 are on a "lease basis" rather than applying to an entire "field" (which could be within multiple lease areas), they are insufficient to maintain the positive results initiated by the DWRRA.

Deepwater Royalty Relief	1995-2000(field basis)	2001(lease basis)
Water depth		
200-400M	17.5 MMBOE	0
400-800	52.6 MMBOE	0
800- 1600	87.5 MMBOE	9 MMBOE
1600 +	87.5 MMBOE	12 MMBOE

Marathon applauds the MMS for offering new incentives in the shallow water portions of the GOM for sub salt exploration and deep gas exploration (drilling depths > 15,000 TVD), as shown below, but feels that additional incentives are appropriate.

Deep Gas Initiative

- Applies to all new leases in 0 to 199 meters of water.
- Eliminates royalty for first 20 BCF of gas production from the lease at greater than 15,000-foot depth.
- Does not apply to oil production.
- Ends after 20 BCF of gas production.
- Ends for a year if prices reach trigger limit of $3.50 per million BTU's (in Year 2000 dollars).

RECOMMENDATION:

Marathon supports continued royalty relief for OCS areas where the cost and risk to explore for and produce hydrocarbons are higher than normal. While our primary focus is in the deepwater, Marathon encourages the MMS to continue to review and revise current regulatory and administrative policies in all water depths to provide additional incentives where appropriate.

Specifically, Marathon would like to see the MMS extend administrative royalty relief for water depths of 1600 meters and greater in larger volumes than those contained in Sale 178.

1. MOC believes the relief volumes provided in sale 178 were insufficient, as demonstrated by the Camden Hills sensitivity analysis I presented earlier. Marathon participated with the rest of the industry in the National Ocean Industries Association-led DWRR Work Group to formulate and make specific recommendations to the Minerals Management Service concerning the future of automatic royalty relief in the OCS. Rather than make a specific volume recommendation, Marathon and the industry stand ready to continue to work with the Administration and Congress to develop an appropriate relief program to continue what the DWRRA started.

2. Any relief program must provide incentives that are predictable and sustainable over a reasonable time frame of no less than five years so industry can strategically plan its business. A program that changes from year to year will not be effective for the US or the industry.

3. The relief program should contain significant relief volumes or other incentives to ensure that the smaller companies who were enticed into the deepwater under the DWRRA continue to lease and explore in the deepwater.

4. It was disappointing that the MMS more than doubled the rentals on leases awarded at the first lease sale offering royalty relief leases pursuant to the DWRRA. It defeats the purpose of any incentive program to increase other OCS lease sale commercial terms (e.g., bids, rents, and/or royalties) that would tend to offset the DWRRA incentives that are designed to encourage additional activity.

In closing, it is Marathon's opinion that a strong OCS oil and gas leasing program, with appropriate incentives to stimulate exploration and development in higher cost areas of the OCS, should be an essential ingredient of any National Energy Strategy. Thank you for the opportunity to appear before you today. I will be glad to answer any questions you may have and please feel free to follow up with me or my staff at a later date.

/s/ Dave Golder
Sr. Vice President
Commercialization and Development
Marathon Oil Company

MJK/jal
Mydocs:MOC Relief Position

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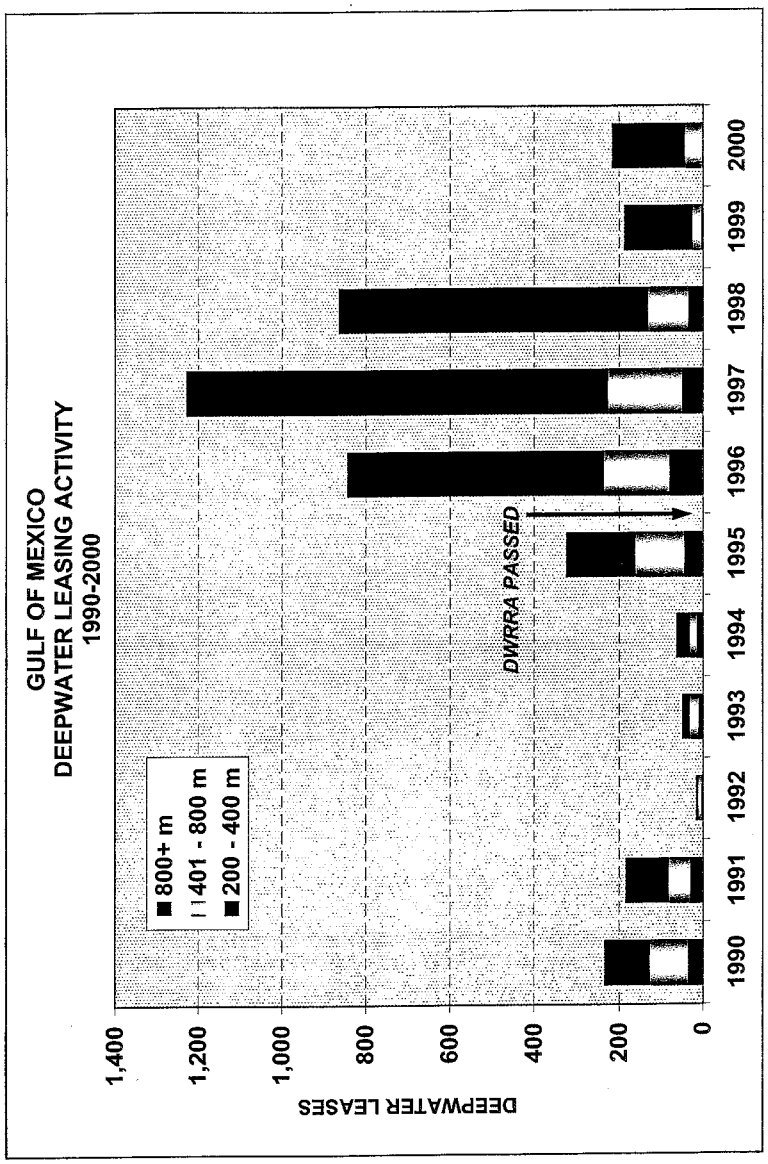
#1 The Energy Report, Pasha Publications, Inc. Vol. 26, No 3, Jan. 19, 1998.

#2 MMS Statistical Data from website "www.MMS.gov"

#3 Bureau of Labor Statistics 1999


GULF OF MEXICO
DEEPWATER LEASING ACTIVITY
1990-2000
800+ m
1401 - 800 m
200 - 400 m
DWRRA PASSED
DEEPWATER LEASES
1,400
1,200
1,000
800
600
400
200
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000

STATEMENT OF MARK DAVIS, COALITION TO RESTORE COASTAL LOUISIANA

Mr. DAVIS. Thank you, Madam Chairman, members of the Committee. It is a pleasure to be invited here today to share in this discussion.

Clearly energy issues are getting heightened attention in this country at this time and we tend to find that here in the central and western Gulf of Mexico, when such topics come up, we share disproportionately some times in the benefits and burdens of whatever decisions are made.

Let me begin by stating that the Coalition to Restore Coastal Louisiana is a non-profit, non-partisan organization devoted to the stewardship and restoration of coastal Louisiana, which is truly a vanishing national treasure.

We have no particular expertise on energy policy, we do not have any idea what the reserves are in the OCS areas or what level of protection would be sustained by them. But what we do have, as you heard from Secretary Caldwell and Mr. Falgout, we do have extensive experience in dealing with the consequences of offshore oil and gas development. Predictably that is a mixed bag. Sometimes there is the good and there is the not so good. And since we were invited here today to talk really about the constraints, I will confine my comments to the not so good category, for the information of the Committee.

We see the impacts from OCS activity falling into three basic categories—the environmental, the societal and the economic. There are not easy lines between these and I will refer to them, for purposes of convenience, but I would urge that they be looked at holistically.

Environmental constraints that OCS activity finds itself dealing with, I think are fairly obvious to those of us who live on coastal Louisiana. There is no way that you can talk about doing the kinds of development that we have at least seen here without recognizing that negative environmental consequences will ensue. It is not a question of if, it is a question of when, where and how much. We bear witness to those facts, as again I think Mr. Caldwell pointed out and as did Mr Falgout. Our coast is laced with evidence of oil and gas activities from wells, production facilities, supply bases, access canals, pipelines, fabrication yards, waste pits and many more. And while there is some debate as to how much oil and gas activity has contributed to our land loss situation here in Louisiana, which we currently lose roughly around 25 square miles of land each year, there is not a debate that the oil and gas activity and OCS activity is a contributor. There was a study that was completed here at the University of New Orleans last year that suggested that, or stated that between 1932 and 1990, about 36 percent of the land lost in that time period was—a significant contributor to which was oil and gas activity. That is nearly 250,000 acres in the delta plain alone. Now I am not suggesting that all of that land loss activity was due to OCS activity or that other states would share that same experience, but we do know that future activity would continue to affect Louisiana and that other states that want to learn from our experience should take note of what happens if you do not adequately plan. And I think that, you know, taking

stock and planning is one of the lessons we think should be drawn here.

To confirm that this is not all just history and that clearly we do things much better than we once did, one need look no farther than the draft environmental impact statement for Lease Sale 181. The pipelines from that proposed lease sale are expected to impact over 6000 acres of wetlands in coastal Louisiana, particularly in Plaquemines Parish. That is not insignificant and is a very major impact. It is also expected to create the need for up to three new municipal landfills, it is expected to create the need for at least one new non-hazardous oilfield waste facility. And I would note that the non-hazardous designation is one that is of Congressional creation and is not one determined by its chemistry. And that is a distinction which has not been lost on communities that are looking at the prospect of hosting the units.

The list of other concerns on the environmental front go on and include brine and produced water discharges, contamination and exotic species that can come from ballast water, flaring and airborne releases and the destruction of coastal environments by the building or expansion of transportation facilities and support facilities. And of course, there is the issue of oil spills. And while no one likes to acknowledge the fact that, you know, spills are a fact of life, they are. There is no way to do this kind of activity without oil spills occurring. Mechanical failure, natural catastrophe, human error and a number of other things will contribute. They are not easy to clean up and often our ability to remediate the harm from an oil spill or from some of these other impacts is limited at best and it needs to be understood that avoidance, to the extent one can, often is the preferred—is always in our view the preferred route.

On societal constraints, we notice as we look across the Gulf—this is not so much the case with Louisiana—that there is a trend toward coastal communities becoming not maritime, not harvest oriented but increasingly lifestyle oriented. And we find in those communities oil and gas activity, particularly that supporting offshore, is viewed as being incompatible with the lifestyle and economic development plans of those communities.

I am not suggesting that my values should be substituted for anyone else's but those are constraints that are very real and they are every bit as real from the standpoint of those communities and those property owners who appear for their quality of life and their property values as is the pump price of their monthly utility bill. And we would urge that again, those not be viewed as aberrations of Coastal Zone Management Act or Clean Water Act or any other particular environmental law. Those are societal drivers and they need to be addressed.

I think the economic constraints have already been adequately addressed by Mr. Falgout. I will sum it up merely by saying that for coastal states, although offshore oil and gas development may be good for the economy of the country, it is often a bad deal for the states and communities that host the support activities. And until those costs and inequities can be addressed, that will continue to be a constraint as to the welcomeness of offshore oil and gas from the standpoint of those states and communities.

And with that, I will conclude my testimony and take any questions.

[The prepared statement of Mr. Davis follows:]

Statement of Mark Davis, Executive Director, Coalition to Restore Coastal Louisiana

My name is Mark Davis and I am the executive director of the Coalition to Restore Coastal Louisiana. The Coalition is a non-profit, non-partisan environmental education and advocacy organization formed in the mid 1980s by conservationists, local governments, business, environmentalists, civic and religious organizations who shared a concern about the fate of the greatest coastal wetland and estuarine complex in the 48 contiguous United States and a commitment to the responsible stewardship of those natural treasures.

On behalf of the Coalition to Restore Coastal Louisiana I would like to thank Chairman Cubin and the other members of the subcommittee for inviting us to be a part of this field hearing on Outer Continental Shelf Oil and Gas issues. Clearly, energy issues are getting heightened attention at this time. Decisions about how we define and meet our energy needs will affect the people, environment and economy of this country for years to come. And if past is prelude, they will affect the Gulf of Mexico region—particularly coastal Louisiana and coastal Texas—more than anyplace else. To the extent our experience can help inform those decisions we are pleased to offer it to you.

Let me begin by stating that the Coalition has no idea of the size of the estimated oil and gas reserves in our nation's OCS areas, no idea about the level of production that resource base could support, no expertise in the energy policy area, and we have no position on the President's proposed energy policy. What we do have is experience living with the consequences of supporting OCS energy development, consequences that may prove to be constraints on further development of OCS resources.

Simply put, it is our experience that the development of offshore mineral resources has dramatic impacts—environmental, societal, and economic—that need to be considered before our nation decides if and how to expand OCS activity. Clearly, those impacts will be a mixed bag—some good, some not. Since we were asked here today to help the subcommittee understand some of the constraints on OCS activity we will focus our comments on those in the "not so good" category.

Environmental Constraints

We know that there has been much discussion recently about whether oil and gas activity puts a significant stress on the environment and about whether the current state of the art is such that new activity—particularly OCS activity can be done without significant impacts. From the perspective of coastal Louisiana, we believe the record is clear that oil and gas activity has had significant negative impacts, that those impacts continue to this day, and that future activity will likely have major adverse environmental effects. We make this statement not to cast blame but make the simple—we believe indisputable—point that environmental damage is not a question of "if" but of "where, when, and how much".

Coastal Louisiana bears witness to those facts. Our coast is laced with evidence of oil and gas activity. Wells, production facilities, supply bases, access canals, pipeline canals, fabrication yards, waste pits, refineries, and other earmarks are regular features of the landscape. While there is debate about how much of Louisiana's crisis-level land loss has been due to oil and gas activity, there is no debate over whether it has been a material contributor. Most recently, a study done here at the University of New Orleans with the assistance of the U.S. Army Corps of Engineers and the U.S. Geological Survey concluded that oil and gas activity was responsible for 36% of the landloss in Mississippi River deltaic plain between 1932 and 1990. That is 249,152 acres of land that is now gone.

I do not mean to suggest that all of that land loss is due to OCS activity or that such dramatic impacts are necessarily indicative of what other coastal areas should expect. But it is clear that OCS does contribute, directly and indirectly, to the environmental degradation of this area and that no one should assume that it will not continue in the future or that others would be spared their own version of our experience if they do not plan for those impacts up front.

To confirm this, one need look no further than the Environmental Impact Statements prepared by the Minerals Management Service for lease sales in the Gulf of Mexico. For example, according to the draft EIS for Lease Sale 181 in the Eastern Planning Area, up to seven new pipelines will be needed transport oil and gas to shore. Even with today's best practices, more than 6,000 acres of wetlands in South-

east Louisiana are expected to be impacted. That is not insignificant. That lease sale is also projected to create the need for three new municipal landfills in coastal areas to accommodate the waste and debris generated by the offshore industry and at least one new waste facility for "nonhazardous oil-field waste. I would like to point out that in the latter case such waste is deemed "nonhazardous" by Congressional fiat rather than by its actual nature, a fact that has not made such facilities popular additions to local landscapes nor has it boosted confidence in the Federal Government's ability to fairly balance benefits and burdens when it comes to energy policy.

The list of other environmental concerns goes on to include brine and produced water discharges, contamination and the introduction of exotic species from ballast water, flaring and airborne releases, and the destruction of coastal environments by the building or expansion of the transportation and support facilities needed to conduct offshore work. And, of course there is the issue of oil spills. It is important to up front and honest about spills. They will happen. Whether due to natural catastrophe, mechanical failure, human error, or other causes spills will occur and our ability to clean them up and remediate their harm is limited at best.

Societal Constraints.

In coastal areas, there is a close relationship between the environment and our local cultures and quality of life. Coastal areas have traditionally supported and been defined by local activities such as commercial and sport fishing, hunting and trapping, and beach oriented tourism. In recent years, however, there has been an explosive growth in coastal areas as retirees, "second-home vacationers", casinos and mass-market tourism have taken hold. A desire for a better quality of life and a desire for a "sun and sea" lifestyle often spur these developments. These trends have redefined the economies and cultures of many coastal areas and have taxed the ability of local governments, sanitary and transportation infrastructure, and the natural environment to support this growth. All of this presents a problem for OCS development.

First, as I just mentioned, many coastal areas are expanding so fast that their ability to accommodate the offshore industry may be problematic. Waste handling facilities are already being stretched, transportation arteries are beyond their capacity and areas that were once industrial are now being shifted to other uses. The Gulf coasts of Alabama and Mississippi are prime examples of these trends. There are limits to what these areas can support and offshore development may be constrained by those limits.

Second, and perhaps more importantly, community values and economic development plans for many coastal areas are just not compatible with oil and gas activity. Whether these positions are based on hard science, is just a matter of perception, or just rooted in self-serving NIMBYism (not in my backyard) is frankly beside the point. When people feel that their property values, their quality of life, and the environment are about to be diminished it matters—, as I am sure all of the Subcommittee members are well aware. There are reasons most of our OCS areas are presently off limits to energy development and those reasons are as much a part of the marketplace of values and costs as are pump prices and our monthly utility bills. I won't pretend to substitute my judgement or values for anyone else's but I will tell you that the belief that OCS development is incompatible with environmental stewardship and the best interests of communities is widespread and it runs deep. That is, and will remain, a constraint. And I would caution that though those objections often find their voice through such Federal laws as the Coastal Zone Management Act, the Clean Water Act and the Endangered Species Act it would be a mistake to believe that those laws are the source of the societal constraint.

Economic Constraints

The final constraint I will touch on is economic. When OCS energy development is discussed in this country the proponents usually point to our economy's need for dependable, affordable oil and gas. The economic issue that often goes undiscussed, however, is the cost that states and local governments incur in supporting that industry. Costs that often far exceed any economic benefits produced locally by that activity. I know I don't need to belabor that point for the members of Louisiana's delegation who recognized that inequity and strove to address it through their strong support of the Conservation and Reinvestment Act. For the benefit of the other members of the Subcommittee, however, let me put it bluntly—though OCS development may be good economically for the country, it can be a bad deal for the states and communities that serve as its logistical support base. Again, the MMS Environmental Impact Statements can be instructive.

According to the most recent EIS, virtually all waste generated off shore must be disposed of in municipal landfills on shore. Managing those sites creating new waste

sites is left to the locals to deal with. When crew boats erode waterways the problems are left to the locals to live with or fix. When truck traffic from oil-field service ports cause roadways to clog and crumble, it is the state and local governments' problem to deal with. When transient oil-field workers occasionally run afoul of the law it is local jails that pick up the tab. And when a pipeline or spill damages or destroys a wetland it is the local fishery and tax-base that take the hit. In return for this, the state and local communities do not get a dime from the lease or royalty revenues that flow into the Federal treasury.

Until those economic costs and inequities are understood and addressed they will to continue to constrain the further development of OCS areas.

Conclusion

In this brief time, it is not possible to address all of the constraints that face OCS oil and gas development. I do hope, however, that I have provided some insight into the types of issues you and other policy makers will be facing as you try to craft a national energy policy. Yours is not an easy task. If we can assist you in that task by answering any questions or providing you with additional information we would be delighted to do so. Thank you again for allowing us this opportunity to appear before you.

Ms. CUBIN. Thank you.

Mr. Davis, I absolutely do not disagree with anything you have said. Some of the mineral production booms were so fast and so big that people literally sometimes lived in tents because they could not build houses quickly enough. And the schools are over-crowded and so your point that planning is important, I think is key absolutely.

I do believe, based on my land-lover upbringing, that resources can be developed and we can take care of the environment in an environmentally sound way as well, but it takes money and it takes planning, just like you said.

When I was reading your testimony, Mr. Baiamonte—let me find it where it is in the testimony, you talked about the IPAA and some other trade groups feeling that MMS' analysis of the field side distribution in the Gulf of Mexico is somewhat flawed and that—what makes a field basis more attractive than the lease basis. I should know that, but I do not know that.

Mr. BAIAMONTE. It is actually just the opposite.

Ms. CUBIN. Oh, okay.

Mr. BAIAMONTE. We would prefer lease-by-lease basis rather than—

Ms. CUBIN. Sure, that is what it has. Okay, why is that?

Mr. BAIAMONTE. Well, a field could comprise several leases or several different sections.

Ms. CUBIN. Right, I know that.

Mr. BAIAMONTE. You could have competition, you have different owners to those leasehold rights. So what we are saying is that the owner of one particular lease, whether or not the reservoir may continue into another block or several blocks, the incentive should be enjoyed by that particular lease owners and the economics to drill a well become that much greater if he knows he is going to be able to enjoy the relief from that. But if the relief is going to be strung out and shared among several leases, then the economics become slimmer.

Ms. CUBIN. Oh, I see. So during that sale 187, that was on a lease basis, is that right? I mean 178, I am dyslexic. You look like a girl to me.

[Laughter.]

Ms. CUBIN. In your testimony also you said that the failure of the United States to recognize the need to respond to low oil prices of 1998-1999 resulted in adverse consequences for both oil and natural gas. What do you think the proper reaction of the government should have been?

Mr. BAIAMONTE. To give the industry more incentive. What happens, if the price goes down, yes, there is a—it creates the immediate economic impact. However, the industry takes several years to recover from that impact because we need to see where the prices are going to be in the future in order to plan on how to make your expenditures. So with the price jumping up and down, the uncertainty of that creates havoc on any of your plans, on any of your economics and your budgets on how to spend your money going forward.

Ms. CUBIN. Mr. Golder, I understand that you or that your company and a partner are strongly considering building a pipeline for additional Canadian maritime gas flow to the United States by way of the Gulf of Maine sea floor route. Do you think that there is a good potential for gas discoveries on the U.S. side of the OCS that could be tied into this pipeline?

Mr. GOLDER. In U.S. waters off New England?

Ms. CUBIN. Yes. Are you scared to punch a hole outside of Massachusetts?

[Laughter.]

Mr. GOLDER. Well, speaking as one company that fought for a decade to try to get the right to drill on leases that we took in good faith back in the 1980's and fought for another decade to get the money back that we paid for those leases and just received it last week—

Ms. CUBIN. Oh, you did?

Mr. GOLDER. We are not terribly enthused about drilling off the eastern coast of the United States until we have a clear coastal zone management program and a national energy policy to back it up.

We are, however, actively drilling off Nova Scotia and we do believe that there are adequate gas reserves there that will be found in the short-term to allow us put another pipeline into the New England markets and down into New York. We think that is an area that needs a lot of gas and that we can get it a lot faster from the Canadian side of the border than we can the U.S. side. And that is the reality with which we live.

Ms. CUBIN. Mr. Abercrombie, you were talking about new technologies in production and exploration and I know that the purpose of some of those new technologies is to allow the mineral to be produced for lower cost. But are there—is part of that technology also that makes it safer for the environment? How much environmental technology—how much has technology improved for the benefit of the environment, because that is a huge issue?

Mr. ABERCROMBIE. Absolutely. And I think the evolution of the environmental awareness and environmental protection taken by companies, large and small, in the Gulf of Mexico, has been quite a pleasant story to tell. The technology that has evolved in the environmental side and also the safety side with the type of equipment that is being used, with the type of procedures that are in

place, process safety management for instance, some of the new technologies to take care of overboard water that gets discharged to the Gulf, and the awareness of those organizations that—those companies that have organizations that work on that—has really led I think to significant changes since 10, 15, 20 years ago even. It is still—the type of equipment that is used nowadays goes far beyond just a few years ago.

Ms. CUBIN. Mr. Davis, you referred to that in your testimony. Would you like to respond?

Mr. DAVIS. Well, we would agree. We see a vast improvement over what we saw 20-30 years ago. But in an environment such as we have, at least in coastal Louisiana, and again ours is as different an environment as you have in virtually any other coastal area, that again the impacts are still fairly pronounced and they tend to have secondary and cumulative effects. And mitigation is difficult to do successfully, certainly affordably. And if you look at the experience with the LOOP pipeline and the amount of I guess land owner concern about whether or not that was done in the most sensitive manner and whether the mitigation effectively worked is instructive of how difficult it is to do this kind of work to everyone's satisfaction, if you will.

But it is an evolving art and we appreciate that and we understand that, and these are things that this country needs, but how one does it is often the question. I think again, if we plan for this as opposed to letting it be handled on the fly—an issue such as produced waters, it took litigation to enforce the produced water provisions of the Clean Water Act. It took a fair amount of litigation to essentially make sure that wetlands are being better protected. If those things can be worked into the policy on the front side and take some of the controversy out on the back, I think it will be a whole lot easier to get people to feel comfortable with this. But I would agree that there is no question that if you look at the kind of practices that are commonplace today, they are a vast improvement over what was begun with when we started doing work at least in this coastal environment.

Ms. CUBIN. What is your position on the two-lane highway?

Mr. DAVIS. You mean to Fourchon?

Ms. CUBIN. Yes.

Mr. DAVIS. Yes, every time we mention two-lane here we have to be very specific.

We would agree that the situation on Highway 1 is a great example of a necessary corridor that needs to be improved and it is one that the problems that are threatening that highway are also the ones that are threatening the entire coastal ecosystem down there.

So we view it as being part and parcel I guess of a comprehensive solution, if it is done correctly. And we also would agree that as long as the state and other states do not share in the revenue stream, there is no reasonable expectation that they are going to prioritize that kind of investment.

Ms. CUBIN. I agree.

Mr. DAVIS. Until an emergency arises.

Ms. CUBIN. Mr. Gibbon.

Mr. GIBBONS. Thank you, Madam Chairwoman.

Let me add that gold is very resistant to weathering and—

[Laughter.]

Mr. GIBBONS. —will come up looking quite well. It will be a nice addition to that highway and we would be happy to trade some our gold for the oil and gas that is produced up here as well.

Ms. CUBIN. But you do not pay royalties.

Mr. GIBBONS. We will—we will.

Mr. Abercrombie, I was going through your testimony and there is an issue that the Chairwoman brought up about the Florida demand, what is happening in Florida and then of course the eastern Gulf restrictions that are there and some of the charts that are in your testimony, and I look at the eastern Gulf of Mexico chart, the NPC increase with 181 sale in there going from I presume about 500 billion cubic feet up to 1.6 trillion cubic feet. Of course the chart in there also shows the demand in Florida of about 1.1 trillion cubic feet over the same period of time.

Do you believe that without 181—and I think that sale is supposed to occur in December?

Mr. ABERCROMBIE. Right.

Mr. GIBBONS. Do you believe without that sale that this nation could meet its energy demands over the next few years?

Mr. ABERCROMBIE. Speaking personally, no, I do not think they can. And the reason I say that is when you looked at the chart earlier that was up of the 1986 offshore lease area with the number of pipelines that were out there, you saw the blocks that were leased at that particular time. What you did not see is what that looked like in the year 2000, which would show those blocks going all the way down to the bottom of the map. And there are a number of discoveries that have taken place off Louisiana, off Alabama and what-have-you. When you carry that map over, everything stops right at the Florida/Alabama line. You have a huge potential right there that can certainly add to our energy supply that is not being utilized at this time—great potential.

Mr. GIBBONS. What do you believe it will take to bring to reality a recognition that the resources of this country that we have available could be developed to meet our needs—or should be developed to meet our needs, perhaps would be better said. What do you think it would take, is it going to take an energy crisis much like we see the electrical crisis in California to bring an awareness to this need? What is it going to take to move us out of this resistance to not-in-my-backyard-at-any-cost-anywhere-at-any-time attitude that states along the eastern coast have? What do you think it is going to take?

Mr. ABERCROMBIE. That is a good question because you go out to California these days, as I have in the past few months, and there are still a number of people that ask what energy crisis there, even though they have rolling blackouts. My folks and family have gone through that and still ask the same question. It just makes you wonder. There needs to be a very clearly defined energy policy laid out, very clearly defined. There needs to be, in my view, a number of steps in that energy policy that say these are the steps we are going to take—open up new lands, energy conservation measures that need to be taking place, incentives for the industry to be able to go and have, I think, chances of success in these new areas that

are opened up, need to be very clearly articulated and very clearly expounded to the population at large.

Mr. GIBBONS. Let me say that with regard to the energy crisis in California, that Nevada is paying half price. California over the last 20 years has refused to build one new power plant in the state of California because they did not like the idea of destroying a view shed by a power plant that would be generating their own electricity. Just within the last 3 months, since this crisis in California has bubbled to the surface, California has come to the State of Nevada and asked Nevada to build 12 new power plants in Nevada to generate power for California.

[Laughter.]

Mr. GIBBONS. Because they cannot get it accomplished in California due to the resistance of some environmental groups that just refuse to have anything built in their backyard.

Again, I see the same transition in states that have resources that refuse to address those issues and that is why I asked the question what crisis will it take for this nation to make that recognition.

Do you believe there is a political reality to seeing the eastern Gulf developed, whether it is in the Atlantic or the eastern Gulf shore or the north Atlantic portion off the United States developed for oil and gas?

Mr. ABERCROMBIE. Yes, there needs to be that. Whether it is there or not is a good question. From what I have read in the papers, very true, but there absolutely needs to have that acreage open for national security and our national supply.

Mr. GIBBONS. Madam Chairman, if you will allow me just one final question and I know the time has rapidly gone by.

Ms. CUBIN. Take your time.

Mr. GIBBONS. I just wanted to address Mr. Golder with one question about his belief whether or not the re-instatement or the reenactment of the Royalty Relief Act for 5 years, is that going to have a measurable benefit to oil and gas industries in this area?

Mr. GOLDER. I do not believe there is any question. If we had a 5-year continuation, for example, of the original terms, with the proper recognition for the escalators that were in the original legislation, to carry out the original intent, we would be far better off as a nation in terms of our supply of oil and gas.

I think we have heard on this discussion here that you cannot take energy policy in isolation. You cannot take one piece of legislation in isolation. It is a good step forward and it needs to take the second step. That is our opinion. But it has got to be part of a broader planned approach. You will not get buy-in—if I may piggyback on Mr. Abercrombie's answer there, you will not buy-in in the Atlantic coast or in the Florida waters until you do engage the population, you do engage in a planned discussion of how you go about balancing the various needs.

Working around the world over the last 30 years, I can assure you that the way we do it here is not the norm in many other areas. And although there are pluses and minuses in both systems, in this area, I do not think we plan and carry out our business and energy policy and the best use of the land as efficiently as we could.

Thank you.

Mr. GIBBONS. Thank you, Madam Chair.

Ms. CUBIN. Mr. Vitter.

Mr. VITTER. Thank you, Madam Chairwoman.

I wanted to ask the three industry folks the same tax question I asked before, if you made a short list of tax issues to help spur production, what would that short list be and let me also ask how would those tax issues compare in significance to the royalty relief you are talking about?

Mr. GOLDER. Well, as one of the larger integrated companies represented here, I think our view is a little different perhaps than the pure independents'. In our case, the things that are most important are access to acreage, having a good balance of ability to access that and to go forward with development and that means you must have royalty relief and you must have certainty of a plan. We are more interested in the overall energy policy and having a few key basic principles established that are there for a long period of time. That gives us the certainty to plan, to go into deeper water or to drill the deeper and more challenging wells. It is not at all untypical today in the deepwater Gulf of Mexico for your wells, your exploration wells, to cost $40 to $110 million apiece. And you do not take those obligations on lightly. It takes a sustained period.

In our case, AMT and some of the other things are not as critical. They are important to the industry as a whole and therefore we do support an across-the-board approach. We tried to argue very articulately here about the need for a variety of company sizes and types to work even in the deep water and the difficult areas, because we believe in competition. So what is good for them is good for the industry we feel.

Mr. ABERCROMBIE. From Dominion's standpoint, a much smaller company than Marathon or the majors, the major issues that we see for us are royalty relief and royalty in kind. We do not have the deep pocketbooks that a company like a Marathon would have or maybe Shell or Exxon or Mobil, what-have-you. And we do participate in $40 million wells. The obstacles that are required to jump over not having royalty relief in that 200 to 800 meter area are significant for the economics and long-term viability of a project.

Royalty in kind is another area that we spend actually a significant amount of time, as does the government, in working through the audits and administrative issues to make sure that the accounts are accurate. You can save an awful lot of money by eliminating that. So we pretty much buttress what Mr. Golder just said, in the same type areas, even though we are a much smaller company than they are.

Mr. BAIAMONTE. I will sound like a broken record. Royalty relief is certainly necessary ongoing, in addition to other elements. But from a tax standpoint, expensing the G&G costs and the intangibles—as was mentioned, wells cost millions and millions of dollars to drill. In conjunction with other benefits such as royalty relief, if we could perhaps have some tax benefits to being able to fully expense these expenditures, that would certainly help fund future development and exploration.

Mr. VITTER. Okay, thank you.

Mr. Davis, I do not disagree with anything that you said, obviously none of this can happen with no environmental change or cost. But it also seems to me, to look at our coastal situation, which is basically the product of the 50 previous years and a lot of activity which is very different than what we are talking about now, is to sort of compare apples and oranges. I mean, would you agree or would you not agree that our coastal problems are associated with activity in the same industry, but that is very different than most of the activity we are talking about here in that it was shallow and swamp activity versus OCS and that it was, you know, with technology and a level of environmental sensitivity that are on two different planets.

Mr. DAVIS. Obviously you are dealing with, to some extent, apples and oranges. But both the apples and the oranges need to be looked at in their own right. Because right now, what we still see is, for example, a large number of pipelines coming which leave a very deep footprint which facilitate saltwater intrusion. We also have a great deal of support activity. Again, the boat wakes and things like that from the crew boats have been a significant factor, especially in places like Freshwater Bayou, and of course, there's the siting of waste facilities and things like that. It is not the same kind of activity where we saw the Key Hole Canals being put in the coastal environment and again, as I say, I am not trying to suggest that that is. But I think it is important to recognize that it is very difficult to put in a 20-inch pipeline through a marsh environment or a barrier, dynamic barrier shoreline, without a significant, not only footprint, but secondary and cumulative effect. And at least from some of the things I have seen in the general media, I do not think that is adequately understood. There is a lot of talk about drilling but as was mentioned earlier, drilling is not where we see major impacts. We do that with greater precision and with far less impact. It really is in the transportation, storage and the support of offshore oil and gas activity that we see the most dramatic landward impacts. And again, we are not trying to fix yesterday's problem, but we should make sure that we understand that we have not figured out how to do this without significant impacts. And we should just again go ahead and plan for that, because as Ted mentioned, that is one of the things we do not do, we tend to plan for production in the energy policy realm, we tend to plan for the remediation in the environmental or the fisheries realm and never the twain shall meet and I think that that creates needless conflict when it could be harmonized on the front end by, you know, policies that are more comprehensive.

Mr. VITTER. And just to follow up, is part of what you are saying that the real live environmental issues today are coastal impacts that your group focuses on and that is far more meaningful and significant than spills really. I am not saying spills do not happen.

Mr. DAVIS. Right.

Mr. VITTER. But that is a far more significant impact than the spills that most people think about in terms of environmental issues.

Mr. DAVIS. For us, yes. At least in this environment. First of all, it is hard to plan not to have a spill. Everyone plans not to have one. I mean when you're putting in pipelines and things like that,

those are the kinds of things that you actually can anticipate the impacts. And for example, we tend not to see pipeline corridors here. You can end up with just dozens and dozens of pipelines crisscrossing and there is no effort made to essentially concentrate those impacts, coordinate mitigation and that is the kind of stuff that we see. And also it helps you predict where you might have spills. Anybody that tells you that they know where all the pipelines in coastal Louisiana are, has not been around very long. This, again, as Jack Caldwell mentioned earlier, is a spaghetti bowl.

So those kinds of things, you know, do fuel spills but spills are a part of the problem, an inevitable part, but they should not be the driver, in our opinion, as to what the environmental impacts are going to be.

Mr. VITTER. Thank you, Madam Chairman.

Ms. CUBIN. I wanted to make just a quick statement about royalty in kind and the rule that was adopted for oil and gas valuation. I had in the past introduced legislation for royalty in kind and we were able to get some pilot projects, as you know. We didn't offer that legislation in the last Congress because there was no point. The administration wasn't going to let it happen and so forget it. But I do think that that is a way to save a lot of money for the states, for the Federal Government, for the producers and that is something that we will probably be pursuing again. And it is a good time with the energy crisis such as it is.

Well, thank you for your testimony and your answers to the questions.

And now the final panel will please come forward. Mr. Ben Hare, the American Association of Petroleum Geologists; Mr. C. Grady Drago, Chairman of the Board of the Lincoln Heritage Institute; Mr. Charles Bedell, Murphy Oil Corporation; Mr. Paul Kelly, Senior Vice President of Special Projects, Rowan Companies, Inc. and Mr. Harold Schoeffler with the Delta Chapter of the Sierra Club.

Again, I need to remind the panel that the Committee rules require the oral testimony to be limited to 5 minutes, but we will include your entire testimony in the record.

So, first, I would like to recognize Mr Ben Hare with the American Association of Petroleum Geologists.

STATEMENT OF BEN HARE, AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Mr. HARE. Good afternoon and thank you for the opportunity to address the Subcommittee on OCS oil and gas issues. My name is Ben Hare and I am Chairman of the Committee on Resource Evaluation for the American Association of Petroleum Geologists. We track the assessments that the various agencies do on national resources, things like ANWR, national assessments, whatever assesments the agencies perform.

My good friend Naresh Kummar, Dr. Naresh Kummar, addressed this Subcommittee back in March and he stressed two points in his presentation:

(1) Hydrocarbon assessments are a valuable source of data and give us an estimate of what resources might be available; and

(2) In order for resources to be converted to proved reserves and subsequently to supply, exploration has to occur.

In regard to assessments, the Minerals Management Service published assessments for the OCS in 2000 and including Alaska, the MMS estimated mean conventional recoverable resource values for the OCS of 362 Tcf of gas and 75 billion barrels of oil. Excluding Alaska, the volumes estimated are 240 Tcf of gas and about 50 billion barrels of oil. However, as shown by Exhibit 1, not all of this resource is available for exploration and possible conversion to supply.

In the Pacific, Atlantic and eastern Gulf of Mexico, due to restricted access, 76 Tcf of gas and 16.8 billion of oil are not available for exploration. In the case of natural gas, this equates to about 32 percent of the estimated undiscovered resource for those areas (excluding Alaska).

Now because of the importance of natural gas as a clean burning fuel for electricity generation, I will focus my comments today on areas where natural gas is the most likely resource. Although the Pacific OCS has a sizable estimated gas resource, the southern California basins, which we know the most about, tend to be oil prone and so I will restrict my comments to the Atlantic OCS and eastern Gulf.

As you can also see on Exhibit 1, the Atlantic and eastern Gulf have substantial estimated gas resources and if you will, please note the substantial Canadian resource that is in the process of being explored for and drilled right now of about 50 Tcf and 10 billion barrels of oil. I will talk more about that later.

In fact, what I would like to go to now is in the eastern Gulf and in the Atlantic OCS, where previous exploration has demonstrated that gas has been generated and trapped in the U.S. portion of the Atlantic and in the eastern Gulf of Mexico. In 1973, a lease sale was conducted in the eastern Gulf which resulted in $1.5 billion in high bids. Subsequent exploration resulted in the discovery in the Destin Dome area some 40 miles south of Panama City, Florida. Estimates for the size of this reserve range from 1.3 to 1.9 Tcf of gas. Currently, development and production are delayed because of a lawsuit between Chevron and its partners against the U.S. government over delayed plans, permit and appeal associated with the proposed development plan.

In the Atlantic OCS, geological conditions are also favorable for generation and trapping of natural gas. There was a round of leasing in the mid- to late-1970's which resulted in one discovery. Texaco and partners discovered natural gas at Hudson Canyon, some 80 miles off the New Jersey coast. The discovery of 290 billion cubic feet of gas was deemed non-commercial at the time. But perhaps more significantly in regard to the Atlantic OCS is what is taking place in the Canadian portion of the Atlantic. At Hybernia Field offshore Newfoundland where Exxon Mobil is the operator, 150,000 barrels of oil per day are being produced. At Sable Island, offshore Nova Scotia, 3.5 Tcf of gas has been discovered. In fact, as shown on Exhibit 2, this development began delivering in early 2000, 400 million cubic feet a day to the New England market. One of our AAPG colleagues estimates this is enough gas to heat over one million homes in the northeast, which currently rely on heating oil. If this favorable geology were to extend into U.S. waters, it could provide a significant energy supply for the eastern U.S.

Richard Nehring, an AAPG member and a member of our Committee on Resource Evaluation, has done extensive research on outer continental shelf reserves, production, and rates of discovery for oil and gas. He has suggested that present OCS policy has forced the country to rely solely on the central and western Gulf of Mexico for offshore gas production. This reliance cannot last indefinitely. For the past 3 years, gas production from the Gulf has declined slightly and although gas production from the deepwater is increasing, recent exploration activity has indicated that the deepwater area is largely oil prone and cannot be counted on for long term high discovery rates for new large gas fields.

Let me conclude my remarks by stating that the U.S. has a significant estimated resource in the Atlantic and eastern Gulf of Mexico. Previous exploration in the U.S. and Canada have shown natural gas to be present and trapped. For those resources to be converted to reserves and ultimately to supply to meet the nation's energy needs, exploration and production must occur.

Thank you.

Ms. CUBIN. Thank you, Mr. Hare.

Mr. Drago—tell me how to say that.

[The prepared statement of Mr. Hare follows:]

Statement of Ben Hare, Ph.D., Chairman, Committee on Resource Evaluation, American Association of Petroleum Geologists

Thank you for the opportunity to provide the view of the American Association of Geologists on oil and gas issues concerning the Outer Continental Shelf. I am Ben Hare, Chairman of the Committee on Resource Evaluation of the AAPG.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

The AAPG was founded in 1917 in Tulsa, Oklahoma to advance the science of geology, especially as it relates to petroleum, natural gas, and energy mineral resources. Today AAPG has a membership of more than 30,000, with members in virtually every petroleum-producing province in the World. It is the largest professional geological society in the United States. The membership of AAPG is proud of the contributions it makes in supplying the world with reliable and inexpensive energy, in developing new ways to do that job better, and in the education of new geoscientists to carry on the tradition. The AAPG believes the nation's resources can be explored and developed in an environmentally safe and sound manner.

Because much of the membership is engaged, either directly or indirectly, in the search for hydrocarbons and the economic development of hydrocarbon deposits, the AAPG is keenly interested in understanding the amount and geographic distribution of hydrocarbon reserves and resources. AAPG advocates a comprehensive national energy policy based on sound science and knowledge of the nation's resources and reserves.

COMMITTEE ON RESOURCE EVALUATION (CORE)

In 1993, the AAPG Executive Committee chartered the Committee on Resource Evaluation (CORE) to "provide input and facilitate U. S. Government agencies in performing assessments of U. S. hydrocarbon resources." The charter was amended in 1997 to include international assessments so CORE would have a worldwide view of hydrocarbon resources. In several instances, CORE has made individual AAPG members with specific knowledge of certain geological provinces available to various agencies.

The Committee membership consists of employees of major petroleum companies, independent geologists, two directors of state geological surveys, three past AAPG Presidents, a member of the Potential Gas Committee (Colorado School of Mines), the Canadian Potential Gas Committee (University of Calgary), and the USGS. Although the membership is diverse, all are very experienced professionals and have a great deal of expertise in the science and technology of reserve and resource estimation. At most of its meetings, CORE has invited guests from the USGS and MMS, as well as other experts who can contribute to our knowledge of the nature,

amount, and geographic distribution of potential petroleum resources, and yet to be discovered resources. CORE does not restrict its interest to conventional hydrocarbons but includes coalbed methane, shale gas, basin-center gas in continuous reservoirs, and to some extent, gas hydrates.

Since its inception, CORE has reviewed the methodologies and scientific methods used for assessments by the U. S. Geological Survey (USGS) and has monitored the studies carried out by the Minerals Management Service (MMS). CORE has reviewed the methodology utilized by the USGS in its 1995 National Assessment of United States Oil and Gas Resources, the 1999 Arctic National Wildlife Refuge 1002 Area assessment, and the 2000 World Petroleum Assessment. For all of these, the Committee on Resource Evaluation has recommended the AAPG Executive Committee endorse the methodology and the AAPG Executive Committee has publicly done so. However, we have not endorsed any specific numbers for undiscovered oil and gas resources.

OUR RELIANCE ON HYDROCARBONS

I would like to emphasize that fossil fuels supply fully 88% of the nation's primary energy requirements. Today, the average U.S. citizen uses about 26 barrels of crude oil and 84 thousand cubic feet of natural gas per year. Thus, the U.S. with less than 5 percent of the world's population consumes about 25 percent of the world's petroleum production. Compare that with the Far East with 40 percent of the world's population that has a per-capita consumption of crude oil of less than one barrel per year and natural-gas consumption that is too small to measure. The lifestyle we have runs on energy. To sustain that lifestyle in the future, our energy needs will only increase.

In its Annual Energy Outlook (2001) Report, the EIA made the following projections regarding energy supply and demand over the next 20 years (1999–2020):

- GDP is expected to increase by 86%.
- Total energy consumption will increase by 32%.
- Petroleum demand will increase by 62%
- Natural Gas demand will increase by 45%
- Electricity demand will increase by 45%
- Despite a 37% increase in energy efficiency, crude oil imports will increase 40% to a total 64% of domestic supply, and petroleum product imports will increase by 148%

The National Petroleum Council 1999 study forecasts 2010 demand to be 29 trillion cubic feet with only 25 trillion cubic feet of U.S. production. Increased use of natural gas to generate electricity is driving this increase.

While we overwhelmingly rely on hydrocarbon resources and see only increasing prospects of future demand, the country has seen significant decline in domestic production. The oil production has declined by 37% since 1973. Domestic gas production declined from 22.6 trillion cubic feet per year in 1973 to 15.8 trillion cubic feet in 1983. In the late 1980s, the industry increased drilling activities, propelled by rising commodity prices and the application of new technologies, and by 1997 gas production had increased to 19.4 trillion cubic feet. Since then, it has remained essentially constant. However, demand continued to rise to 22 trillion cubic feet in 1999. This increase in demand in excess of domestic production has been met with imports, largely from Canada.

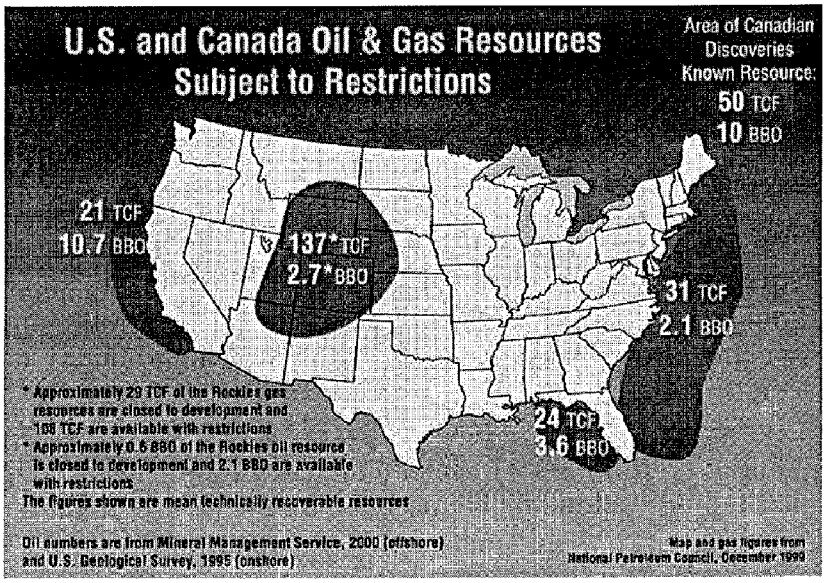
OUTER CONTINENTAL SHELF AS A RESOURCE

The total area of the U.S. Federal offshore, to the 200 nautical mile limit, including Alaska, is about 2 billion acres. This is almost the same size as the entire landmass of the United States excluding Alaska. Only 2 percent has been leased. Today the country receives 26 percent of its natural gas and 15 percent of its oil from the OCS. As you heard from MMS recently, a mean undiscovered economically recoverable resource of 46 billion barrels of oil and 168 TCF of natural gas exists in the Federal OCS at commodity prices close to what exist today ($30/bbl for oil and $3.52/mcf for gas). This is more than seven times the proven offshore reserves for oil and more than four times the proven offshore reserves of gas.

Yet, by a 1998 presidential directive, there is presently a Federal moratorium on any exploration of the Lower 48 OCS outside of the Central and Western Gulf of Mexico until 2012. As shown in Exhibit 1, the Atlantic OCS, the Pacific OCS and parts of the eastern Gulf are restricted from access. The Atlantic OCS area alone is almost 260 million acres, an area equal to one and one-half times the area of the state of Texas. The total OCS restricted area amounts to more than 400 million acres. This results in the U. S. spending billions of dollars for energy imports every

year while foreclosing exploration and possible production from an area equal to one-fifth the land area of the 48 contiguous states.

Because of these restrictions, most of these areas have not been fully evaluated. The last round of exploration in the Atlantic OCS ended over 20 years ago. Very little of the Atlantic OCS, even the most prospective parts, have been covered with modern 3-dimensional seismic. Therefore, any resources assigned to these areas, may be conservative.



The mean technically recoverable resource in the restricted OCS areas amounts to more than 76 trillion cubic feet of gas and more than 16 billion barrels of oil as shown in the table below.

Table 1: Amount of U.S. Oil and Gas OCS Resources Subject to Restrictions (MMS, 2000)

Area	*Oil (Billions of Barrels)**	*Gas (Trillions of Cubic Feet)**
Atlantic OCS	2.1	31
Eastern Gulf of Mexico	3.6	24
Pacific OCS	10.7	21
Total	**16.4**	**76**

*Figures are estimated to be mean technically recoverable resources.

In our previous testimony before this committee, we have demonstrated the amount of estimated resources tends to grow through time. Therefore, we believe that these numbers could similarly grow once exploration and development is permitted in these areas.

Richard Nehring, an AAPG Member and a member of our Committee on Resource Evaluation, has done extensive research on Outer Continental Shelf (OCS) reserves, production, and rates of discovery for oil and gas. He has suggested that present OCS policy has forced the country to rely solely on the Central and Western Gulf of Mexico for offshore gas production. This reliance cannot last indefinitely. For the past three years gas production from the Gulf of Mexico has declined slightly. Although deepwater gas production is currently increasing, recent exploration activity has indicated the deepwater area is largely oil-prone and thus cannot be counted on for sustained high rates of gas production. AAPG concludes this information warrants considering leasing and exploring for the gas resources estimated for the Eastern Gulf and Atlantic OCS.

THE DEEP OFFSHORE

In 1950, offshore production came from an average water depth of 40 ft and the maximum water depth for production was 200 ft. Today the average producing

depth for production is 500 ft and maximum producing depths have exceeded 6,000 ft. Modern 3–D seismic, long-reach drilling, and floating and sub-sea production systems have made this possible. Almost every country with marine waters is promoting exploration in the OCS and attempting to attract investment in their offshore, including the deep and ultra-deep waters. The 1500-ft water depth for production was only reached 20 years ago; today almost 12% of worldwide reserves is located in these waters.

We believe that Canada, Great Britain, Norway, Brazil, India, and numerous other nations all rightly understand that oil and gas development are vital to their economic wellbeing and can be done with minimal environmental impact. That is why all of these countries are not only trying to explore the deepwater arena, they are competing in the world market for investment dollars for deepwater projects. Whether we like it or not, the world is exploring in deeper and deeper waters offshore, partly because our own needs demand it. In fact, almost $35 billion in investments is scheduled for deepwater projects outside the US through the year 2004. Given the right environment, a lot of these investment dollars could be spent in US waters, providing jobs, helping the balance of trade, and enhancing domestic supplies. By exploring in our own waters, we could protect the environment commensurate with our own standards.

IMPLICATIONS FOR NATURAL GAS

Natural gas is a North American regional commodity. The United States cannot depend on gas imports from OPEC to meet rising demand. The natural gas that we need must come from U.S. production supplemented by hemispheric imports. As much as 14% of our supply may be coming from Canada over the next 15 years. Mexico is not a likely source of supply in the foreseeable future. In fact, we are now exporting a small, but increasing, amount of natural gas to Mexico for the growing industrial development just south of our border. Gas demand is skyrocketing, particularly as a "clean" fuel for electric power generation. Thus, the OCS as a source of gas becomes even more crucial.

In the resource figures mentioned earlier, we have not included the potential of shallow gas hydrates on the Outer Continental Shelf. Although we do not presently have the technology to recover them, gas hydrates are another major future potential energy resource. In its 1995 assessment of gas hydrate resources for the Atlantic OCS, the USGS estimated a potential resource in the range of 6,000 to over 100,000 trillion cubic feet. These figures dwarf any of the conventional resource estimates.

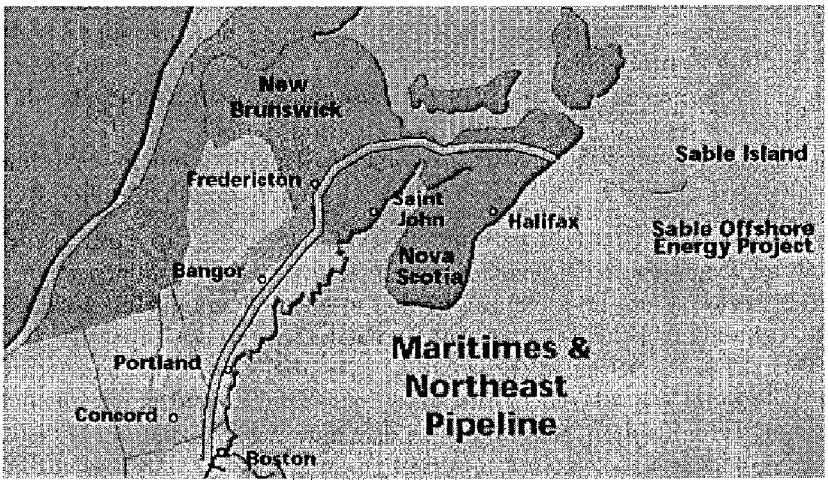
The nation needs to realize that without developing our own OCS resources, we will be relying more and more on oil tankers to bring our oil and liquid natural gas tankers to import LNG. We will need to develop ports to handle all of this traffic and develop long pipeline routes to deliver the gas. It may be very difficult to find ports in the U.S. that will accept such shipping, given the crowded conditions of those facilities. The development of new commercial ports in the U.S. will be extremely difficult given the fact that about one-half of our citizens live within 50 miles of a coastline, and few are willing to accept larger ports and more tanker traffic. An ever-increasing fleet of tankers with the corresponding risk of more spills will be needed to deliver our petroleum needs. We need to have access to our own public lands, including the OCS, which are prospective for natural gas.

THE RECORD OF OCS DEVELOPMENTS

With more than thirty fields with reserves of 1 trillion cubic feet or more, our own Gulf of Mexico is among the top twenty geologic provinces in the world. The coastal zone fisheries, tourism and marine environment have co-existed here with oil and gas development for over fifty years. Our own neighbors to the north, the Canadians, have successfully developed their portion of Lake Erie and have been producing natural gas there since the 1950's. The US portion of Lake Erie has a thicker sedimentary section, and would likely be more productive. New Yorkers could use the gas. United States law, however, prohibits exploration in the Great Lakes.

Since 1967 in excess of 300 exploratory wells have been drilled within the offshore outer continental shelf waters of the Canadian Atlantic. As shown in Exhibit 1, to date, at least 12 trillion cubic feet of natural gas and 2 billion barrels of oil have been discovered. These discoveries have been off the Scotian Shelf, the Grand Banks and the Labrador Sea. The Hibernia platform, 150 miles off the east coast of Newfoundland, is now producing more than 125,000 barrels of oil per day from a large platform on the prolific fishing grounds of the Grand Banks. Natural-gas production began at the end of last year from the Sable Offshore Energy Project, off the coast of Nova Scotia, just a few hundred miles north of Boston. Currently, 400 million

cubic feet of gas per day is coming into the New England market from these offshore production platforms via the Maritimes and Northeast Pipeline.



Assessments to date of the Eastern Canadian offshore indicate that the region contains in excess of 50 trillion cubic feet of natural gas and 10 billion barrels of oil. All of this is being accomplished within the prime commercial fishing waters and the pristine tourist coastlines of Eastern Canada. In fact, for more than thirty years offshore exploration and production calmly have co-existed with tourism and commercial fishing for the betterment of all concerned. Canada has demonstrated that gas exploration and production can be compatible with other coastal uses, including tourism

There is a major new Jurassic–Age deep carbonate-reef discovery offshore Nova Scotia called the Panuke Deep Gas Field. If successfully delineated, this new field alone could add an additional 400 million cubic feet of gas production per day. This is enough to heat over one million homes in New England that presently rely on heating oil. Petroleum geologists believe that the same types of oil and gas accumulations that exist in the Eastern Canadian offshore, may extend south along the U.S. Atlantic Coast, from George's Banks to the Carolina Trough, a distance of almost 1,000 miles. In fact, the carbonate-reef discovery mentioned suggests to many that similar potential may extend even as far as the Atlantic coast of Florida. A discovery made in 1978 off the New Jersey coast further supports the likelihood of these accumulations. This discovery, estimated to contain over 200 billion cubic feet of natural gas, was not developed at the time of discovery for economic reasons.

Similar potential exists in the Eastern Gulf. For example, a 1.3 to 1.9 TCF dry gas discovery has been made offshore Florida. This giant gas field has not been able to contribute to the nation's needs because of Federal and Florida State restrictions. It is difficult to understand why we cannot develop these fields, especially since offshore natural gas development poses little threat to any coastline.

New technologies now permit oil and gas development in a way that minimizes onshore surface disruption in environmentally sensitive areas. The British, for example, who are very protective of open spaces, agreed to develop the giant Wytch Farm Oil Field under Poole Harbour, which is in the middle of the most heavily visited coastal zone of the South of England. At the Wytch Farm development, long-reach deviated wells are drilled in a radial pattern from a camouflaged central well pad onshore, to locations up to seven miles out into scenic Poole Bay. Opponents of petroleum development cite old operating practices, and prior environmental abuses. The modern practices are much improved. Just like Canada, Great Britain, Brazil, Norway, Qatar, Thailand, Australia, and many other petroleum producing nations, America likewise can develop its offshore and onshore energy resources in environmentally sensitive areas in a safe and rational manner.

The concern over oil spills has been consistently overstated. Except for two incidents over the last 50 years, one off the coast of California over three decades ago and the other off Mexico in the 1980s, both of which could have been prevented, all major spills have come from tanker accidents. For the year 1998, the OCS produced more almost 500 million barrels of oil. The total volume reported spilled for

the year, in incidents where more than 50 barrels was spilled, was 500 barrels. That is one barrel out of every million produced. Most of these spills were cleaned up on the platforms and never reached the ocean.

SUMMARY

How important is producing domestic crude oil and natural gas? Is it important enough to permit access to prospective public-lands for exploration and development? Is it important enough to provide appropriate economic incentives for that development? Conversely, should we discourage the development of our domestic resources and increase our dependency upon other countries to supply our future petroleum needs? I need not remind you of the trauma faced by this country in our one experience with an energy crisis in spite of the fact that during that time we lost only 5 percent of our crude oil supply, the amount supplied by the Arab OPEC countries. If a 5 percent decline could cause the problems that we had then, think of what would happen today if we lost those same imports.

The nation has attempted to reduce the supply/demand imbalance by promoting alternative energy, conservation, increased efficiency, and by increased imports. After billions of dollars in Federally supported research, alternative energy only accounts for less than 1% of the total energy needs. We have made significant progress in efficiency. Compared to 1960, it takes almost 50% less oil and gas energy to generate one dollar of Gross Domestic Product. Unfortunately, most of the shortfall has been taken up by increased imports. Imports now account for 56% of our needs.

In order to maintain our lifestyle, the country needs energy supply. Sources alternative to hydrocarbons are not sufficient to meet demand. Conservation and enhanced efficiency are only part of the answer.

Resource assessments indicate a sizable resource is present in currently restricted areas of the OCS. For those resources to be delineated and converted to reserves and ultimately to "supply", exploration must take place. Both the Eastern Gulf and the Atlantic OCS are known to have generated and trapped natural gas. AAPG believes all potential sources of energy and increased conservation of hydrocarbons should be mainstays of the national energy policy. AAPG believes full exploration of the OCS, while safeguarding the environment, must also be an important piece of that policy.

STATEMENT OF C. GRADY DRAGO, CHAIRMAN OF THE BOARD, LINCOLN HERITAGE INSTITUTE

Mr. DRAGO. Drago.

Ms. CUBIN. Thank you.

Mr. DRAGO. Thank you, Madam Chairman. I would like to point out for the record that I am the former professional staff of the ad hoc Select Committee on the Outer Continental Shelf which drafted the P.L. 372.

Ms. CUBIN. Could you speak into the microphone? Thank you.

Mr. DRAGO. Surely. I am the former professional staff on the Republican side of the Outer Continental Shelf Committee and I was also the Chief Republican Counsel of the Select Committee which oversaw the implementation of regulations and then moved on the Merchant Marine and Fisheries Committee.

Ms. CUBIN. And we are sorry that that committee still is not up and running.

Mr. DRAGO. Gee. They would love to have heard that at the time.

Ms. CUBIN. I was not there then.

Mr. DRAGO. From the outset, the OCS energy development program has been beset with opposition. Congress dealt with the early issues in 1953 by passing the Submerged Lands Act and the Outer Continental Shelf Lands Act. The first act gave the states exclusive rights to resources in the sea bed three miles from their shoreline—Florida and Louisiana have 10.5 miles—while the Federal Government was given jurisdiction beyond the three mile limit.

The decision to significantly accelerate OCS leasing as a result of the 1973-1974 oil embargo when we were importing only 37 percent of our oil needs, raised many concerns and intensified opposition to leasing. It took three Congresses, the 93rd, 94th and 95th, to produce a consensus to the solutions of the problems causing opposition to OCS leasing. The result was S.9, the 1978 amendments to the Outer Continental Shelf Lands Act. Upon signing the legislation into law, P.L. 95-372, President Carter praised Congress for their work and expressed great hopes that since a consensus had been reached, we could now move ahead with a positive, safe, orderly, accelerated OCS program. Congress bent over backwards and worked very closely with those opposed to the accelerated leasing to solve the many issues which included:

protection for the marine and coastal environment;

directing the Secretary of Interior to establish and maintain a productive and periodically revise the 5-year OCS leasing program;

requiring compliance with state coastal zone management plan;

providing for oil spill liability safety and clean up;

increasing the jurisdiction of the Coast Guard for offshore health and safety;

establishing preparation of the environmental base line studies;

requiring compliance with national ambient air quality standards;

cancellation of a lease for environmental reasons;

attempts to foster increased bidding competition by requiring adoption of new bidding systems;

requiring the use of best available and safest technology;

establishing procedures for settling boundary disputes;

establishing a fisherman's contingency fund to reimburse the fishermen for damaged gear as a result of OCS activities;

increase CZMA formula grants to states to be used to ameliorate impacts of offshore operations;

and the list can go on and on and on. It was quite an extensive Act.

As a result of the above, it is estimated that industry must now comply with over 75 different Federal regulations.

The opponents to drilling were given everything by Congress that they said would solve the problem, but opposition continues. Today, we face the greatest energy crisis in our history. In 1974 we were importing 37 percent, today we are importing 57 percent. In addition, we face a shortage of natural gas which we cannot import to the degree that we can import oil. We have to produce gas, and to produce it we have to lease.

Levels of dependence on imports are a threat to consumers, national defense, education, agriculture, the entire spectrum of our economy and society.

So what are the hindrances now? Well, the trustees and the policy board members of the Lincoln Heritage Institute think that the major hindrance to OCS oil and gas production are drilling bans and moratoria. The arguments we heard against the program in the 1970's and 1980's are still with us. Opponents begin with the assumption that OCS oil and gas operations are in fact destructive of the environment and this is untrue. In all of the 45 plus years of OCS experience, we are not aware of any evidence that proves

OCS oil and gas activity—not just drilling—have been irreversibly destructive of the environment.

According to the Minerals Management Service, the Santa Barbara Channel oil spill was about 80,000 barrels. The natural seepage in the southern waters off California exceed that by over 180,000 barrels a year. In fact, the annual natural seepage for oil accounts for 100 times more oil in marine waters than OCS activities and average about 1000 barrels a day. It should be also noted that of the top 50 oil spills in the nation's waters, they all came from tankers, not from OCS activities.

Another argument has been that we should save our resources for the future. Well, we have been facing an energy crisis for many years now and we still haven't seen any accelerated production, although we have made progress. It takes at least six to 8 years from the date of a lease sale to reach production in a frontier area, if indeed they find resources.

Minerals Management Service, as has already been pointed out, shows an enormous potential in the outer continental shelf for oil and gas and it also shows that 78 percent of our oil are in moratoria area and my percentages on natural gas do not quite gibe with the previous witness in those areas.

Finally, an accelerated leasing program not only solves our energy problem, but can lead to the development of hundreds of thousands of good-paying jobs with benefits, cut our record levels of deficit in our balance of payments, increase revenues to states, local government, Federal Government. You wonder how much longer we have to go before the American public gets the message we do have an energy crisis and gets behind some changes to bring to fruition the potential that the OCS has.

That concludes my statement.

Ms. CUBIN. Thank you.

Mr. Bedell.

[The prepared statement of Mr. Drago follows:]

Statement of C. Grady Drago, Chairman of the Lincoln Heritage Institute

Bringing to Fruition the Oil and Gas Potential of the Outer Continental Shelf

Thank you madam Chairman and members of the committee. My name is Charles Drago and I am the Chairman of the Lincoln Heritage Institute, a non-profit public policy corporation. Prior to assuming this position I had retired from Capitol Hill (1987) after 24 years of employment including serving as professional staff of the Ad Hoc Select Committee on the Outer Continental Shelf (which reported HR 1614, the 1978 OCS amendments). Subsequently I served as the Chief Republican Council of the Select Committee on the Outer Continental Shelf (OCS) which oversaw the regulatory implementation of PL95–372, the 1978 the Outer Continental Shelf Lands Act Amendments of 1978.

The offshore oil and gas issue was fascinating and complex from a scientific, engineering, economic, and social viewpoint and with those complexities and challenges the OCS was as much a new frontier as space.

While the first offshore oil production took place in state waters from a wooden pier off Summerland, California in 1896, it wasn't until the late 1940's that drilling offshore for oil and gas began to capture the imagination of the American culture. America has long looked upon the OCS as an area that held perhaps the greatest promise for domestic energy supplies. Unfortunately, while progress has occurred and great accomplishments made, the potential of the OCS as a supplier of domestic oil and gas has yet to been realized.

The U.S. Government's OCS history began on September 28, 1945 when President Harry S. Truman proclaimed that the natural resources located in and on the subsoil and seabed of the Continental Shelf (1.7 billion acres) were subject to the jurisdiction of the U.S. Government. The Geneva Convention on the Continental shelf

subsequently upheld the proclamation. This touched off actions and reactions that are still going on today—states rights, who shares in the revenues, and safety.

In 1947, the U.S. Supreme Court ruled that the Federal government does have jurisdiction over the submerged lands that lay three miles beyond the mean low water mark in California. Similar decisions in Texas and Louisiana were made in 1950. These decisions seemed to generate additional controversy, which led to the creation of the U.S. Outer Continental oil and program.

In 1953, two new Federal laws were established to deal with the existing problems and disputes in the offshore leasing program. The first was the 1953 Submerged Lands Act of 1953 which gave states exclusive rights to resources up to three geographical miles from their coast and confirmed Federal authority of lands beyond three miles. It was ultimately determined that Florida and Louisiana boundaries extended 10.5 miles from their coast.

The second act was the 1953 Outer Continental Shelf Lands Act. It confirmed Federal jurisdiction over the seabed and its minerals beyond three miles of the state coast, and established, albeit very general, guidelines for the Department of Interior in managing the OCS.

The first OCS lease sale took place on October 13, 1954 off the Louisiana coast. The Department of Interior offered 199 tracts (819 acres) for lease; 90 tracts were bid on and all were leased. A total of 336 bids were made on the offered tracts, and the Federal government received $116.4 million in bonuses and $1.2 million in first year rentals. We were now off and running.

From that initial sale through 1960, there were a total of 869 tracts offered for sale off the coasts of Florida, Louisiana, and Texas. Three hundred and thirty-three tracts were leased and the government received a total of $621.9 million in bonuses and $3.6 million in first year rentals.

Not a very auspicious beginning, but it wouldn't take long to heat up. The geographic, physical, economic, and political data gathered during the early years when the entire OCS was a frontier area was an education for those onshore and those conducting the drilling.

Other significant events that impacted the OCS program included the first Pacific OCS well drilled in 1964; oil discovery in Prudhoe Bay Field in Alaska; the first production from the California OCS in 1968; and perhaps one of the more significant occurrence—the platform blowout in the Santa Barbara channel. Needless to say, this event captured the headlines and was to be a "cause celebre" that was used to oppose offshore leasing for many years.

Following on the heels of those events was the establishment of the National Environmental Policy Act in 1969; passage of the Clean Air Act in 1970; and in 1972, the passage of the Marine Mammal Protection Act. More importantly in 1972, the Coastal Zone Management Act was signed into law, which was destined to have a major impact on future OCS exploration, development, and production.

However, the catalyst that focused attention on domestic energy production and the potential of the OCS was the Arab oil embargo of 1973–74. This event dramatically brought home to the American public that even though there had been adequate supplies of oil at reasonable prices, the nation faced a major energy problem.

That embargo occurred when the U.S. had reached the incredible milestone of importing almost 37 percent of its total oil consumption. It was clear that the U.S. could not let itself remain at the mercy of foreign sources of oil that were beyond our control. One of the first reactions to the embargo was the launching of Project Independence, which set a target date of 1980 for complete energy independence for the U.S. Needless to say, we didn't make it.

A major part of the efforts to reach energy independence was the establishment of a significantly accelerated OCS leasing program.

Because of the significant increase in proposed OCS leasing many concerns were expressed over safety and potential negative impacts. Those raising the alarms included environmental organizations, commercial and sport fishing interests, state and local governments, and local citizen organizations. The threat of an oil spill and concern that vastly accelerated leasing could wrestle control of waterfront businesses and real estate from the hands of local communities became one more issue with which to deal.

These concerns, which were quite vocal, and the fact that the above events and new environmental laws created a litigious environment, it became clear that a more orderly and coordinated approach to OCS energy development was needed.

In 1974, the Senate acted quickly to pass S3221 in the 93rd Congress, but the House failed to act on the legislation and it died. One of the reasons for the Houses failure to act was that while one Senate Committee had the jurisdiction to deal with OCS leasing, issues now involved in program were the jurisdiction of at least three House Standing committees: the House Judiciary Committee, House Merchant Ma-

rine and Fisheries Committee, and the House Interior and Insular Affairs Committee. Jurisdiction of the legislation became one more hurdle to overcome.

On April 22, 1975, the House took a historic step by passing House Resolution 412, introduced by Majority Leader Thomas "Tip" O Neal which established the Ad Hoc Select Committee on the Outer Continental Shelf; the first Ad Hoc Select Committee created in the House to have legislative authority. HR 6218, the 1975 OCSLAA, was introduced by Representatives John Murphy, Peter Rodino, and Leanor Sullivan and referred to the Select Committee. The first field hearing held on this legislative was fittingly, in New Orleans.

H.R. 6218 was a major rewrite of the 1953 act, but because of the many new and controversial provisions it contained, it met the same fate as S3221 in the previous Congress and was not sent to the White House. The major controversy leading to a motion to recommit by Ranking Minority Member Representative Hamilton Fish, Jr. of New York was the vague authority for the Secretary of Interior to conduct pre-lease on-structure exploratory drilling on the OCS. The recommit motion carried and the bill was sent back to conference where it died.

However, the seeds of controversy were already sown because the Department of Interior implemented by regulation many of the provisions of H.R.6218 and were proceeding with an active leasing schedule.

This action led to an outcry of public concern, and law suits by states and environmental organizations against lease sales abounded. While almost all of the suits ended in failure, they all but brought the leasing program to a halt. In addition, many were concerned that because of public pressure and the onslaught of law suits the Department of Interior (DoI) might drop many of the new regulations for managing the OCS oil and gas operations.

It became obvious to Congress that if the nation was going to accelerate the exploration and development of oil and gas from the OCS, the need for a legislatively created, orderly, and safe accelerated OCS energy production program was more important than ever.

The lure of the OCS was great particularly because it was the one energy program that was completely under the control of the U.S. government. The government could help reach national energy needs and determine oil and gas production simply by its leasing schedule.

At the opening of the 95th Congress, January 11, 1977, Congressman John Murphy introduced two pieces of legislation. The first was H.R.1614, The OCS Lands Act Amendments of 1977. That bill was to establish management policy for oil and gas development on the OCS, protect the marine and coastal environment, and amend the 1953 OCSLA. (The companion Senate bill, S.9, was introduced by Senator Jackson of Washington State.)

The second bill was H. Res. 97, to re-establish the Ad Hoc Select Committee on the OCS. The Resolution was passed the same day.

On August 29, 1977 after considering 75 amendments to the original legislation during mark-up, the committee favorably reported the bill to the House. On February 2, 1978 the House passed the bill as S.9 and sent it to the Senate. The resulting conference report, substantially containing the language of the House bill, was approved by both bodies, and sent to the White House. On September 18, 1978 the OCS amendments were signed into law by President Carter as PL95–372, the 1978 OCSLAA.

The President had significant praise for the work of Congress. He expressed great hopes that now that a consensus had been reached, the new law would lead to a much needed increase in the production of oil and gas since the problems expressed by those opposing offshore leasing had been dealt with in the bill.

Among the issues dealt with in PL95–372 are:

- protection for the marine, coastal and the human environment;
- the Secretary of Interior was to establish, maintain, and periodically revise a five year leasing program consistent with energy and environmental needs, and states' concerns;
- required compliance with a states Coastal Zone Management program;
- provided for oil spill safety, liability, and cleanup, and for offshore health and safety, by giving the Coast Guard increased jurisdiction and authority for offshore health and safety;
- preparation of environmental base line studies;
- compliance with the national ambient air quality standards;
- cancellation of a lease for environmental reasons;
- provisions to increase competition by providing for the adoption of new bidding systems;
- requirement for the use of Best Available and Safest Technology;
- procedures for settling boundary disputes;

- a fisherman's contingency fund to compensate commercial fishermen for damaged gear resulting from oil and gas operations;
- increased CSMA formula grants to states to ameliorate potential onshore problems resulting from an accelerated program; and more.

Regardless of what individuals think about the need for so much Federal involvement, one has to admit that PL95–372 certainly dealt meaningfully with the concerns over expressed problems that resulted in so much opposition to an accelerated OCS oil and gas program.

So, now with great hope, as expressed by President Carter, the members of the Ad Hoc Select Committee on the OCS, and the energy industry, the nation was at last ready to bring the promise of the OCS to fruition. As the cast of Saturday Night Live would say - NOT.

The energy crisis that PL95–372 was established to deal with was nothing but a precursor of things to come. Some said that rather than an energy production program, the new legislation was an environmental program, and energy independence would not occur by 1980. That great contribution from the OCS would not develop, nor would another factor in the solution to domestic energy supplies, oil and gas development in the Alaska National Wildlife Refuge (ANWR).

While we experienced another energy crunch in the early 1980's, the problems we face today have once again, as did the 1973–74 energy crisis, brought home to the American public the fact that the nation is facing an major energy problem. Because of conflicting public information, the public is not sure where the problem is, what the full degree of the problem is, or what its cause is.

After every attempt was made to solve the health and safety measures that environmentalists claimed was the reason for their opposition, as well as providing the opportunity to address state issues of impact, opposition continued unabated.

After significant commitments by government to meet the challenge of lessening our over dependence on foreign nations for our oil supplies, imports have risen from the high of 37 percent in 1974, to an unprecedented and dangerous 57 percent in 2001. Now however, another factor has been added to the formula - a shortage of natural gas that we can not import as we do oil. Tankering gas is not the answer, and pipelines tapping the natural resources of Mexico and Canada have their limitations. A ban on drilling for oil is also a ban on drilling for gas.

We are once again faced with how to accelerate the production of the abundant energy resources this nation possesses and needs. The nation must develop a national energy plan that includes a coordinated effort of accelerating production of energy from onshore Federal and private lands, accelerating OCS oil and gas production, and drilling in ANWR.

Environmentalists claim that there is too little oil in ANWR to endanger the pristine Alaska environment and it is not enough oil to fully solve our problem. It is estimated by the Department of Interior that the targeted area for leasing in ANWR contains upwards of 16 billion barrels of oil, enough to replace imports from Saudi Arabia for the next 30 years. The oil supplies of the U.S., still a world leader in oil production, consists of an average production of 15 barrels per day from over 500,000 wells.

As Representative Don Young of Alaska stated in an article, "The Answer to Our Energy Problem? Cutting Green Tape" that appears in a recent edition of our publication the ADDRESS, when speaking of drilling for oil and gas in ANWR, "Twenty-plus years of oil production have shattered the (environmental) zealot's myths. Alaska's North Slope has produced more than 13 billion barrels of oil since 1977 without millions of barrels from a pipeline spilling over the tundra" These same zealots predicted an environmental doomsday in the far north if the Trans Alaska Pipeline was constructed" It appears the OCS is in a similar situation.

There have been problems with the regulatory maze that has been established to manage the OCS oil and gas program. Some have determined that there are over 74 separate regulations they must comply with on the OCS. While this regulatory burden, and the potential for hindrances from regulatory activity can be significant, it is the opinion of the Lincoln Heritage Institute that the major problem facing fulfillment of the potential for OCS oil and gas development are the OCS moratorium and drilling bans.

The very arguments that environmental zealots used to oppose drilling during committee hearings on the 1978 OCSLAA are still heard today when OCS drilling bans are discussed.

One of the fears expressed by environmental groups centered around a government study that the Committee was told proved that drill muds devastated marine life on the ocean floor. Therefore leasing should move slowly. Following the hearing, the committee was informed by a counsel for the agency that conducted the study that the conclusions in the study were fallacious since they were based on findings

that did not exist. The committee eventually was given a copy of that study, and that counsel was hired as staff.

We heard from numerous environmental and public witnesses that we should not hold lease sales in the deep water off of the East Coast because industry had not drilled in deep water and they had not proven they could. We know what happened to those concerns since industry has successfully conducted operations several times in waters as deep as 17,000 feet.

However, the greatest opposition to offshore leasing came from those fearing oil spills from OCS leasing and production activities. Coastal communities were at times brought to almost hysteria because of their fear of blowouts after viewing and being told about the Santa Barbara blow-out. They were informed the offshore drilling would devastate the coastal environment, fisheries, marine mammals, birds, and beaches.

The truth is that the oil spill in the Santa Barbara channel resulting from a blow on an OCS production platform put less oil in the water (an estimated 80,000 barrels) than does the annual rate of natural seepage that occurs off Southern California waters. As a matter of fact, natural seepage accounts for 100 times more oil in the U.S. marine waters than does OCS activities. The average natural seepage of crude oil on the OCS averages 1,000 barrels daily.

This figure may be increased since new technology is uncovering more natural oil seepage is the Gulf, oil that had been blamed on drilling platforms. The oil industry and the Minerals Management Service (MMS) have been very diligent in developing the capacity to predict, prevent, detect and cleanup oil spills. Last year, the MMS spent over $5.7 million for this purpose. According to a study by the National Academy of Sciences, 45 percent of oil in the marine environment comes from tankers and 2 percent is the result of all OCS drilling and production activity. Of the 50 largest oil spills in U.S. water all came from tankering of oil. This is particularly pertinent for the North East U.S. because the vast majority of their oil needs, including refined products, are imported.

The final argument for delaying or drastically cutting back on domestic energy production was that we should save our energy resources for an emergency. This seemed a particularly bogus argument since to bring in a producing well in a frontier area on the OCS could take up to 10 or 12 years and the drilling of up to 12 exploratory wells before finding a reservoir with enough oil or gas to make production economically feasible. That is not the type of response national emergencies need. For instance, today, we could use a significant influx of domestic oil right away but it is going to take at least three years before oil from new wells will reach the consumer.

We have had more than 45 years of experience with offshore oil and gas development and more than 22 years of experience under PL95–372. The OCS environment and scientific and engineering requirements are as mind boggling, technical, and impressive as putting a rocket into space. Progress and accomplishments by MMS and industry have been impressive if not miraculous. Information from these accomplishments, scientific studies, historical events, and just plain common sense has caught up the with allegations of the "nay sayers." It is time that allegations and unscientific studies be replaced with reality and real scientific evidence. While there is a potential for danger from OCS oil and gas activities, the scientific, engineering, and administrative experience that has been gained have ameliorated stated objections. The Trustees and Policy Board at the Lincoln Heritage Institute see no environmental reason why OCS oil and gas development should not move forward, full steam ahead.

Alternative energy technologies and synthetic fuels can not fill the gap in our energy shortfall and are a long way from being practical in sufficient supply and affordable. We can not continue to put ourselves in the position of having to put our youth in harms way or sacrifice our economy or foreign policy goals because of our dependence on certain foreign nations for significant portions of our energy.

According to the latest figures from the Minerals Management Service of the Department of Interior, the OCS contains an estimated 50.4 billion barrels oil resources and 239.71 trillion cubic feet of natural gas resources. In addition there are more than 3.37 billion barrels of estimated oil reserves and over 31 trillion cubic feet of estimated gas reserves. Under moratoria are an estimated 36.9 billion barrels of oil, and 55.5 trillion cubic feet of natural gas. This means that over 69 percent of the oil resources, and over 23 percent of natural gas resources are off limits to leasing and not available to the American public. Once again, the consumer suffers, as does national security, and our economy.

The important areas that are under moratoria, or are under drilling bans, are the Eastern Gulf of Mexico off of the Florida coast, and the OCS off of the coast of California. While obtaining accurate and like measurements of state consumption and

production of energy has proven difficult, it is clear that both Florida and California are net importers of oil and gas. Instead of producing the resources that are located on their lands, or allowing production of resources on the OCS that belong to all Americans, they have chosen specific life styles, which is their prerogative, but have imposed the burdens of their decisions on the rest of the nation. The people of California are currently paying the price for approving the methods used by the officials they elected to pursue the lifestyle they selected.

The cost of not allowing our domestic energy companies to pursue the development of energy product has also had its direct and indirect negative impacts. The direct impact is obvious - over dependence on imports. Indirectly? Today there is not one steel fabricator on the West Coast that can build offshore drilling rigs because of a lack of business. By curtailing offshore drilling, the government has decreased the need for the drill rigs and the Koreans and Japanese took up the slack. Today, for the same reasons, there are only one or two fabricators in the Gulf of Mexico.

Because about 60 percent of our oil resources on located on lands controlled by the Federal government (including the OCS) and leasing has been drastically cut back across the board, many U.S. oil companies have obligated up to 70 percent of their exploration and development budget to finding product in foreign countries. Lets hope they don't go the way of the offshore rig steel fabricators.

There does not appear to us that there is any legitimate reason to continue with prohibitions against leasing and drilling on the OCS. The primary consideration in determining the five year leasing schedule should be the needs of the nation's people, economy, and national security. All of these will be served with a truly accelerated and orderly five year leasing schedule.

By moving ahead with an accelerated OCS, five year leasing schedule offering for lease all areas of the OCS, (only 2.5 percent of the OCS is under lease while over 25 percent of the rest of the worlds OCS is under lease) we can expect a significant increase in our domestic oil and gas supplies decreasing the pressure on the consumer and our economy. We would decrease our balance of payments deficit by hundreds of millions of dollars, along with our dependence on oil from the Middle East. A truly accelerated OCS leasing program could also create up to 300,000 high paying jobs, and significantly increase revenues to the U.S. Treasury in the form of lease bonuses and rental fees, as well as increased tax revenues to local, state, and Federal treasuries.

STATEMENT OF CHARLES BEDELL, MURPHY OIL CORPORATION

Mr. BEDELL. Madam Chairman, members of the Subcommittee and of course my own Congressman, Mr. Vitter, good to see you today, sir.

Mr. VITTER. Good to see you.

Mr. BEDELL. Murphy Exploration and Production Company is a wholly owned subsidiary based in New Orleans of Murphy Oil Corporation. Our corporate offices are in Eldorado, Arkansas. We are a vertically integrated company, probably about the smallest in the world or at least in the United States, but we have operations in the United States, North Sea, Canada, South America and Malaysia. Last year, we spilled less than one-thirty five millionth of 1 percent of the oil that we produced.

I am here today to address constraints on production. I will explain the map in detail in a few minutes. Constraints on production of Federal offshore oil and gas reserves have so proliferated until I think it is proper to say now that they threaten to choke off development in the last remaining truly active oil and gas production area in the United States, the central and western Gulf of Mexico.

The growing use of anti-development legal, legislative, regulatory and executive actions have eroded our industry's ability to provide energy and the chemical feed stocks essential for modern American life. Commendable attempts in the Bush administration and by Members of Congress to develop a balanced, workable national

energy policy cannot succeed unless these constraints are effectively addressed.

Over the years, the constraints on production have grown both in numbers and complexity. The nature of the constraints being placed on production vary from moratoriums that others have mentioned on OCS activities all over the nation's coastline, to legal actions and negative publicity campaigns by special interest groups.

But in recent times, legislative-based constraints, based on the Coastal Zone Management Act, have emerged as the most threatening. The functioning of the Outer Continental Shelf Lands Act as a reliable, legal foundation for offshore oil and gas activities is being undermined by a combination of new Federal CZM regulations, and aggressive attempts to expand the applicability of state coastal zone plans to Federally permitted activities located off of another state's coastal zone. The realities of today's international energy situation make it clear that we need to take some action. No matter how carefully the administration and Congress craft it, no energy policy, I say again, no energy policy will be able to succeed unless action is taken to reverse the recent trends in the administration of the Coastal Zone Management Act and to ensure that it will be enforced and put into play in a constructive and uniform manner in the future.

Now the Act was passed in 1972, and was modified, of course, several times over the years, but it was never intended to be an anti-development law. Congress stated in the findings that are in the Act that the coastal zone has important industrial uses and that the value of those need to be protected. It was Congress' intent that the coastal states create comprehensive plans for dealing with potential conflicts between activities and development and not to create a mechanism for categorically and automatically excluding an entire industry from existing anywhere near or in a coastal zone of a state. As some apparently believe now, the Act was not created for stopping all oil and gas activity.

There are many terms in the Act that show that the intent was to create a balanced approach. They talk about priority consideration being given to coastal dependent uses and orderly processes for siting major facilities related to national defense, energy and especially in areas adjacent to where such development already exists, and that is what we will get to in that map.

No state CZM program is supposed to be approved by the Secretary of Commerce unless the Secretary first finds that it contains two provisions which are significant to any discussion of national energy policy. Each state's program must include a planning process for energy facilities likely to be located in or which may significantly affect the coastal zone. And also, the management program must provide for an adequate consideration of national interest involved in planning for, managing the coastal zone, including the siting of facilities such as energy facilities, which are of greater local significance.

Now in the case of energy facilities, the Secretary is directed by the law to find that the state has given consideration any applicable national or interstate energy plan or program.

Luckily for the nation, the Coastal Zone Management Act, as it is even now written, has been administered properly by the states

of Louisiana, Alabama, Mississippi and Texas, and I think looking at that map you can see that development certainly has gone forward off of those states.

My company's experience with the Act's Federal consistency provisions has primarily involved interactions with Louisiana's program. We can state that if all other states would emulate the way Louisiana administers the Act, the offshore oil and gas industry would have nothing to fear and the nation's energy prospects would be far better than they are.

Unfortunately, this is not the case. The primary source of the disruptive effect of the Act is the evolution of the idea that the consistency provisions contained in the Coastal Zone Management Act are there to stop energy activities, which have been made to seem, at least temporarily, politically unpopular. It was put there to promote cooperation among the states and to get exchange of data and information that would allow everyone to go forward without harming the environment, but also producing the energy that we need.

This is the Lease Sale 181 area that everyone has heard about. And one of the things that I wanted to point out is right here, is that line that was spoken of earlier. It is not a geological, geophysical line, as Congressman Gibbons can understand, and I think we all do. It is a line which is created by political and other forces. There has never been a moratorium in the panhandle part of Florida, but there has been farther down. As you can see, there are a number of leases that have been let over here, this is the Destin Dome project and my company is a partner in that. We have estimates from the government as high as 2.3 trillion cubic feet of natural gas here, which is not allowed to be produced. We cannot go forward now. These areas are not quite as big as this field, but these fields are in production right now.

We have further activities here and in one place 160 miles off Mobile, Alabama.

Ms. CUBIN. Could I interrupt for a second? Is that black line the border between Alabama and Florida?

Mr. BEDELL. Right here.

Ms. CUBIN. That is it, okay.

Mr. BEDELL. And this is the lease sale going forward, which we have heard some discussion of. If the lease sale goes forward, that is one thing, that is a victory. But it's not enough if the lease sale goes forward only to repeat the same thing that has happened with the Destin Dome project, because the CZM Act is for instance, still a constraint. It will certainly effect our ability to go forward and put money on the table to the Federal Government to buy leases in an area where we know the State of Florida is objecting to the projects down here (pointing at map), which are much closer to Louisiana than to Florida.

The major problem with the CZM consistency provision is we are now seeing the trend that the State of Florida, for instance, wants to apply its own state coastal zone plan offshore of other states. That has not been the case in the past. You can see there has been development that has taken place very close to the Florida/Alabama line and in the past, there was comity between the states where they would not interfere with projects off the coast of other states. And now under the 1990 amendments to the Coastal Zone

Management Act, new regulations and just the political realities of the day, we are seeing objections being raised, not only to Lease Sale 181 but there is a pipeline in this area that is being subjected to criticism by the state, there is a project here 160 miles offshore the state of Alabama where Florida says that there is not enough information. That is slowing down the process.

And when you have a situation like that, it does throw in jeopardy, even if the sale goes forward, whether or not there will be any production. I think what we mean to say is that the substance—the bottom line of our testimony today, Madam Chairman, would be to urge your Subcommittee and Mr. Vitter as well, forcefully to go forward and when Coastal Zone Management Act reauthorization bills are introduced in the House this year—they are now pending, there is one pending in the Senate, S.328—that this Resources Subcommittee seek to have some sort of sequential referral or executive or whatever the proper terminology would be, to make sure that the people who are in charge of energy policy in the United States Congress have the right to have some say on this crucial CZM law. If it is not modified and put back to the way it was before 1990, which was a cooperative, ongoing, positive influence, then your work on energy policy is going to be invalidated.

Thank you, Madam Chairman, sorry I went over time.

Ms. CUBIN. Oh, no, that is fine. Thank you very much.

Mr. Kelly.

[The prepared statement of Mr. Bedell follows:]

Statement of Charles A. Bedell, Manager, Environment and Government Affairs, Murphy Exploration and Production Company

Introduction: 1Madam Chairman and Members of the Subcommittee, it is my pleasure to appear before the Subcommittee today to address constraints on the production of the oil and natural gas reserves on Federal submerged lands. Murphy Exploration and Production Company is a wholly-owned, New Orleans based, subsidiary of Murphy Oil Corporation, of El Dorado, Arkansas. Murphy Exploration and Production has operations in the United States, the North Sea, Canada, South America and Malaysia.

Constraints on the production of Federal offshore oil and natural gas reserves have so proliferated until they now threaten to choke off development in the last remaining, truly active offshore oil and gas production areas in the United States, the Central and Western Gulf of Mexico. The growing use of anti-development legal, legislative, regulatory and executive actions have eroded our industry's ability to provide America with the energy and chemical feed stocks necessary for modern life. The commendable attempts of the Bush Administration and Members of Congress to develop a balanced, workable national energy policy cannot succeed unless these constraints are effectively addressed.

Over the years, the constraints on production have grown both in numbers and in complexity. The nature of the constraints being placed on production vary from moratoriums on all OCS activities off much of our nation's coastline to legal actions and negative publicity campaigns by special interest groups. In recent times, legislative-based constraints, based on the Coastal Zone Management Act (CZMA) have emerged as the most threatening. Other laws, regulations and executive orders are also disruptive, but, at this time, the constraints imposed on the orderly development of Federal offshore resources by some states through their use of the CZMA are, by far, the most serious. The functioning of the Outer Continental Shelf Lands Act as a reliable legal foundation for offshore oil and gas activities is being undermined by a combination of new Federal CZM regulations and aggressive attempts to expand the applicability of a state coastal zone plan to Federally permitted activities located off another state's coastal zone. The realities of today's international energy situation make it clear that the United States needs a balanced, reliable energy policy. No matter how carefully the Administration and Congress craft it, no energy policy will be able to succeed unless action is taken to reverse recent trends

and insure that the Coastal Zone Management Act is being administered in a constructive, uniform manner.

The Coastal Zone Management Act: The Coastal Zone Management Act of 1972 was passed as part of a group of Federal laws which were inspired by the report of the Stratton Commission and was designed to insure that future development in coastal areas would take place in an harmonious, orderly, environmentally sound way. The CZMA was viewed as a temporary catalyst created give coastal states an incentive to develop comprehensive programs to manage and balance competing uses of and impacts to their coastal resources. The Act preserved the traditional, Constitutional balance between Federal and state powers. It originally required that all Federal activities be consistent to the maximum extent practicable with the policies and provisions of a state's approved coastal zone management plan. It was not intended to be an anti-development law. Congress found that the coastal zone is important for industrial uses that have "potential value to the present and future well-being of the Nation". It was Congress' intent that Coastal States create comprehensive plans for dealing with potential conflicts between activities and developments in the coastal zone, not to create a mechanism for automatically excluding an entire industry from existing anywhere in or near a state's coastal zone, or, as some now apparently believe, for stopping any activity merely by claiming that it might give rise to some adverse affect on some part of the state's approved CZM Plan.

Congress included in the CZMA it's finding:—There is a national interest in the effective management, beneficial use, protection, and development of the coastal zone [16 U.S.C.A. 1451(a)]." The new law was intended to enhance communications between Federal agencies responsible for permitting onshore and offshore activities, including those on Federal submerged lands and in coastal states, so as to minimize or eliminate conflicts with approved State goals and programs in a timely manner. Regarding important permitted activities the law provides, among other things:

- Encouragement and financial assistance to states to implement programs—to achieve wise use of the land and water resources of the coastal zone" which includes "compatible economic development".[16 U.S.C.A. 1452(2)];
- "priority consideration being given to coastal-dependent uses and orderly processes for siting major facilities related to national defense, energy, ... in or adjacent to areas where such development already exists," [16 U.S.C.A. 1452(2)(D)]; and
- "the coordination and simplification of procedures in order to ensure expedited governmental decision-making for the management of coastal resources." [16 U.S.C.A. 1452(2)(G)].

No state's CZM management program can be approved unless the Secretary of Commerce first finds that it contains two provisions which are significant to any discussion of a national energy policy:

- Each state's program must include a planning process for energy facilities likely to be located in, or which may significantly affect, the coastal zone, including a process for managing the impacts resulting from such facilities [16 U.S.C.A. 1455(d)(2)(h)]; and
- The management program provides for adequate consideration of the national interest involved in planning for , and managing the coastal zone, including the siting of facilities such as energy facilities which are of greater than local significance. In the case of energy facilities, the Secretary shall find that the State has given consideration to any applicable national or interstate energy plan or program [16 U.S.C.A. 1455(d)(8).

It is clear from reading the entire Congressional Findings section of the law that it was viewed as a positive law designed not only to help identify potential conflicts but to create a reliable process which would foster Federal-state cooperation in developing land and water use programs for the coastal zone, including "unified policies, criteria, standards, methods, and processes for dealing with land and water use decisions of more than local significance [16 U.S.C.A. 1451(i)]." Under the CZM, permit applicants should be able to have a reasonable expectation that the objective of the process is to find a way to go forward, not to find an excuse to prevent any legal activity.

Luckily for the nation, this is precisely the way the Coastal Zone Management Act has been administered in the States of Louisiana, Alabama, Mississippi and Texas. My company's experience with the Act's state–Federal consistency provisions has primarily involved interactions with the Louisiana program. Louisiana understands and its program fully implements the Findings and Policy sections of the Act including 16 U.S.C.A. 1452(G) which calls for the coordination and simplification of procedures in order to ensure expedited governmental decisionmaking! If all other coastal states would emulate the way Louisiana administers the Act, the offshore

oil and gas industry would have nothing to fear and the nation's energy prospects would be far better than they are.

Unfortunately, this is not the case. Although Alabama, Mississippi and Texas also recognize the need to provide for the siting of energy facilities of greater than local significance and properly administer their Programs, other states do not. The primary source of the disruptive effect of the Act is the evolution of the idea that the "consistency" provisions contained in the CZMA are there to be used stop energy activities which have been made to seem politically unpopular. Although the consistency provisions were created to insure Federal-state coordination, some are now using them in a way which poses a significant threat to the ability of Federal officials to make balanced, timely and consistent decisions regarding the location and extent of lease sales and the permitting of specific energy activities and facilities. Such actions have resulted in diminution of our national energy security, domestic job loss, and a reduction in royalty revenues to the U.S. Treasury that would otherwise flow from oil and gas production in the Federal OCS.

We have created a map for the Subcommittee which shows energy developments which have taken place in the Gulf of Mexico. This map illustrates how the CZMA works well when interpreted and applied by the States of Alabama, Mississippi, Louisiana and Texas. However, there is a stark, north-south line at the border of Florida and Alabama where development stops. This line is not there because of some geological change which suddenly ends any possibility of any oil and gas exploration and production. In fact, huge oil and natural gas discoveries have been made in the area just to the west of the line where development have been stopped [See Attachment I]. It is there because the Coastal Zone Management Act is being used to stop the Minerals Management Service from permitting energy activities east of that line. Congressional and Administrative moratoria have been imposed to the east and south, but the area of Florida's Panhandle has never been under a moratorium.

Recent developments threaten to extend this de facto energy "exclusionary zone" farther west into already highly productive areas of the Gulf of Mexico. The use of Floating Production and Storage facilities, referred to as FPSO's, in deepwater off the Central and Western Gulf has been challenged. Strong opposition to proceeding with Lease Sale 181 has surfaced, despite the fact that the lease sale is part of the MMS's OCS Lands Act-based 5 Year Leasing Program, the closest thing we have to an energy policy. Individual exploration, development and pipeline permits for at least four major projects located in areas up to 160 miles offshore Mobile, Alabama, are also being delayed and challenged. No longer are CZM consistency challenges confined to projects off the coast of the state making the objection. No longer is there any effort by the state claiming potential adverse affects from permitted activities to work out a reasonable compromise which would allow the activity to go forward. Companies attempting to obtain permits for their energy projects find their state consistency review consists only of impossible to satisfy lists of information demands which deal with many issues that are of little or no apparent real impact to enforceable state policies or natural resources of the coastal zone. Provisions of the Act requiring states to make their consistency determinations within 90 days are not being honored. Time limits within which appeals of state findings that a proposed activity is inconsistent with that state's CZM Plan, have gone unheeded by the Secretary of Commerce. The inconsistent application of the CZM Act is getting more pronounced and more destructive of the goals of the CZM Act as well as the energy-related objectives of the OCS Lands Act.

Another new source of concern about CZM Act constraints on oil and natural gas production is the new set of Commerce Department regulations based on the 1990 CZMA amendments. These regulations were put into effect just before the Bush Administration was sworn in. The new regulations are complex and, among other things, highlight a serious controversy about the scope of the geographic area within which a state can claim the right to subject Federal permit applicants to a CZM consistency review. Is a state's consistency jurisdiction limited in scope to it, "enforceable state policies" and does that mean that the state's power is limited geographically to proposed activities within or offshore that state? Any other interpretation raises fundamental legal questions about the nature and extent of state power and the prospect of serious conflict between states with no apparent mechanism in place to reconcile potential disagreements. The legislative history of the 1990 CZMA amendments clearly indicates that Congress did not intend to expand the scope of Federally licensed or permitted activities which are subject to consistency review. In the past, state involvement in consistency decisions for Federally-permitted, offshore oil and gas activities has been limited to those within the offshore projections of the borders of adjoining states. One state did not try to block a project which was offshore of another state. This is not true any more.

Another developing, scope-related constraint on offshore energy production is exemplified by recent actions by two different states to subject routine interactions, such as a suspension of operations, between the Minerals Management Service and lessees to CZM consistency review. During the life of an average offshore lease, there are numerous, routine modifications made to facilities and procedures which involve filing papers with the MMS and the agency responding. There are thousands of offshore facilities. If each of these transactions requires a CZMA consistency review, it will little time for either the state of Federal agency to do anything else.

Essential Fish Habitat Regulations: The Magnuson–Stevens Act (passed in 1976) was amended in 1996 by the Sustainable Fisheries Act, which changed the name of the act to the Magnuson–Stevens Fishery Conservation and Management Act. This amended act includes provisions under which the National Marine Fisheries Service (NMFS) of the Department of Commerce was empowered to describe and then identify Essential Fish Habitat (EFH) for each species or group of species managed under a fishery management plan as well as to establish Fishery Management Councils (FMC). The FMC's were then required, to the extent practicable, identify and describe any adverse impacts to EFH caused by fishing. This of course has been extended to non-fishing interests including the oil and gas industry. In March 1999, the National Marine Fisheries Service (NMFS) declared the entire Gulf of Mexico and all adjacent estuaries and wetlands areas of all coastal states to be "essential fish habitat" (EFH) under the Magnuson–Stevens Act. Although it seems clear that this broadest of all possible definitions of EFH goes far beyond the intent of Congress, nothing has been done to set aside the agency's action. The industry is worried about this regulation because the proposed rule included statements to the effect that oil and gas activities are "inherently harmful", in spite of wide recognition of the positive artificial reef role offshore platforms play. The permitting process for some oil and gas activities has now included an EFH review. Delays have been experienced in the permitting process, especially in obtaining Section 404 Corps permits. Time has been wasted and unnecessary costs have been incurred by both the government agencies and companies involved. Although the need for protecting fish habitat arose out of concern for the negative impacts of overfishing, not out of concern for harm from energy activities, this regulation remains as a destabilizing constraint on offshore energy production.

Marine Protected Areas: On May 26, 2000, President Clinton signed Executive Order 13158, entitled "Marine Protected Areas" (MPA). It was heralded as another way to protect natural and cultural resources within the marine environment. In addition to "strengthening and expanding" the Nation's marine protected areas, EO 13158 directs Federal agencies to "avoid harm" to MPAs or their resources through activities that they undertake, fund or approve. There are already numerous laws including the Coastal Zone Management Act; the National Environmental Policy Act; the Clean Water Act; the Coastal Wetlands Planning, Protection and Restoration Act; the Endangered Species Act; the Marine Protection, Research, and Sanctuaries Act; the National Invasive Species Act; the National Ocean Pollution Planning Act; and the Shore Protection Act which seem to address issues covered in the executive order, but the Clinton Administration did not seek Congressional action to establish the broad initiatives contained in EO 13158. The question for the offshore industry is; "What will the use of new concepts and terms under the Executive Order do to the predictability and reliability of the many processes from lease sales through the many levels of permitting which must be concluded before we can produce the energy America needs?" Will the creation of a "system" of MPAs result in the exclusion of oil and gas related activities from wide areas now being developed under the OCS Lands Act? The use of the vague term "avoid harm" in the context of the impact of a Federal agency's or a permittee's activities on an MPA or it's "resources" seems to hold the promise of more delays and uncertainty for offshore companies and for the ability of any national energy policy to succeed.

Conclusion: Murphy Exploration and Production Company supports the true principles of the Coastal Zone Management Act and recognizes the benefits the Act has had over the years. However, some of the changes made to the Act in 1990 in response to the political and economic and energy supply realities of that time are not working in 2001. For America to develop and implement a successful energy policy many laws, regulations and executive orders, including moratoria on offshore development, will have to be re-examined and refined. It is imperative that those Congressional Committees charged with responsibility for energy issues take an active part in the review of these other laws, regulations and executive orders.

We hope that the serious questions raised in our testimony about the functioning of the Coastal Zone Management Act and the negative impacts of the Act on America's ability to have a successful energy policy will move the Members of the Subcommittee to urge that the Resources Committee be given some degree of concurrent

or consecutive jurisdiction over CZMA reauthorization bills submitted during this Session of Congress.

ATTACHMENT I

FIELD NAME	AREA	CUMMULATIVE AMOUNTS OF OIL	DATE
MP 265 Field	MP 243, 244, 265	930 MBO 47 BCF	6/88 - 5/98
ATLANTIS/ NAUTILUS	M.P. 280, 281	3.6 MMBO 44 BCF	1/99 - 8/00
NEMO/CHINOOK	M.P. 279, 283, 284	849 MBO 9 BCF	12/98 - 8/00
INGRID	M.P. 261	535 MBO 22 BCF	11/97 - 7/00
PABST	M.P. 249, 259, 260 V.K. 692, 693, 694	3.3 MBO 140 BCF	12/94 - 8/00
MICHELOB	M.P. 224, 225, 249	822 MBO 84.58 BCF	3/96 - 8/00
M.P. 223 FIELD	M.P. 222, 223, 250	2.5 MMBO 143 BCF	6/96 - 8/00
BUD	M.P. 251, 252	91 MBO 120 BCF	7/92 - 8/00
BUSCH	M.P. 255, V.K. 698	94 MBO 106 BCF	12/94 - 8/00
PETRONIUS	V.K. 786	678 MBO .48 BCF	7/00 - 8/00
TAHOE	V.K. 783, 784, 827	5.4 MMBO 217 BCF	5/91 - 8/00
NEPTUNE	V.K. 825, 826, 869	26.5 MMBO 26 BCF	3/97 - 7/02
MARLIN	V.K. 871, 915	18 MBO .26 BCF	11/99 (MECH. PROB.)
NILE	V.K. 914	NO PRODUCTION	
RAM-POWELL	V.K. 911, 912, 956, 957	32 MMBO 189 BCF	9/97 - 8/00
VIRGO	V.K. 823	373 MBO 7.6 BCF	11/99 - 6/00
SPIRIT	V.K. 736, 779, 780, 824	2.1 MMBO 91 BCD	9/98 - 8/00
TORTOISE (OUDINOT)	V.K. 864	NO PRODUCTION	
PHARLAP	V.K. 816, 817, 818, 861	136 MBO 88 BCF	(12/95 - 8/00

STATEMENT OF PAUL KELLY, SENIOR VICE PRESIDENT, SPECIAL PROJECTS, ROWAN COMPANIES, INC.

Mr. KELLY. Thank you very much, Madam Chairwoman.

First let me note personally that in a prior life, I was a member of the official delegation of the State of Texas to the Interstate Oil and Gas Compact Commission and in several meetings I remember your work with the Commission. It is good to be back with you today working on Federal matters.

I am here to talk about a different kind of infrastructure and that relates to the industry infrastructure necessary to meet a 30 Tcf natural gas market envisioned in 10 years. Rowan Companies is a diversified oil service/supply company based on Houston. We currently own and operate 23 mobile offshore drilling rigs which work under contract to major and independent oil companies. Twenty-two of these units are located in the Gulf of Mexico, while one is operating on the Scotian shelf off the east coast of Canada.

Incidentally, we were a participant as the contractor of choice of a recent new discovery south of the Sable Offshore Energy Project which was made by Pan-Canadian as the operator and its partners, Marathon and Murphy, who are here today. That is another interesting natural gas discovery that may provide additional natural gas to the northeastern United States.

Rowan also constructs offshore rigs and we have another two, what we call, advanced Gorilla Class jack up rigs under construction at our shipyard in Vicksburg, Mississippi. As the name "Gorilla" implies, these are $200 million drilling rigs that stand the height of a 60-story office building. And while you have heard much today about deepwater drilling, we are a pioneer in the development of new technology and rigs for advanced drilling on the shelf into some of these new deep gas structures that we have been talking about.

Our rig construction company, LeTourneau Inc., has built over one-third of the world fleet of jack up rigs. We also operate six deepwater anchor handling tug supply vessels and a fleet of over 100 helicopters, which is divided evenly between the Gulf of Mexico and Alaska. That division conducts its business under the name of Era Aviation, Inc. We have also recently gone into the parking lot business in Louisiana. The reason for that is that we have two major helicopter facilities located in Port Fourchon, which you heard about earlier, and also Venice. The high volume of activity in the central Gulf of Mexico today has required us to build a 1,000-car parking lot at one of these facilities to hold the cars of the workers who are traveling offshore every day.

There has been much discussion about the infrastructure requirements of the nation in meeting the 30 Tcf gas market projected by several organizations, including the National Petroleum Council (NPC). The U.S. drilling fleet must expand to undertake the dramatic increase in activity that will be required to produce the additional supply to meet this demand. The total number of oil and gas wells drilled per year, including dry holes on land and offshore will have to double from approximately 24,000 in 1998 to over 48,000 wells by 2015. And even taking into account anticipated improvements in drilling efficiencies, approximately 2,300 active rigs will be needed to achieve this level of drilling. This

represents an 80 percent increase over the 1,300 average active rig count estimated for this year.

As the NPC study indicates, 33 percent of the seven trillion cubic feet of additional gas supply required to meet demand in 2010 is expected to come from the Gulf of Mexico. This is a tall order and involves many challenges, not the least of which is infrastructure requirements. And as I have indicated, rig availability, which is crucial to exploration and development, will be a significant challenge for the industry.

The oilfield supply and services sectors have been hit particularly hard by the boom and bust cycles. Very few new onshore drilling rigs have been built since the mid-1980's, and if the 5 percent per year historical attrition rate continues, most of the existing 1,700 onshore rigs will be retired by 2015, and a total of almost 1,900 onshore rigs will have to be built. Additions to the offshore fleet will also be needed and are projected to include 10 new deepwater drilling rigs, 32 platform rigs and 30 jack-up rigs and barges. Exhibit 1 of my testimony presents a good overview of the status of the offshore drilling fleet.

It should be noted also that the cost of offshore rigs is substantially different from land rigs. To build a new land rig today costs anywhere from $10 million to $20 million compared to an offshore rig which can cost anywhere from $110 million to $400 million.

Exhibit 2 shows the cost of all the new mobile offshore drilling rigs constructed throughout the period 1996 to 2001, our most recent building cycle. We built around $13 billion worth of new mobile rigs for the world market. This last rig building cycle resulted in the delivery of state-of-the-art new equipment, the likes of which drilling contractors only dreamed of a decade ago. Indeed, it had been a decade since the conclusion of the last building cycle and as the new builds were delivered, the stark realization set in that most of the drilling contractors and shipyards had under-estimated what it would cost to build these new ultra-modern rigs.

Between 1996 and present, a total of 45 new drilling rigs were delivered. Only seven of those were delivered on budget. The average cost overrun on the remaining 38 rigs approached 30 percent. There have also been significant delays in deliveries from the shipyards which have resulted in contract disputes between contractors and both their shipyards and their oil company customers. One major shipyard on the Gulf coast has recently announced they are going into bankruptcy. These disputes, along with the cost overruns, have caused drilling contractors to take a much more judicious approach to new rig construction. Prices and rates charged must go up, and thus, it will be challenging to face the next building cycle and meet the NPC call for another 70 new offshore rigs.

I can repeat the same story in the offshore supply vessel and aviation sectors, which face similar challenges. Both have aging fleets and the cost of replacements and new technology will be much higher.

The next wave of rig construction must come, however, if for no other reason than 130 jack up and semi-submersible rigs are now more than 25 years old. Attrition is taking its toll. I am confident the market will find a way to respond if the demand is there. It may not happen in the short term, but it will happen eventually.

In the meantime, we have 192 mobile offshore drilling rigs working in the Gulf of Mexico as we speak, the highest number in 20 years. If platform rigs are added, the total number of rigs currently drilling offshore is well over 200. While we have not yet seen a significant production response from this high level of activity, largely because of increasing decline rates in the Gulf, I am reasonably confident that we should soon see a step up in net oil and gas production.

Another significant concern and challenge to the industry is the future availability of skilled workers at all levels to produce the increase in supply and construct the necessary infrastructure. Company consolidations and volatile fluctuations in oil prices have resulted in cuts in exploration and production budgets, and layoffs at all levels in the E&P sector and in the service/supply sector. Approximately half a million jobs have been eliminated from the industry since the early 1980's, with over 40,000 job cuts occurring in the producing sector alone with the collapse of oil prices in 1998 and 1999.

We need to do more to attract young people into our industry. We need to attract more people for enrollment in the energy-related college curricula and we need to pay better. Higher wage scales are a must to attract workers back into the industry.

Likewise, there is a significant need for capital and improved financial performance on the part of the companies in the industry, which have often delivered returns lower than the average reported for the Standard and Poor's 500 companies. It is estimated in the NPC report that almost $1.5 trillion will be required to fund the industry through 2015 to meet anticipated natural gas demand.

As a contractor, we do see some encouraging signs. Our customers have spent the better part of the last 2 years paying debt, improving their balance sheets and trying to get themselves back into better financial condition in order to improve their financial ratings. We now see them spending money on exploration and production. Those expenditures have increased this year by over 20 percent and all indication are that they will increase by at least the same amount in 2002.

As far as Rowan is concerned, we are moving ahead to respond to this increase in gas demand. We have one new $200 million jack up rig scheduled for delivery late this year and another similar unit due in 2003. An analysis of the purchase orders for these two U.S. built, U.S. flagged vessels shows components ordered from suppliers in 37 American states and seven foreign countries. Neither rig has a contract at this time, but we are confident they will when they are delivered.

I think I will stop there, Madam Chairwoman, and leave the rest of my comments for any questions which members of the Subcommittee may have. Thank you.

Ms. CUBIN. Thank you.

Mr. Schoeffler.

[The prepared statement of Mr. Kelly follows:]

Statement of Paul L. Kelly, Senior Vice President, Rowan Companies, Inc.

Madam Chairwoman and members of the Subcommittee, I am Paul Kelly, Senior Vice President of Rowan Companies, Inc., a diversified oil service/supply company based in Houston, Texas. Rowan currently owns and operates 23 mobile offshore

drilling rigs under contract to major and independent oil companies. Twenty two of these units are located in the Gulf of Mexico while one is operating on the Scotian Shelf off the East Coast of Canada. Rowan also constructs offshore rigs and we have another two advanced "Gorilla" class jack-up rigs under construction at our shipyard in Vicksburg, Mississippi. The company's LeTourneau division has built over one-third of the world fleet of jack-up rigs. We also own and operate six deepwater anchor handling/ tug/supply vessels and a fleet of over 100 helicopters which is divided evenly between the Gulf of Mexico and Alaska. That division conducts its business under the name of Era Aviation, Inc.

Let me add my welcome to the Gulf of Mexico region where one-fourth of America's natural gas supply is produced and about one fifth of our oil.

Rig Availability

There has been much discussion about the infrastructure requirements of the nation in meeting the 30 trillion cubic feet (tcf) natural gas demand projected by several organizations including the National Petroleum Council (NPC) and the Department of Energy's Energy Information agency (EIA) at the end of this decade.

The U.S. drilling fleet must expand to undertake the dramatic increase in activity that will be required to produce the additional supply needed to meet this demand. The total number of oil and gas wells drilled per year (including dry holes) on land and offshore will have to double from approximately 24,000 in 1998 to over 48,000 by 2015. Even taking into account anticipated improvements in drilling efficiencies, approximately 2,300 active rigs (over 2,100 land rigs and 180 offshore) will be needed to achieve this level of drilling. This represents an 80 percent increase over the 1,300 average active rig count estimated for this year.

As the NPC study indicates, 33 percent of the 7 tcf of additional gas supply required to meet demand in 2010 is expected to come from the Gulf of Mexico. This is a tall order and involves many challenges, not the least of which is infrastructure requirements. Rig availability, which is crucial to exploration and development, will be a significant challenge for the industry.

The oilfield supply and services sectors have been hit particularly hard by the boom and bust cycles. Very few new onshore drilling rigs have been built since the mid–1980's. If the five percent per year historical attrition rate continues, most of the existing 1,700 onshore rigs will be retired by 2015 and a total of almost 1,900 onshore rigs would have to be built. Additions to the offshore fleet will also be needed and are projected to include 10 deepwater drilling rigs, 32 platform rigs, and 30 jack-up rigs and barges. Exhibit 1 presents a good overview of the status of the offshore drilling rig fleet. Although the number of new offshore rigs is smaller than the number of rigs needed on land, the average cost of each offshore rig is significantly higher than that of onshore rigs. Depending on its horsepower and drilling depth capacity, a new onshore rig will cost from $10 million to $20 million compared to an offshore rig which can cost anywhere from $110 million to $400 million.

Exhibit 2 shows the costs of all the new mobile offshore drilling rigs constructed throughout the period 1996 to 2001. This most recent offshore drilling rig building cycle, which began in 1996, resulted in the delivery of state-of-the-art new equipment, the likes of which drilling contractors only dreamed of a decade ago. Indeed it had been a decade since the conclusion of the last building cycle and, as the newbuilds were delivered, the stark realization set in that most of the drilling contractors and shipyards underestimated what it would cost to build these new, ultra-modern drilling rigs. Between 1996 and present, a total of 45 new drilling rigs (excluding barges and tenders) were delivered. Only seven of these rigs were delivered on budget. The average cost overrun on the remaining 38 rigs approached 30 percent. There have also been significant delays in deliveries from the shipyards which have resulted in contract disputes between contractors and both their shipyards and their oil company customers. One major shipyard on the Gulf Coast has recently gone into bankruptcy. These disputes, along with the cost overruns, have caused drilling contractors to take a much more judicious approach to new rig construction. Prices and rates charged must go up, and, thus, it will be challenging to face the next building cycle and meet the NPC call for another 70 new offshore rigs.

The offshore supply vessel and aviation sectors face similar challenges. Both have aging fleets and the cost of replacement and new technology will be higher. The next wave of rig construction must come, however, if for no other reason that 130 jack-up and semi-submergible rigs are now more than 25 years old. Attrition is taking its toll. I am confident the market will find a way to respond if the demand is there. It may not happen in the short term, but it will happen eventually. In the meantime, we have 192 mobile offshore drilling rigs working in the Gulf of Mexico as we speak, the highest number in 20 years. If platform rigs are added, the total number of rigs currently drilling oil and gas wells offshore is well over 200. While we have

not yet seen a significant production response from this high level of activity, largely because of increasing decline rates in the Gulf, I am reasonably confident that we should soon see a step up in net oil and gas production.

Skilled Workers

A significant concern of the industry is the future availability of skilled workers at all levels to produce the increase supply and construct the necessary infrastructure. Company consolidations and volatile fluctuations in oil prices have resulted in cuts in exploration and production budgets, leading to layoffs at all levels in exploration and production companies and in service / supply companies. Approximately 500,000 jobs have been eliminated from the industry since the early 1980's with over 40,000 job cuts occurring in the producing sector alone in 1998 and 1999. Simultaneous reduction in industry hiring rates in the last 20 years has resulted in a disproportionate percentage of the workforce reaching retirement age in the next decade, an average of 40% in a sampling of major producers.

Furthermore, the next generation of workers is not choosing to enter the industry, as indicated by the significant decrease in enrollment in some energy-related college curricula since the mid–1980's. The oilfield service / supply sector faces a similar situation as many laborers and supervisory personnel have left the industry in search of more stable work. Higher wage scales are a must to attract workers back into the industry.

Need for Capital and Improved Financial Performance

Adequate financial performance must be demonstrated in order to compete for and attract the investments required to meet the growing demand. Companies will need to balance short-term performance demands with long-term planning to achieve the needed growth. According to the NPC report, almost $1.5 trillion ($1998) will be required to fund the industry through 2015 to meet anticipated demand. This amount includes over $700 billion for operating expenses and an estimated $781 billion for capital investments. Approximately $658 billion of capital is projected to be spent for oil and gas supply development and about $123 billion for transmission, storage and distribution infrastructure expansion. This equates to an average annual increase in capital expenditures form $34 billion per year between 1990 and 1998 to $46 billion between 1999 and 2015. Many of these expenditures will involve higher risk projects-such as large deepwater projects in the Gulf of Mexico, each of which can easily exceed $1 billion. While much of the required capital will come from reinvested cash flow, capital from outside the industry is essential to continued growth. To achieve this level of capital investment, industry must be able to compete with other investment opportunities. This poses a challenge to all sectors of the industry, many of which have historically delivered returns lower than the average reported for Standard and Poors 500 companies.

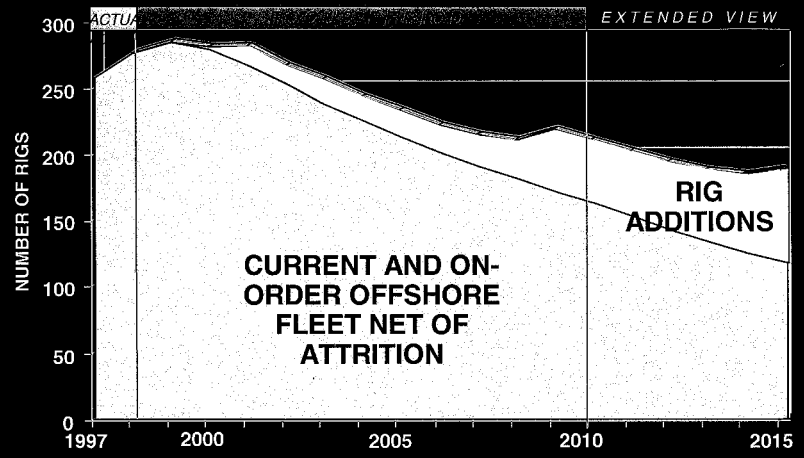
Industry Response and Conclusion

The 1998-1999 downturn hit the industry hard. The past two years have been spent paying down debt and improving balance sheets. Our view as a contractor is that oil and gas companies have now recovered financially to the point where they are using cash flow from higher oil and gas prices to invest in exploration and development. Their capital expenditures this year have increased over 20 percent, and all indications are that they will increase again by at least that amount in 2002. Rowan has a new $200 million jack-up rig scheduled for delivery late this year and another similar unit due in 2003. An analysis of the purchase orders for these two U.S. built, U.S. flag vessels shows components ordered from suppliers in 37 American states and seven foreign countries. Neither rig has a contract at this time but we are confident they will when delivered. Rowan is responding to the market by entering the business of constructing land rigs and components such as mud pumps, draw works and cumulators. We are also participating in the Gulf of Mexico deepwater frontier with our recent acquisition of some of the most technically advanced high horsepower offshore supply vessels. Finally, we have introduced larger 19 passenger helicopters into the Gulf for those long trips to deepwater locations offshore. Providing billions of dollars in new infrastructure for offshore oil and gas development cannot occur overnight. I am confident, however, that America's industry is beginning to respond and that it will rise to meet the many challenges we have before us.

Thank you very much for your attention. I will be glad to answer any questions members of the Subcommittee may have.

EXHIBIT I

Offshore Drilling Rig Fleet



- 72 additional offshore rigs will be needed
- Additions may be from reactivations, new construction or relocations.
- Availability of skilled workers is also a concern.

Source: NPC

EXHIBIT II

Newbuildings 1996 – 2001

Owner	rig name	design	water depth ft	year ordered	yard	contract / comments	price $m	ready
Jack-ups								
Chiles Offshore	Chiles Columbus	Super 116	360	1997	AMFELS, USA	working in the USG for Shell	84	*
Chiles Offshore	Chiles Discovery	KFELS Mod V B	350	2000	FEL Singapore	ordered speculatively	110	Q2 2002
Chiles Offshore	Chiles Magellan	Super 116	375	1997	AMFELS, USA	working in the USG for Shell	88	*
Chiles Offshore	Chiles Galileo	KFELS Mod V B	350	2000	AMFELS, USA	ordered speculatively	110	Q2 2002
Chiles Offshore	Chiles Coronado	Super 116	350	1997	TDI-Halter, USA	working in the USG, Chevron	110	*
ENSCO	ENSCO 101	KFELS Mod V	350	1998	FEL Singapore	built on spec, contract in UK	145	*
FELS/ENSCO	ENSCO 102	KFELS Mod V	350	2000	FEL Singapore	speculative newbuild	130	Q1 02
Maersk Drilling	Maersk tbn	CJ70-150-MC	492	2000	Hyundai , Korea	ordered speculatively	250	mid-02
Maersk Drilling	Maersk tbn	CJ70-150-MC	492	2001	Hyundai , Korea	ordered speculatively	250	Dec-02
Rowan	Rowan Gorilla V	LeT Super Gorilla	408	1996	LeT, Vicksburg	ordered on spec now working	185	*
Rowan	Rowan Gorilla VI	LeT Super Gorilla	408	1996	LeT, Vicksburg	no contract	221	*
Rowan	Rowan Gorilla VII	LeT Super Gorilla	408	1996	LeT, Vicksburg	no contract	190	end-01
Rowan	Rowan Gorilla VIII	Super Gorilla XL	550	2000	LeT, Vicksburg	ordered speculatively	210	Q3 2003
Santa Fe	Galaxy II	KFELS Mod VI - G	360	1997	FEL Singapore	Mobil Canada 5 years	154	*
Santa Fe	Galaxy III	KFELS Mod VI - G	360	1997	FEL Singapore	Amoco and BG UK 3 yrs	179	*
Santa Fe	Santa Fe tbn	F&G JU 2000	400	2001	PPL, Singapore	ordered speculatively	125	Q2 2003
Santa Fe	Santa Fe tbn	F&G JU 2000	400	2001	PPL, Singapore	ordered speculatively	125	Q2 2004
Trans Sedco	Gurtulush	KFELS CS Mod V	350	1998	Caspian SC/FELS	Agip, Elf and Mobil	175	*
Semis								
	Amethyst 4	Amethyst	5,000	1997	FGO, USA	Petrobras 6 yrs, poss cancel	190	2002
Amethyst	Amethyst 5	Amethyst	5,000	1998	FGO, USA	Petrobras 8 yrs, poss cancel	190	2002
Financial	Pride Brazil	Amethyst	5,000	1998	Daewoo, Korea	Petrobras 5 yrs	180	*
	Pride Carlos Walter	Amethyst	5,000	1998	Daewoo, Korea	Petrobras 5 yrs	180	*
ENSCO	ENSCO 7500	ENSCO 750	7,500	1998	TDI-Halter, USA	Burlington USG + 3 years	220	*
Maersk Drilling	Maersk tbn	DSS-20-CAS-M	3,300	2001	FELS/CSC	Exxon Azerbaijan 3 years	250	Q3 2003
Marine Drlg	Marine 700	Bingo 8000	5,000	1996	Kvaerner +HAM	Exxon (except N Sea) 5 yrs	270	*
Moss Arctic Pr.	Moss Sirius	CS50	tbu	2000	Vyborg, Russia	no contract, baredeck	45	Q1/2 02
NIOC	tbn	GVA 4000 M	3,330	2001	Sadra, Neka	ordered for use in Caspian	226	Q1 2004
Ocean Rig	Leiv Eiriksson	Bingo 9000	7,500	1996	Dalian, FGO 9/98	no contract	385	Mar-01
Ocean Rig	Eirik Raude	Bingo 9000	9,840	1997	Dalian, FGO 12/98	no contract	393	Jun-01
+ Ocean Rig	Bingo 9000-3	Bingo 9000	96,500	1997	{Dalian China to	no contract, baredeck 5/99	tbu	tbu
+ Ocean Rig	Bingo 9000-4	Bingo 9000	96,500	1997	{hull level only	no contract, baredeck 11/99	tbu	tba
R&B Falcon	Deepwater Nautilus	R&B/Ishikawajima	8,000	1997	Hyundai, Korea	Shell US Gulf, 5 years	350	*
R&B Falcon	Deepwater Horizon	R&B/Ishikawajima	8,000	1998	Hyundai, Korea	Vastar, Gulf, 3 years	350	*
Smedvig	West Venture	ME 4500 DP	4,900	1997	Hitachi, Japan	N Hydro 5 yrs+7x1 opts	330	*
Stena Drilling	Stena Don	CS-30	1,640	1998	Kvaerner Warnow	Statoil 5 to 20 years	330	Apr-01
Trans Sedco	Sedco Energy	Express 2000	7,500	1997	DCN, France	Texaco USG 5 years	390	Mar-01
Trans Sedco	Sedco Express	Express 2000	6,500	1997	DCN, France	Elf Angola 3 yrs cancelled	390	Q2 2001
Trans Sedco	Cajun Express	Express 2000	8,500	1998	PPL, Singapore	Marathon USG 5 years	310	Mar-01
Drillships								
Global Marine	Glomar CR Luigs	Glomar 456	9,000	1998	Harland & Wolff	BHP 30 mnths+Elf 6 mnths	380	*
Global Marine	Glomar Jack Ryan	Glomar 456	8,000	1998	H&Wolff/Newpark	Exxon 3 years	350	*
Navis ASA	Navis Explorer I	Navis	10,000	1997	Samsung, Korea	spec built, contract from Jul-00	302	*
Pride/Sonangol	Pride Africa	Gusto 10,000	10,000	1997	Hyundai, Korea	Elf, Angola 5 years	250	*
Pride/Sonangol	Pride Angola	Gusto 10,000	10,000	1998	Hyundai, Korea	Elf, Angola 3 to 5 years	235	*
R&B Falcon	Deepwater Expedition	Arctic DP	9,850	1996	Keppel, Singapore	Petrobras 6 years	230	*
R&B/Conoco	Deepwater Pathfinder	R&B DPS-3	10,000	1996	Samsung, Korea	Conoco USG 5 years	277	*
R&B/Conoco	Deepwater Frontier	R&B DPS-3	10,000	1997	Samsung, Korea	Conoco etc NZ+US 5 years	271	*
R&B Falcon	Deepwater Millennium	R&B DPS-3	10,000	1997	Samsung, Korea	Statoil (US) 4 years	275	*
R&B Falcon	Deepwater Discovery	R&B DPS-3	10,000	1998	Samsung, Korea	Texaco 3 years	305	*
Smedvig	West Navion	MST tanker	8,200	1997	Samsung, Korea	Statoil Norway 1 year	660	*
Saipem	Saipem 10,000	DPS-3	10,000	1998	Samsung, Korea	Agip 5 yrs. + 2x1 yr opts	270	*
Trans Sedco	Discoverer Enterprise	Aframax/Sonat	10,000	1996	Astano and Ingalls	BP Amoco USG 3 to 5 yrs	442	*
Trans Sedco	Discoverer Spirit	Aframax/Sonat	8,500	1998	{Astano and Aker	Unocal USG 5yrs+5 yrs opts	312	*
Trans Sedco	Discoverer Deep Seas	Aframax/Sonat	10,000	1998	{Marine, C Christi	Chevron USG 5yrs+3 yr opt	315	*
Tender drilling units								
Smedvig	West Menang	Pelaut semi	600	1998	Keppel, Singapore	Shell Brunei 5 years	100	*
Keppel/Smedvig	West Alliance	enhanced Pelaut	6,000	2000	Keppel, Singapore	speculative newbuild	82.5	Q4-2001

* delivered

SOURCE: BASSOE OFFSHORE

STATEMENT OF HAROLD SCHOEFFLER, SIERRA CLUB

Mr. SCHOEFFLER. Thank you for the opportunity to address this Committee on a topic that is vital to Louisiana and the nation. Other states at this time may have an opportunity to approve or disapprove the expansion of offshore drilling in Federal waters throughout this country. Louisiana was never afforded that opportunity. Starting off as a small, seemingly inconsequential activity, it has become a major contributor to this nation's energy resources and the national treasury.

We have a three-way partnership between the Federal Government, oil industry and the host state in the development of offshore mineral resources. I would like to make comments on the host state's role in this partnership. First of all, that state receives no compensation for the very necessary contributions it makes to the offshore oil and gas recovery. A list of what host states provide, which would include Louisiana, are as follows:

I would like to mention that in your home state, looking at the Minerals Management report for the year 2002, you all received about $270 million in oil fees, you received another $200 million in your water recovery program, which stays in your state. Only 10 percent of the royalties actually go into the Federal treasury.

Ms. CUBIN. It is not fair. I like the money, but it is not fair that—

Mr. SCHOEFFLER. Right, absolutely. And I am going to go through that.

The ports, Louisiana has about 15 of them that provide docking, loading facilities for tugs, crew boats, barges, supply vessels, helicopters that haul people, food, generators, fuel, fresh water and an endless list of other materials needed to support drilling production activities. these ports are funded with local property taxes and with a state tax, five cents per gallon gasoline tax statewide.

Fabrication yards where the tugs, crew boats, barges, platforms are built, painted, sandblasted and maintained. Many of these are on private property but many are also on properties developed in the ports by Louisiana tax dollars.

Service facility yards. An endless array of pipe yards, equipment rental facilities, heliports, helicopter maintenance facilities and a long list of other service connected facilities. In Lafayette which is Lafayette Parish, which is the central coast of Louisiana, about 40 miles from the coast, there are 67 pipe yards. One of the major problems with pipe yards is that for a long time we did not know when we cleaned pipes that what we are taking out of these pipes was radium 225, radium 228, a highly radioactive material. All these 67 sites are highly contaminated with radioactive material. We do not know what the hell to do with that yet.

Waste. All coming ashore in Louisiana. that waste is derived from drill cuttings, drilling fluids, domestic waste from the 29,000 people who live on Louisiana offshore platforms, and that number is based on Minerals Management Service environmental impact studies. Waste from other states like Alabama whose regulations are much stricter than Louisiana will find its way to Louisiana's unregulated, "non-toxic" oilfield waste sites. As Federal regulations on waste disposal become strict, it guarantees that the additional waste generated will find its way to Louisiana's non-regulated,

non-toxic waste sites. We are just dealing with an incinerator of oilfield waste that will be located in the coastal community port of Intracostal City, Louisiana, would burn 500 tons per day of oilfield waste that would not be regulated by the EPA or our Department of Environmental Quality because it is all non-toxic, whatever that means. It is politically non-toxic; scientifically quite toxic.

Shoreline processing facilities include refineries, carbon black plants, gas processing plants, petrochemical facilities and others with the state providing infrastructure to support their existence. We provide free water for all these—you being from Wyoming. We have no water policy whatever in this state. You can take any from the ground, from the lakes, from the rivers, all you want, any size, any quantity and of course that supports the refineries and a lot of other oil and gas activities.

Transportation of product. Pipelines, tank yards, canals, roads, bridges, all of which takes an enormous toll on coastal marsh loss and the related fisheries loss. We have 9000 miles of OCS pipelines with more to come that crosses our coastal zone. We have 42,000 miles across the state and the coastal zone is 9000 miles. Each mile of pipeline, according to the Minerals Management Service environmental impact studies, we lose 89 acres of marsh. Of course, that affects shrimping fisheries and people say well I do not see how it affects shrimping, but when you look at the licenses sold in a 10-year period, Louisiana shrimping licenses in 1985 numbered 38,300, these are commercial shrimping licenses. And in 1995, declined to 10,200. So marshland loss certainly does contribute to some basic economic activities in the loss of those activities.

Education for offshore workers. The State of Louisiana, through vo-tech schools, colleges and high schools provides training programs for offshore mineral extraction and related support activities.

Emergency services. The State of Louisiana through state agencies provides hospitals, sheriffs' departments, fire departments, coroner's offices and a long list of emergency services that is absolutely required by this industry. It involves wrecks on the roads and helicopter crashes and boat sinkings and you name it.

In conclusion, this is a short list of what the host states, especially Louisiana, provide the Federal offshore drilling program. We have 5500 platforms offshore worldwide with over 4000 of them in Louisiana Federal waters. That number is changing constantly as we move them. It takes an enormous infrastructure to support the 29,000 people who live and work on them.

According to Minerals Management Service figures recently released, there are proven reserves of over 54 billion barrels of oil and 293 trillion cubic feet of gas in Louisiana Federal waters in the Gulf of Mexico. This country needs that energy. The infrastructure to recover that energy is in place.

We do need to compensate the host states for all the services needed to support this effort. These services are, for the most part, funded by state and local government. And when that occurs, that is tax dollars that do not reach our schools, colleges, roads, bridges, hospitals and other needs. For Louisiana, this is a monumental drain on its resources. It has given us one of the worse educational programs in the nation. With poor education comes obvious eco-

nomic partners—poverty; high crime and incarceration rate, the highest in the country; low quality of life and other problems. It is high time that the Federal Government and the Minerals Management Service program recognize its dependence on the host state for vital services and that those services be made part of a plan for total compensation—past, present and future. We could call it the Louisiana Royalty Relief Act.

Thank you.

[The prepared statement of Mr. Schoeffler follows:]

Statement of Harold James Schoeffler, Conservation Chair, Delta Chapter Sierra Club, Lafayette, Louisiana

Thank you for the opportunity to address this committee on a topic that is vital to Louisiana and the nation. Other states at this time may have an opportunity to approve or disapprove the expansion of offshore drilling in Federal waters throughout the country. Louisiana was never afforded this opportunity. Starting off as a small seemingly inconsequential activity, it has become a major contributor to this nation's energy resources and the national treasury.

We have a three-way partnership between the Federal Government, oil industry and the host state in the development of offshore mineral resources. I would like to make comments on the host states' role in this partnership. First of all that state receives no compensation for the very necessary contributions it makes to the offshore oil and gas recovery. A list of what other states provide, which would include Louisiana, are as follows:

- PORTS—Louisiana has about 15 of them that provides docking, loading facilities for tugs, crew-boats, barges, supply vessels that haul people, food, generators, fuel, fresh water and an endless list of other materials needed to support drilling production activities. These ports are funded with local and state taxes, including a 5 cent per gallon gasoline tax statewide.
- FABRICATION YARDS—where the tugs, crew-boats, barges, platforms are built, painted, sandblasted and maintained
- SERVICE FACILITY YARDS—An endless array of pipe yards, equipment rental facilities, heliports, helicopter maintenance, and a long list of other service connected service facilities.
- WASTE—All coming ashore in Louisiana. That waste is derived from drill cuttings, drilling fluids, domestic waste from the 29,000 people who live on the Louisiana offshore platforms. Waste from other states like Alabama whose regulations are much stricter than Louisiana will find its way into Louisiana's unregulated quote "non-toxic" oilfield waste sites. As Federal offshore regulations on waste disposal becomes more strict, it guarantees that the additional waste generated will find its way to Louisiana's non-regulated, non-toxic waste sites.
- SHORELINE PROCESSING FACILITIES—Include refineries, carbon black plants, gas processing plants, petrochemical facilities and others with the state providing infrastructure to support their existence.
- TRANSPORTATION OF PRODUCT—Pipelines, tank-yards, canals, roads, bridges, all of which takes an enormous toll on coastal marsh loss and the related fisheries loss. We have 9,000 miles of OCS pipelines with more to come. Each mile of pipeline we lose 89 acres of marsh. Louisiana shrimping licences in 1985 numbered 38,300 and in 1995 declined to 10,200.
- EDUCATION FOR OFFSHORE WORKERS—The State of Louisiana through vo-tech schools, colleges and high schools provides training programs for off shore mineral extraction and related support activities.
- EMERGENCY SERVICES—The state of Louisiana through state agencies provides hospitals, sheriffs departments, fire departments, coroner's offices a long list of emergency services that is absolutely required by this industry.

In conclusion this is a short list of what the host states, especially Louisiana, provides the Federal offshore drilling program. We have a 5,500 platforms offshore worldwide with over 4,000 in Louisiana Federal waters. It takes an enormous infrastructure to support the 29,000 people who live and work on them.

According to mineral management figures recently released there are proven reserves of over 54 billion barrels of oil and 293 trillion cubic feet of gas in Louisiana Federal waters in the Gulf of Mexico. This country needs that energy. The infrastructure to recover that energy is in place.

We do need to compensate the host states for all the services needed to support this effort. These services are for the most part funded by state and local govern-

ment, and when that occurs that is tax dollars that does not reach our schools, colleges, roads, bridges, hospitals and other needs. For Louisiana this is a monumental drain on its resources. It has given us one of the worse educational programs in the nation. With poor education comes some obvious economic partners—poverty, high crime and incarceration rate, low quality of life and other problems. It is high time that the Federal Government and the minerals management program recognize its dependence on the host state for vital services, and that those services be made a part of a plan for total compensation - past, present, and future.

Ms. CUBIN. Thank you.

This has been a great hearing. The testimony from all of the witnesses has been great because rarely do you have a hearing where you agree with what every witness has said, and Mr. Schoeffler, I really am committed to trying to help the Louisiana delegation to do something about this. I knew it was not fair, but I had no idea the extent to which Louisiana has carried the burden for the rest of the country.

Mr. SCHOEFFLER. I am part of the Teachers of America program and I serve on the board and there are 2000 Teachers of America volunteers around the country and 350 of them are in Louisiana. We have a parish north of us that has about 800 teachers, 500 of them are not college graduates and they use those teachers because they cost a lot less.

Ms. CUBIN. Well, something needs to be done and I expect that it will be.

A couple of points I wanted to make—if I could only find my notes. The jurisdiction of this Committee really is not to establish energy policy. The jurisdiction of this Committee has to do with access to the minerals. We have jurisdiction over MMS and other agencies, but certainly we play a big role, because one of the biggest problems—and today I have learned some other big problems—but one of the biggest problems is access, which you know, and it is the same thing on the land as well.

One of the things that Representative Skeen from New Mexico and I were able to get amended onto the Energy Act of 2001 is a requirement of the USGS to establish and plot on a map, if you will, the reserves of oil and gas under the lower 48 states and the outer continental shelf. And then on top of that, do overlays of things that inhibit or restrict access to those minerals. So there would be one overlay, for example, of the Endangered Species Act, another overlay of national forests and parks, just, you know, one on top of the other, so we could actually see what is keeping us off of the Federal lands where the energy that we need is. So I think that will be helpful to everyone, not only to extract the mineral, but once you have all of these prohibitions in place, to see why we cannot have pipelines. You know there are places where absolutely there should not be drilling and there should not be pipelines, there should not be power plants. But we also know absolutely that there are areas that are restricted that ought not to be, especially in view of the situation we find ourselves in with energy right now.

Another thing that I should have said earlier and I did not say, was that we have been talking about production of more energy, oil and gas in this particular case, but I do not want anyone to leave with the idea that we do not believe that renewable energy supplies are very important and that we need to invest in that and

that we also need to invest in efficiency, in conservation and in technology to help us use the energy sources that we have. I want—because we have not focused on that in this hearing, I just want everyone to know that that is considered to be a hugely important part of any energy policy that goes forward.

A quick question. Louisiana owns the water in Louisiana, right?

Mr. SCHOEFFLER. That is a very good question. We are fighting that battle right now. I think we do, by the 1953 Submerged Lands Act, yes, we do.

Ms. CUBIN. Yeah, we always fight over water in the west.

Mr. SCHOEFFLER. Right. Yes, we own the water.

Ms. CUBIN. And so you need to get on your state legislature to do something.

Mr. SCHOEFFLER. We are doing our best. We have pending legislation right now. The big concern is that maybe Florida will take it to solve their water problem down in the Everglades. They could run a pipe through the Mississippi very easy and do that.

Ms. CUBIN. Another thing that I wanted to clarify from your testimony, Mr. Vitter said here today and Mr. Cooksey has told me in the past, that some of the best fishing that there is in Louisiana is out by the platforms. And you know, he has told me about the size of the shrimp and all that stuff.

Was your testimony in relation—when you were talking about diminished supplies of fish, were you talking about because of pipelines or what?

Mr. SCHOEFFLER. No, the loss of the marshes has an enormous impact on commercial fisheries because the shrimp and red fish and speckled trout depend—at one time or another in their life cycle they live in the marshes. In juvenile stages they go into the marshes and they eat the material or decaying vegetation and then at maturity, they come out. So if they cannot access those marshes or if the marshes are gone—when we talk about wetlands loss in Louisiana, we are not talking about turning it into a corn field, as it occurs maybe in Michigan, what we are talking about is vegetated marshes—mass amount of vegetation, typically 270 varieties of plant will grow in a health marsh and it turns to open water, it becomes the bay, it becomes part of the Gulf, and we lose that and we lose all the productivity, the ability to take care of juvenile shrimp, juvenile crab. He is correct about the fishing though. I have fished in the Gulf all my life, I am 61, I fished in the Gulf when we did not have oil rigs and putting oil rigs out there has made a tremendous difference. It is much easier to find the fish. This week I fished out there twice and the fishing is fabulous, that is where we fish.

Mr. BEDELL. Madam Chairman, here are pictorial representations if you would like.

Ms. CUBIN. Well, Congressman Cooksey has brought me some of that stuff, but he has never brought me anything—

Mr. BEDELL. And LSU did some studies, Madam Chairman, there have been a number of studies done that show that the populations around the platforms are not simply the result of migration of existing stocks of fishes, that in fact, the existence of the platforms has added its own stocks to the red fish, red snapper and all the rest of them.

Mr. SCHOEFFLER. It is kind of irritating to me in Louisiana that when they finish with the platforms and they dismantle them, they have a rigs to reef program and Florida is crying to get our rigs as they are dismantled.

[Laughter.]

Ms. CUBIN. Right.

Mr. SCHOEFFLER. That is terrible.

Ms. CUBIN. Well, it is the same thing with California, wanting, you know, to build their plants in Nevada.

Mr. Bedell, you referred to the boom and bust cycle of the energy industry and believe me, being from Wyoming and largely dependent on energy for our economy, I understand that boom and bust cycle. And I do not know whether this is actually a proposal or whether this is in law, but allowing, during low price periods, allowing companies to forego royalty payments and make capital investments so that the industry does not come to a screeching halt. Comment on that for me.

Mr. BEDELL. Madam Chairwoman, that would be a creative way of approaching the problem. The fact that we participate in lease sale today, we spend say, $14 million on a block and we start doing seismic work—more seismic work than we did before we decided how much to bid, that is. If we won the lease, then we will start planning structures. It can be an expensive process, as the other witnesses have referred to, of between six and 10 years in a frontier area where there is no infrastructure or maybe three to 5 years in another area where you have existing infrastructure where we do try to tie into existing pipelines. We do not try to lay a whole new pipeline where another one exists. Where say production has gone down so that now there is capacity in that line, we will have a new discovery and we will lay over to that line rather than do a whole new line. But anyway, we do not know always what product that we will find—if we find what it will sell for and we may have to spend—my company has spent 20 to $30 million on one well—before we find out. So there need to be incentives that can get a smaller company involved. There has been really, I think, excellent testimony earlier to that effect.

There are provisions of law where the MMS can vary the royalties. It is very difficult politically to do that kind of thing in some cases, I think, to be very realistic about it. And if you have a situation where we have some budget surplus, maybe it is a good time to think about allowing some more flexibility. But it could be difficult with the Budget Act and having to see if they cut this income out where are they going to get that to be augmented from. You are much more familiar with the functioning of that process than we are. But I think what you mentioned would be a good way to do it. It would be of help, I think.

Ms. CUBIN. You know, we can rely on a stable supply of food and, of course, the farmers cannot necessarily rely on good prices. They have really been suffering and our government policies have been very detrimental to the industry. But I do not see why we cannot do some creative thinking and have a reliable source of energy as well. I really think if we start thinking out of the box and quit with the politics and, you know, the 30-second sound bits of destroying the environment, that we all really could get a lot further.

Mr. Drago, would you elaborate for me a little bit on how Congress intended the states to be involved in the OCS planning process when the 1978 amendments were passed?

Mr. DRAGO. In the planning process through the Coastal Zone Management Plan?

Ms. CUBIN. That's correct.

Mr. DRAGO. All of the issues that were raised at—and the concerns and fears, some substantiated, some not, of the impact on the Outer Continental Shelf, there were provisions in the Act to deal with those. Congress established a 5-year leasing program which would spread these lease sales out over a period of time, that the states could see where—and the oil companies could see where they were going. Any problems that they saw coming from this could be dealt with during that 5-year period. The Coastal Zone Management Act potentially was the best tool to deal with that, but as has been pointed out, I think the hand has been overplayed a little bit. It has been used in some instances as a hinderance to development. You cannot say their concerns are not genuine, they obviously are. But it is like your state, one of my policy board members is one of the biggest wildcatters up in Wyoming. He is having problems with permitting.

Ms. CUBIN. Who is that?

Mr. DRAGO. Charlie Lazer. He cannot get a permit. I know you have dealt with this in other committees. But this question of how we solve our problems with OCS leasing we thought were answered in the OCS Lands Act, the Members provided everything that they thought was needed to make this program work. President Carter was very impressed with it and he thought we were going to move right forward. To be very honest, a lot of the things that I have heard today are the same type of problems we heard back then. The Coastal Zone Management Plan can work if there is good faith on both sides.

Ms. CUBIN. Right.

Mr. DRAGO. I think that is the important part. The other thing is that there are a lot of concerns for the impact of oil and gas operations on shore. There was concern by the members of those committees, and these were people that were representing on-shore and off-shore oil states -- John Breaux was a member of the committee; Morris Udall was a member of the committee. It wasn't just off-shore coastal states. One of the problems that we found was when people started talking about the impact of off-shore activities on-shore and a loss of land, it was very difficult to determine what damage was coming from leasing within state waters and leasing on the outer continental shelf. Pointing a finger of blame sometimes is a real waste of time, but if you cannot get down to what the cause is, it is very difficult to come up with a solution. I think that hedging on what real causes are prevents us from finding real solutions. Problems are not being treated with hard scientific data, and if they were, I think a lot more answers would be a lot more obvious.

Ms. CUBIN. Mr. Kelly, did you want to respond?

Mr. KELLY. Yes, Madam Chairwoman. I was involved in the evolution of the OCS Lands Act amendments back in 1978 as well, back when I had a lot more hair and it was brown.

Mr. DRAGO. So was mine.

[Laughter.]

Mr. KELLY. I think there was a lot of goodwill that surrounded the enactment of the amendments and a number of the stakeholders came together and made compromises. Section 18 of the OCS Lands Act that deals with the interaction of the state governors with the Federal activity is generous in the sense of giving governors in the states a lot of opportunity to comment on the process, but in the end there must be a decision maker and the law provides that that is the Secretary of the Interior. There was significant litigation in the late 1970's and early 1980's when no matter what the Federal Government did with the states, for states like a California or Florida, it was never enough. So they went to court. It is interesting that none of the states ever won litigation to block an offshore lease sale because the courts ended up stating that where Federal lands outside the territorial limits of the states are involved and the benefits of those Federal lands are to go to the citizens of all 50 states, therefore, Federal interests are paramount. Further, as along as the Secretary of Interior uses a standard of judgment that was defined by the court as being reasonable, Federal interests should be upheld. Only then did the states go to Congress and start using the appropriations process to block the activity. That is the problem. I think in the era of trying to diversify and pay more attention to Federalism, Congress has gone back and given more of that power back to the states, even though the law said it was not necessary.

Ms. CUBIN. Thank you. Go ahead.

Mr. BEDELL. There was also a provision in the Act that formally set down—I think it was Section 301—but anyway, it was the information exchange between the Federal Government and the states similar to what is in the Coastal Zone Management Act, but it was within the OCS Lands Act. That was one of the impetus for putting together that Act and for getting the ad hoc Select Committee together. It was that states had complained that they weren't getting enough information. So, you know, it's deja vu all over again, as Yogi Berra would say. We still have that same problem unfortunately today despite the fact that the OCS Lands Act and the Coastal Zone Management Act—in my testimony I rattled off a bunch of the different statues that exist—are there. Sometimes this seems to confuse matters. We are not sure which act governs what.

Ms. CUBIN. Right.

Mr. BEDELL. I was interested in your comment about the provision you had put in the law trying to come to grips with that, at least on shore. There's a need to put together something that would show which laws apply to what extent and then try to figure out where you go from there.

Ms. CUBIN. How do you untangle it. Well it is—does apply to OCS—oh, it doesn't. Excuse me, it is just the lower 48.

One more question, Jim. This is yours, Mr. Bedell. The map, 181 is 213 miles from Tampa, 108 miles -- is 108 miles the closest it comes to Florida?

Mr. BEDELL. Well it depends, Madam Chairwoman, on how you define close to Florida. In the traditional sense, again it was where

they had the state boundaries and in the OCS Lands Act it recognizes those are projected offshore—you know, straight off shore, perpendicular to the shore or whatever. So "off of Florida" would be from the Florida-Alabama border to the east. That is just one of the problems we have.

Ms. CUBIN. Okay, that was what I was going to ask.

Mr. BEDELL. But as you can see, a lot of this lease sale was designed specifically to meet all of the objections that Florida had at the time this was being put together. In other words, this line right here is 100 miles off shore of Florida. This Alabama one is 15 miles off shore. So, (pointing at map) three, five, 15 miles off shore. And then this development had already been had here. There were extensive negotiations with the military. As an ex-pilot, Congressman, I am sure you would be concerned about the fact that we want the military to be able to go ahead and be able to test weapons and that sort of thing out of Florida. Along the coast there is a very active testing center at Eglin Air Force Base. These areas (pointing at map) were negotiated for controls on development of those leases so that they would not interfere with the military's mission.

Mr. KELLY. One suggestion has been made that one way to compromise with Florida might be to eliminate some of the acreage in the stem. The irony in that is that that's the gas prone part of the leases.

Ms. CUBIN. Right.

Mr. KELLY. And if we are all interested in increasing our supply of environmentally friendly fuel, why would we do that? That is where the risk is the lowest.

Mr. BEDELL. And Madam Chairwoman, there is a pipeline project now being proposed, that has gotten through FERC, which goes from Mobile Bay right through here (pointing at map) —which they wouldn't allow us to produce—all the way over to Florida. This pipeline would have its—it is similar to your situation in Nevada with California, the compressor stations would be in Alabama, and put the Mobile area in jeopardy in becoming a nonattainment area for the benefit of clean air in Florida where they are converting their powerplants to natural gas.

Ms. CUBIN. I understand. I saw that look on your face.

Mr. Gibbons.

Mr. GIBBONS. Thank you, Madam Chairwoman. Believe me, it is an interesting, complex problem that we are hearing from today about this. One of the things that I'm interested in—of course, MMS believes that, I think, 50 percent of undeveloped oil and gas reserves lie in the outer continental shelf. Mr. Drago, your concern is, of course, that OCS is a Federal lease problem. What changes would you look at, what would you recommend in the OCS lease problems? What changes would you make for that 2002-2007 time frame for --

Mr. DRAGO. The only -- excuse me. The only changes I would recommend is basically what I talked about in my testimony and that is to open that area up to leasing. Natural gas production is crucial. We cannot import that like we do oil. We have to produce it. To produce it, we have to lease so that we can drill for it. And that is the only significant thing I can see that the government can do,

take a closer look at these things and make their judgments on science. Is there danger? Yes. Can it be ameliorated and has it been? Yes. There is no reason not to—look at the money the government of states and local communities gets from OCS activities.

Mr. GIBBONS. Let me address my question over here to Dr. Hare, because I know that your are somewhat skeptical of the fact that the great reliance on deep-water production out there in the Gulf is going to sustain our natural gas demands. Let me ask you, what could we do—what recommendations would you make to keep the Gulf from peaking in that time frame from 2002 to 2003 if, in fact, the supplies are not there?

Mr. HARE. Well I think one thing that you could do, we have heard the word competition mentioned a lot. If you just have a few of the super majors doing the exploration, their economic cutoff of what they are going to explore for is going to have a real high threshold value. If you can bring more of the large independents or midsized independents into the business, they will hunt for smaller deposits and they will find economic ways to develop them.

Mr. GIBBONS. Mr. Kelly.

Mr. KELLY. I think that one very creative initiative that the Minerals Management Service has come up with is this new deep drilling royalty incentive on the shelf. We have talked today a lot about deep-water royalty relief. This is a new idea that would provide a royalty suspension on wells drilled 15,000 feet or deeper on the shelf. It does have a floor price, in that the benefit only kicks in if natural gas is $3.50 or lower. I do not know how many others would agree with me, but we may never see $3.50 gas again. I think we could really see some deep drilling on the shelf in the Gulf if the floor price were moved to say $5.00. That might be worth considering. One way to address the gas supply problem is to encourage deeper drilling. As the NPC report says, if we are going to find more gas, we have got to drill deeper both on shore and off shore. I think this would really help because—and it can be justified in terms of fairness, because in order to drill 15,000 to 20,000 foot wells, we have to have bigger rigs, higher horsepower, and more technologically advanced equipment to deal with high temperatures, high pressures, and hydrogen and sulphur compounds that corrode materials at those depths. So it is going to be a risky and expensive business for the companies that venture into it.

There are a lot of structures out there that look prospective at those depths. One of the interesting things is that there seem to be more of them off Texas in Federal waters than Louisiana. So we might see a little bit of the work getting spread out into the western Gulf. I think the lease sale that is scheduled for this August for the western Gulf—number 180, will be very interesting in this respect, to see how the companies respond with this new incentive in place. But I think the incentive could be enhanced greatly if the base were increased from $3.50 to $5.00.

Mr. GIBBONS. Mr. Drago.

Mr. DRAGO. One of the things that has happened onshore and off the overthrust area, we did not know the oil was there. As soon as they found it, the increase in estimates went through the roof and there was more drilling and more oil and more estimated resources.

We are looking at areas on the outer continental shelf in this area, for instance, the west coast of Florida, that has enormous potential right now. What is it, 236 trillion cubic feet of gas? I think that's right. That is a lot of gas. If they go in there and drill, they are going to find that the estimated resources are higher. They will be able to take a look at the —what am I thinking of—structures that they are drilling in, where do they go. And I think we will find in the years to come once we start leasing in there, that we are going to have a lot more resource potential out there and be able to solve a lot of the problems that this country has.

Mr. GIBBONS. That seems to be the common sentiment, that we have actually got to get out there and drill it before you can say there is X amount there to begin with and whether it is oil and gas or whether it is in mining or any other, it takes some type of exploration to be able to pin that down.

I always find it amazing when I hear people rail against exploration, to say there is not enough there for you to be interested in, it is only a small amount, like 6 months supply for the United States, not worth going after. But as soon as you start exploring it and putting that first line down, you find out that it is vastly more than you anticipated.

Mr. HARE. Exactly. And I have trouble, when we have a resource estimate that is a distribution on a probability curve and we usually pick the mean figure off and say okay, it could be this size, why would we not want to go out and do some kind of exploration to assure ourselves that it is either there or it is not there. To me, that seems to be the essence of it.

Mr. GIBBONS. Let me ask a question real quick. I know our time, Madam Chairwoman, is expiring rapidly here, but Mr. Schoeffler brought up the issue about skilled labor force drop off. What are each of your companies—and let me say I do not know that the AAPG can come up with that, but—

Mr. HARE. I do have an opinion.

Mr. GIBBONS. Well, what are your companies doing to partner with educational institutions, et cetera, to help ensure that we have both educated and skilled labor forces?

Mr. HARE. Well, I am a person that was formerly the chief geologist for Vastar Resources and of course we were acquired, when BP acquired Arco, they ultimately got us, and so there was a lot of talent that had to disperse elsewhere. Most of the really good talent became employed by smaller companies or whatever, but the NPC study that was published in December 1999 pointed out there were 750,000 jobs lost in the oil and gas business, and a lot of those were in these very, very technical fields. So that is something that if we are going to be able to reach that goal of being able to produce 30 Tcf in 2010, only 25 of which is going to be coming from the U.S., we have to have those geological and geophysical and engineering professionals who are ready to go.

Mr. GIBBONS. Let me just go down the line, whoever wants to start.

Mr. BEDELL. My company designed and built the first jack up drilling rig that has now been donated, it is not working offshore any more, and we do not have a drilling company any more, but that has been donated and is now a training facility in south

Louisiana. We donated our former drilling building to the University of New Orleans, which is about an 11-12 story building downtown that is now a UNO technology center... sort of a—a place where new businesses are stimulated, there are some state offices and things in there.

We are trying to work on educational things, and we are concerned. I think the average age of our offshore work force is over 40 years old now. We try to keep people, we do not want to push people out the door, but getting recruitment of new people coming in is becoming increasingly difficult. The class sizes in universities of petroleum engineers, geologists, others, have gone down and these things are outside of our control. This boom and bust cycle is certainly nothing of our making, I do not think, and it is very difficult to deal with. We do what we can, we have programs where you incentivize people to stay around and not leave, you give them bonuses for every year they stay and this kind of thing. That has worked with engineers in our company, but again, we are not getting encouragement. If we cannot expand in the U.S., we can go overseas, but that is not hiring American workers.

Mr. GIBBONS. Of course every time you raise salaries to attract more employees, you have to add that to the cost of the product that you produce, which ripples across the country as a price increase and then you get criticized for gouging.

Mr. BEDELL. Right now the facts are that there were something like seven ammonia plants in the state of Louisiana producing ammonia which of course goes into fertilizer. And a number of these, more than half of them, I believe, at some point with the high gas prices, natural gas is the source of amonia, had to shut down operations. Now there is going to be a ripple effect of that when the farmers go to buy their fertilizer this spring or have already done so, I cannot but believe that there is going to be some bad effect there, not only on our employment here and our ability to deal with our problems in this state, but it is going to have a ripple effect.

Mr. GIBBONS. Mr. Kelly.

Mr. KELLY. Our company, Rowan, has taken somewhat of a unique approach in that we have never had a layoff of employees in the company. What we have done to deal with these boom and bust cycles is that during the boom cycle, we husband our cash and set a certain amount aside to deal with the next downturn. When the downturn comes, we do not lay out employees off, but we keep them. They do a lot of maintenance work on the rigs. We also involve them, to some extent, in rig construction, because likewise, we use the cash that we husbanded during the boom cycle to build equipment during the down cycle. This makes us very unique in our industry, but our feeling is that is the time to get good prices. When the down cycle comes, materials get cheaper. So we have historically built new equipment during the down cycle to be prepared for the up cycle.

Now in addition to that, we have a summer internship program where for many years, we have hired approximately 50 to 75 college students involved in engineering and the geosciences in the universities to work offshore. Most of these interns come from around the Gulf coast, but we have had students from New England and California as well. They work on the rigs for the summer,

they make good money as roustabouts and roughnecks, and we try to get them interested in the energy business. And it has been extraordinary how many have come back to come to work for Rowan or they have gone to work for other companies that are our customers. So it has paid off and this summer we are really boosting that program. We will probably have as many as 120 or 125 interns working in the Gulf of Mexico this year.

We also have active training programs. We tend to hire from the bottom and let the cream rise to the top, as they say. A lot of these students come in like these interns and it has paid off for us quite successfully.

Mr. GIBBONS. Thank you.

Mr. DRAGO. Can I say something else?

Ms. CUBIN. Yes, Mr. Drago.

Mr. DRAGO. Your point about opponents to drilling in ANWR, claiming ANWR does not have large enough reserves to produce, because all it would give us is 40 days of oil and therefore is not worth producing. I would like to point out that there are over 500,000 producing wells in this nation that produce all of our oil, averaging about 15 barrels of oil a day. That is pretty small production but that is where our oil comes from.

Ms. CUBIN. Well, I would like to thank the panel for their valuable testimony and the answers to the questions.

The hearing record will remain open for 10 days so anyone who has any supplemental information they would like to submit, that would be great. And also, if we could ask, I think there might be a few questions that we did not have time to get to and if you could answer those for us in writing, we would appreciate it.

Hearing no other business in front of the Committee, the Subcommittee is now adjourned.

[Whereupon, at 5:45 p.m., the Subcommittee was adjourned.]