OFFICIAL TRANSCRIPT

SOUTHEASTERN CONFERENCE

ON
OFFSHORE OIL DEVELOPMENT

MEMORANDUM

TO: Dallas Miner

FROM: Ben Campbell

SUBJECT: P. O. #01-8-M01-2240

DATE: January 4, 1979

Enclosed is a copy of the final conference proceedings concerning the public meeting on the OCS Oil and Gas Development Conference. On submission of this enclosure, all contractual obligations have been fulfilled by both parties on this purchase order.

Have a nice day!!

BC/dr

Enclosures

cc Jim Lynch

SOUTH CAROLINA COASTAL COUNCIL

1116 Bankers Trust Tower • Columbia, South Carolina 29201 • (803) 758-8442

FORM CD-45 (4-15-71)

U. S. DEPARTMENT OF COMMERCE

SUPPLY, EQUIPMENT OR SERVICE ORDER

PROCUREMENT DIVISION - OFFICE OF ADMINISTRATIVE SERVICES

FOR: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

2. CHECK APPROPRIATE BLOCK

☒ PROCUREMENT ☐ OTHER (Specify)

01-8-M01-2240

1. THE NUMBER SHOWN IN BLOCK 5 MUST APPEAR ON ALL SHIPMENTS AND/OR DOCUMENTS RELATING TO THIS ORDER

3. REQUISITIONER DOCUMENT NO.	4. BUREAU CONTROL NO.	5. PURCHASE ORDER NO.
CZM-78-092, J. Lynch	01-8-M01-2240 A1-D3	01-8-M01-2240

6. ISSUED TO:

South Carolina Coastal Council
State of South Carolina
1116 Bankers Trust Tower
Columbia, South Carolina 29201
Attn: H. Wayne Beam

7. DESTINATION

SHIP TO
National Oceanic and Atmospheric Admin.
Office of Coastal Zone Management
3300 Whitehave Street, N.W., Room 304-A
Washington, D.C. 20235
Page Bldg. #1 - Attn: Mr. Dallas Miner

8. ACCOUNTING CODE	9. QUOTATION REF. OR CONTRACT NO.	10. DISCOUNT TERMS
AC2000/HH881830/2517	41 USC 252 (c)(3)	Net
11. DELIVERY F.O.B.	**12. GOVT. B/L NO.**	**13. DELIVERY DATE**
N/A		February 24 & 25, 1978

14. DO NOT USE

STATION Attn: D. Miner, Page Bldg. #1 Rm. 304A, 634-4241

ITEM NUMBER 15. LINE NO.	16. DO NOT USE	17. DESCRIPTION	18. QUANTITY	19. UNIT	20. ESTIMATED TOTAL COST	21. ACTUAL UNIT PRICE	ACTUAL TOTAL COST
		This is a request for the Office of Coastal Zone Management to enter into an agreement with the South Carolina Coastal Council to support a public meeting on OCS Oil and Gas Development.					$3,000.00
		The attached Terms and Conditions are made a part of this order.					
		OCZM shall receive copies of the final conference proceedings upon publications Copies shall be sent to address in Block #7.					
		Ref.: Contractor's letter dated January 27, 1978.					

29. PURCHASING AGENT: Gloria I. Smith (301) 443-8395 — DATE: 2-24-78

30. RECEIPT ACTION - Quantities shown in Column 18 above have been received and accepted, except as follows: (If additional space is needed, use reverse side)

31. SIGNATURE-RECEIVING OFFICER	DATE	32. PROPERTY CONTROL NO.	☐ TRADE-IN ☐ RECEIVING REPORT

33. SEND INVOICES IN DUPLICATE TO: NOAA, Attn: AD538, Finance, 6010 Executive Blvd., Rockville, MD 20852

01-8-M01-2240

15405

U.S. National Oceanic + Atmospheric Administration
Office of Coastal Zone Management

COASTAL ZONE
INFORMATION CENTER

OFFICIAL TRANSCRIPT

SOUTHEASTERN CONFERENCE

ON

OFFSHORE OIL DEVELOPMENT

FRIDAY, FEBRUARY 24, 1978

AND

SATURDAY, FEBRUARY 25, 1978

CZIC COLLECTION

TN 871.3
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1978

OFFICIAL TRANSCRIPT

SOUTHEASTERN CONFERENCE

ON

OFFSHORE OIL DEVELOPMENT

FRIDAY, FEBRUARY 24, 1978

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SATURDAY, FEBRUARY 25, 1978

OFFICIAL TRANSCRIPT

SOUTHEASTERN CONFERENCE
ON
OFFSHOE OIL DEVELOPMENT

FRIDAY, FEBRUARY 24, 1978

CONVENE - Roy H. Owen, Executive Director, Trident 2000

With Trident 2000 there are really three people who have really been key in pulling the conference together and these are people who you really should grab if you have any questions. Sheri Maier down here, Stephanie Sanders standing up in the back and Laura Hines down here at the front. Wayne Beam who is the Executive Director of the South Carolina Coastal Council, back up in the back, has been a key person and he is also someone you can grab and ask questions of. And Bill Rose with the South Carolina Petroleum Council. Bill is around. As I said, you will be meeting a lot of other people during the next day and a half, but these are people who have been working on the conference and people of whom you can ask questions. Just in general I would really like to comment on and to recognize the enthusiastic response of the speakers who were asked to participate in this conference. The purpose of the conference is to share information on what it is that local communities can and should be doing to deal responsively with on shore impacts of off shore oil. The response of the participants who were asked to appear on the program has been overwhelming. Essentially everyone who was asked to participate has agreed to. I think what this demonstrates, one is the commitment of the federal government to working in partnership with state and local governments in the development of coastal oil resources. That is an important demonstration. Secondly, it also demonstrates the commitment of states, of local governments, of the oil industry, of private citizens, and of citizen organizations sharing ideas and engaging ina process of informed decision making on the whole issue of offshore oil development. So those two demonstrations are quite important and we in the Southeast, on the Southeast Atlantic coast, have an opportunity to deal with the issue of off-shore oil perhaps in a much more informed and much more rational way than other regions have had to do earlier.

Finally, just in making one other thank you, I would like to recognize the College of Charleston which has made available its facilities; and particularly the college president, Ted Stern, who has worked with us on the conference.

One last comment and then I want to introduce an important person to you, and that is that you have a schedule of conference activities in your brochure. For those of you who have planes to catch tomorrow afternoon, I want to let you know that the closing time for the conference really should be 1 o'clock and not 1:30. It's only a half hour but again any of you who have missed a plane by a half hour know that that is a major difference. Also, for those who were wondering how long you could last tomorrow without eating lunch, that may be important.

I would like to introduce to you Mayor Joe Riley. Mayor Riley was elected just a little over two years ago at the age of 32 as mayor of the City of Charleston, and his administration during these two years has been characterized by activity. But I would like to particularly recognize the commitment that his administration has shown to citizen participation and also the strong commitment that his administration has shown to planning. Planning in the City of Charleston has made enormous strides in the last two years and it is all directly a function of the Riley Administration. Without saying much more, I would like to say that progressive leadership that Mayor Riley's administration has shown in the last two years really exemplifies the kind of progressive leadership which the south needs to meet the kind of opportunities and the kind of stresses that we as a region are seeing as new developments come along, new developments such as off-shore oil. Mayor Riley.

Mayor Joe Riley:

Roy, thank you very much. He mentioned I was 32 when elected, but after two years in a job like this, I am now 47 years old. It's a pleasure to welcome all of you to the Southeast Regional Conference on Off-Shore Oil Development. We believe and we know the first of its kind. You will be meeting over the next day and a half or two days some people from other parts of this region and from around the country and will be exchanging ideas which reminds me of the experiences that I first had as a member of the South Carolina General Assembly where I was elected in 1968, being the youngest member there, being from the Lowcountry of South Carolina, from an urban setting and being thrust in with people from other parts of the state and other walks of life and different viewpoints and perspectives taught me the importance of understanding of where people are coming from and how they may be likely to react to something very differently than you. I remember the story in that regard of the Texas rancher who was traveling the United States many years ago and he was in New England and one day, about dusk, he pulled up in front of a small farm in Maine. The farmer was out there tidying up the front of his property and the rancher, a great big fellow, came up and he said, "Buddy, I'm a Texas rancher and I'm real interested in ranching, and farming and stuff like that. Tell me how big your place is." And he said, "Well, gee, it's not that big." He said, "you stand right here on the road you can see down to the line of trees is one property line, runs on back to a little hill, you see the crest of the hill. That's one property line. You come back parallel to us is a lake, you can't see it, but you notice a depression, come on back to the road and that's it." The Texas rancher said, "Well buddy, let me tell you about my place. I can get up at sunup on my ranch, get in my car I got back there, drive all day and when the sun sets, I'm still on my ranch." And the Maine farmer, without batting an eye, said, "Buddy, you know I used to have an old car that ran just like that."

In welcoming groups to the City of Charleston, I am tempted to remind you of the obvious, the age and beauty of our city, its historic importance, our leadership in the areas of preservation and restoration. But all of that is obvious to most people in the United States and certainly to those who will be visiting as you are over the next day and a half. I, therefore, would prefer to tell you about an old city that is young in spirit, and some things that we are about in Charleston that I think are important to you and important to people in cities throughout the Southeast and around the country. We have a heritage of preservation in Charleston, but we also have a city that is a microcosm of urban America, with every challenge and every problem, albeit to a lesser extent, than many cities that are located here.

We have a problem of housing, of slum areas that have been neglected too long. We have, through citizen participation, taken our focus of preservation and begun restoring run-down areas in the city on a block by block, house by house, board by board method. Restoring neighborhoods for people who live there, not for people who might move in. We began on one side of our city; the movement was working so well we brought in a national group to begin working on another part of our city, urban conservation, preservation of neighborhoods for people. We have a very divided community in many respects or had, racially, socially, politically, and otherwise - a City Council that is half white and half black. But because for the most part our community recognizes the worth of individuals and the importance of unity, we have forged a bond of our black and white citizens, suburbanites and urban dwellers and making real progress in our city. In the areas of economic development, Charleston is an example, classic, of urban America with the growth of suburbs, the out migration of people, capital investments following, businesses leaving, we have a city where economic development was absolutely necessary to give it vitality and to restore it and give it the ability to provide leadership role in the metropolitan area.

We have a central business revitalization plan and, as Roy said, pursuant to a good plan, well thought out. One of the results is a forty million dollar hotel-convention center planned about four blocks from here to provide the linch-pin from

one area of our city that has been developing on its own to a central business district that has, for the most part, suffered a mass exodus of businesses and shops and stores.

Charleston was a leader in the arts, two hundred years ago. It was written of our Dock Street Theater that it had the finest Shakesperean season of any city in young America. Again, with citizen participation, we have brought the world-famous Spoleto Festival to Charleston, now on an annual basis. And we have the most comprehensive arts' festival in the world held in Charleston this year from the 25th of May to the 12th of June. It has raised the cultural horizons of our citizens with new interest, with renewed interests in the arts and opera and ballet, in the symphony, and new art gallery, a renovated art gallery just being opened. And this year we were selected among 400 cities in America as a finalist in the "All-America City" competition, basically recognizing the results of citizen participation in our community and what it has done. Our East-side housing program, the Spoleto Festival and perhaps, most importantly, Trident 2000, and that's why all of you are here today.

Trident 2000, a citizen-based planning process, is the main reason that this important conference is being held at all. I think it is very unique that we have a citizen-based organization, Trident 2000; and environmental-based organization, the Audubon Society; a regulatory agency or organization, the South Carolina Coastal Council; and a developmnetal sgency or group responding to the wishes of the petroleum industry, the South Carolina Petroleum Council, convening this important meeting. And to me that is what citizen participation is all about, from the grass-roots, from every area of responsibility recognizing the need to plan.

Someone once said, "The future is not something that happens, but rather something that we create." In the history of this young nation, the manifest destiny syndrome has often preventer us from thinking in advance how we want a development to occur, and in what ways it will be in the best interests of the community. Charleston ought to be a leader in this because we have the most delicate balance in an urban setting that you can have -- environmentally from our water sources and harbors and streams and inlets and estuaries; physically from the very delicate and historic and old dwellings, an old and historic district, an ambiance, a style, a beauty that must be maintained and that with which progress is not opposed - but if it is done with good planning and sensitivity and delicacy with the commitment to balance you can have both, and that to me is the main reason this meeting has been called. To find ways, to plan, to recognize the impacts of on-shore, of off-shore development.

We have a great responsibility in government to think not in terms of 5 or 10 years, but 50 and 100. We have a plan for development on our waterfront that I oppose with all the strength that I have because I recognize that the Charleston metropolitan area is going to be much largar fifty years from now and I feel that it is incumbent upon me to create a life style for those who will be here then - and I won't be one of them - that is not much different from what all of us have to enjoy. I commend you for being here. I commend the organizations, as well as the college, for making this possible. I wish for you a very successful and meaningful conference that will have impacts on cities throughout this part of the country. And, most important, I hope you will find just a few minutes to relax, to walk about the old and historic district of our city that is as beautiful and relates as well to human scale as any place in the United States. And that you will like it so much that you will come back with you wife and children and visit us often. Thank you very much.

Roy Owen introducing Dr. Elvis Stahr:

Dr. Elvis Stahr is a native of Kentucky, a Rhodes Scholar, and a lawyer. He has spent twenty years in higher education as a law school dean, as President of West Virginia University, and later as President of Indiana University from 1962-1968. Since 1968 he has served as president of the National Audubon Society. Dr. Stahr has served five presidents of the United States in positions of responsibility including Secretary of the Army under President Kennedy. We are very pleased to have Dr. Stahr here today and would like to invite him to make a few comments to you.

Dr. Elvis Stahr, President, National Audubon Society:

Thank you, Roy, for that very gracious introduction and good morning and welcome, if I may presume, coming from away, to welcome you here, many of whom come from much closer. It's always good to be in Charleston as anybody would know. Interesting coincidence that I spoke at the National Coastal Zone Management Conference held here in 1974; as a matter of fact, I appeared on March the 14th. That's almost four years ago. Before coming down here this time, I pulled that thing out and read it again, and it's remarkable how little it needs to be changed. We still are a long way from getting where I urged four years ago that we try to get. One difference between that talk and this is that that one was fairly long and this will be rather short.

It's good to come down here where the publisher of the newspaper is a former member of the board of the National Audubon Society and where the man whose name is on one of the buildings I walked by a little while ago is a long time friend and I might say patron not only of the National Audubon Society but of the arts and is an artist himself, John Henry Dick. It's always good to come here in the territory of our distinguished regional representative Carlisle Blakeney, who is a native South Carolinian, has his offices here. We have many ties with the Southeast and just to mention two or three in South Carolina. I hope all of you know about and have visited or will visit ou sanctuary out here at Four Holes Swamp called the Beidler Forest, our Silver Bluff Plantation, the Alexander Sprunt, Jr. Sanctuary just off the coast. We have many involvements and we enjoy them all and take them very seriously.

In joining with the other organizations in calling this conference, we are not trying at all to sell some pat answers. We are trying to raise some serious questions on the subject of coastal zone management. Certainly many aspects of the subject of off-shore oil and gas production is controversial in more ways than one, and we don't expect your agreement with us on everything. As a matter of fact, that reminds me of a story that I heard not long ago. Ambassador Abba Eban, the Israeli Ambassador to the United Nations, was talking and after his talk, during the question period, somebody said, "Mr. Ambassador, something that's difficult for me to understand, here you are defending the position of the current Israeli government and new Prime Minister Begin and everybody knows that you have belonged to different political parties and that you have disagreed over the years about all kinds of issues. I just don't understand that." Mr. Eban replied, "Well, you see it's like this, I don't expect that man to agree with me on everything. In order to do that, he'd have to be right 100 per cent of the time and that is asking too much of anybody." Well, we don't consider ourselves 100% right and I hope that there isn't anybody in this particular group who considers himself or herself endowed with infallibility. We do do take some of these things pretty seriously and you do too or you wouldn't be here. Our general approach is that there are better and worse ways of doing just about anything and we ought to be looking for the better ways.

Let me just give you a few of what I might call general principles and general questions and and a couple of examples and I'll be finished.

While admittedly narrow in extent, the Coastal Zone is broad in human and ecological significance. It's unique value was finally recognized in some of the laws that we as a nation have passed fairly recently - laws that single out our coastal lands

and waters as fragile national treasures warranting special protection. Now more and more coastal states have enacted protective legislation. And by protective, I don't necessarily mean just locking everything up. I do mean proper planning such as Mayor Riley referred to.

What makes the coastal zone such a special place? Well, first of all, the majority of Americans live near coastline and millions more vacation there. All over the world people cluster in and near coasts. In this country, a whopping 53% of our whole population resides in coastal counties, bordering the Great Lakes, the Gulf of Mexico, or our two oceans. Moreover, the unique ecological juncture between land and water is a biological treasure - a treasure trove, I should say, of outstanding importance. Scienc has established the protein productivity of coastal marshes, the dependence of the life of the sea upon coastal zones including the well known fact that most of the fish in the world's commercial harvest depend on coastal waters for nurture during some part of their lives.

That's far from all. In addition to providing food, living space, recreation of many kinds,a big industry in itself, our coastal zones also serve heavier and more demanding purposes. They serve as waterfront sites for industry, especially power plants with their large demands for cooling water. They're sinks for waste from coastal communities and also from farms and communities and industries from upstream. They are used, sometimes abused, for ship channels, harbors, and marinas, for building lots and space for airports and highways newly created by dredging and filling wetlands, and as a mine for natural resources, above all, oil and gas.

Everyone in his right mind, I think, and I hope that includes everyone here, knows it's clearly impossible for the limited lands and waters of any given stretch of the coastal zone to serve all these purposes ar once. Precisely because they are valuable for so many uses, they are vulnerable to pressures from many competing and sometimes conflicting demands.

In recent years energy development has become eminent, may be preeminent, among the competing claims on the coastal zone in the minds of a great many people. The last two administrations and the present one in Washington have appeared committed to the rapid development of oil and gas from untapped areas of the outer continental shelf such as the Gulf of Alaska, the Atlantic, and the new regions of the Pacific off of California. Super ports for super tankers authorized by the Federal Deep Water Port Act of 1974 are coming into being. Some of the on-shore effects of off-shore energy development tend to come slowly. Others come very early indeed. All are enormously significant. Beyond the impacts of construction basis and so forth during exploration and first production and in to the obvious mix of terminals, tank farms and refiners which have to be constructed somewhere, new homes, schools, shopping centers, churches and transportation options must be planned and constructed to accommodate the burgeoning numbers of skilled and unskilled workers which rapid development attracts and requires.

It's within this framework of limited coastal resources and conflicting multiple uses that I would like to very briefly outline our main concerns about off-shore energy development. First off, and rather fundamentally, I simply don't believe this nation has made anything like an all out effort to reduce energy waste. Clearly, the Congress is yet to decide on a national energy program. Strict energy conservation measures will not only conserve pertroleum and other resources, thus strengthening our nations self-sufficiency, but they can also buy time for truly sensible long-range coastal management planning, and thus help to protect coastal air, land and water from unnecessary or mis-located oil, gas and power generating facilities and accompanying developments.

I urge coastal states to lead the way to initiate common-sense energy conservation programs that will be applied statewide in order to put some kind of throttle, some kind of governor, I should say, on the voracious demand of the American people for energy not all of which, by any means, is used for productive purposes. We would like to see each and every state OCS program adequately address the ever increasing threat of oil spills and their polluting effects. With the recent history of serious spills we can't claim we have made very much progress in this area as yet. Congress hasn't even managed to pass the Tanker Control Act although right after the Argo Merchant incident, it looked

as if they were going to run one right through. Little is known about the damaging effects of small leaks and discharges from faulty pipelines that can go undiscovered or unchecked sometimes for quite a while. The question is: are more stringent pipeline construction regulations needed? I don't say I have the answers. I think the question is a serious one, however.

One of our traditional concerns in Audubon has, of course, been the protection of wildlife and wildlife habitat. An amazing 60% of this nation's threatened and endangered species spend some time in our rich and productive coastal zones and as all of you well know the Atlantic flyway is a major natural resource. Biologists tell us that the shell fish on which so many of these wild creatures depend are the most susceptible marine organisms to oil contamination. In addition, I don't believe enough is known, yet, about the effect of oil contamination on commercial and sport fisheries. There is a lot of conflicting evidence, not all nearly as horrifying as people first imagined it would be, but we really don't know everything that I hope we're going to know and learn before it's too late. I believe it's in our best economic interests to see that every precaution is taken to protect irreplacable spawning areas and nursery grounds. Should such areas be declared off-limits to energy projects? I think every one of us would agree that it is imperative that the impacts of oil and gas development be a prime concern in coastal planning - not only each affected state but, like it or not, since a lot of these impacts cross state lines, I think it's important that coastal states find ways to get together to develop regional programs to solve mutual problems.

I'm convinced that adequate and balanced OCS planning will only take place whan all parties concerned, and here I'm happy to echo what Mayor Riley said, that oil companies, utilities, state agencies, federal government and citizens and citizen conservation organizations have the public interest, and not just the private interests, at heart; the long range good and not just the short-term advantage. I have observed that oil companies involved in exploration are taking with increasing seriousness the need to use the best available technology in planning construction and on-site operations and to take into account some the the ecologic and human aspects or impacts of OCS oil and gas exploration and production. I don't believe there is much doubt of that. The question remains: are they doing enough? Should they be encouraged by the appropriate state agencies to submit their proposed development plans well in advance of exploration so that the states may have adequate time to evaluate the plans in the light of other important considerations?

I hope you have noticed that I have asked more questions than I have suggested answers, though, depending on where you come from, you may feel that the way I phrased some of the questions is an indication of the kind of answer that I would get. But I really didn't mean it that way.

I said that I would conclude by giving you a couple of examples, a bad one and a good one, that I personally have been considerably involved in the last few years in the Southeast. The bad one is here in South Carolina. It's bad so far anyway. It looks ominous. It's down at Port Royal Sound where the previous administration in Washington, on about the last day in office, against the advice of the Secretary of Commerce, the Secretary of the Interior, the administrator of NOAA, the administrator of EPA, the chairman of the Council of Environmental Quality, issued a permit to build a factory in one of the very few remaining pristine estuaries on the East Coast. That one is still incomprehensible to me. It was done, by the way, by one of my successors as Secretary of the Army. I committed some sins while I had that job too, but I didn't have all that good advice to ignore.

The good one, the good example, is down here in Florida. It happens to be on the Gulf Coast of Florida, but that doesn't keep it from being a good example. It's around Roubery Bay, just south of Naples. Florida, where a national marine sanctuary is being created through the cooperation of the Federal Government, the State of Florida, and a number of others, including the National Audubon Society, which has a sanctuary of many thousands of acres that will become a part of that national marine sanctuary. When you work together for good, you can accomplish good.

I suggest, by the way, that the best hope now for Port Royal Sound is probably a marine sanctuary status. I plugged that four years ago within a quarter of a mile of here. The state in the meantime didn't do very much about it. Somebody said it's becoming a little more receptive to the idea. It's not too late.

And, finally, I was very happy to hear of the establisment of the South Carolina Coastal Council. I urge the council members, and I suspect that some of them are here, I certainly hope so, to steer clear of back door politics and short-range self-interests and factionalism. There is in the work of your council great potential for the public good and all of us, I'm sure, wish you well. And we wish all of you here well as you consider what are the better and what are the worse ways of managing our vital coastal zones.

Thank you very much.

Roy Owen

Thank you Dr. Stahr. In sitting down just a minute ago and looking over my notes, I see that my eyesight failed me tragically when I was recognizing people a few minutes ago and that I failed to recognize Carlisle Blakeney who is Southeast Regional Director of the Audubon Society and who has been a key person in pulling this conference together. Carlisle is right down here and, as with the other people I recognized, is available to asnwer questions.

As you can see from looking over the conference schedule today, the schedule of activities is designed to follow the time of development of off-shore oil resources so that there are really three phases in today's activities. The first is the phase concerning activities which take place prior to and during a lease sale. As most of you know by know, lease sale #43 for the South Atlantic coast is scheduled for March 28, next month. This afternoon we'll be dealing with two sessions, the first session on exploration and the second session on production activities. Roy Wood will be moderating the session this morning on presale activities. I would like to introduce him and then ask him to introduce the people that will be working with him this morning.

Roy Wood is Assistant to the Secretary, U. S. Department of Interior in Atlanta. He received his Bachelors degree and his master's degree in Wildlife Conservation from the University of Arkansas. He served with the Department of Interior for 28 years, first with the Fish and Wildlife Service, then with the U. S. Study Commision on Southeast river basins, and later with the Bureau of Outdoor Recreation. He resigned from the Federal Government in 1973 to head the Georgia Heritage Trust Program at the invitation of then Governor Jimmy Carter. It was an opportune time to go into state administration because upon the election of Mr. Carter as President, Mr. Wood returned to federal service. Roy Wood.

Roy Wood, Assistant to the Secretary, Department of the Interior, Atlanta:

Thank you so very much for inviting me and my distinguished members of the panel to come and discuss what is the number one issue before the Federal Government today. That is the matter of energy and the responsibility for the Federal Government and all of its agencies in cooperation with states and local interests to attack this vital issue.

At this time, I would like to call forward members of the panel in order of their appearance; Mr. John Rankin, manager of the Bureau of Land Management in New Orleans; Mr. Gordon Fry of the Chevron Oil Company; Mr. David N. Kinsey, Chief of the New Jersey Office of Coastal Zone Management; and Mr. James Jones, Director of the Mississippi/ Alabama SeaGrant Consortium. I'll introduce each of these gentlemen in more detail as they appear on your panel. Meanwhile, I would like to make just one or two introductory remarks to this panel whose function it is to discuss how the lease/sale process evolved, the tract nomination procedure, and the impact statement development, which is the first stage in the process for development for oil and gas resources in a coastal area.

It is altogether fitting that we have this symposium to which we are grateful for the sponsors. Secretary Andrus has just announced only Tuesday of this week the sale of

oil and gas leases on the Outer Continental Shelf in the Southeast Georgian Embayment off-shore the South Atlantic States, North and South Carolina, Georgia and Florida. The sale covers 224 tracts covering 1,275,000 acres. That sale will take place at 10:00 a.m. in the Center South Ballroom of the DeSoto Hilton Hotel in Savannah. Georgia, on March 28th. The tracts to be offered in sealed bid auction are from 30 to 75 statues miles off-shore in water ranging up to 165 meters or 540 feet. The U. S. Geological Survey estimates the area could containa from .28 to 1 billion barrels of oil and from 1.9 to 6.8 trillion cubic feet of natural gas. I want to remind those present that that is only an estimate. There is no guarantee that the oil companies and the gas companies will discover anything. It is a gamble.

While I'm an environmentalist by training and inclination, I have a sympathy for those who are drilling for oil. The one thing that could happen that would be worse than an oil spill would be that we would discover no oil.

With that, I'd like to proceed with the discussion and introduce Mr. Rankin. John Rankin not only has one of the most important jobs with the Federal Government today, as manager of the New Orleans office of BLM, we look to him to pave the way for the sale that will take place in Savannah. He will preside at that sale. He is a lawyer by training frm the University of Arkansas, has held his present position for the last 19 years. He has spent two years preparing for this sale and he's the best duck caller without the use of a duck-caller in the state of Arkansas. John Rankin.

John Rankin "Federal Process and Expectations."

Thank you Roy. I'm going to deal very briefly today with the procedure we used in the lease sale in arriving at the state where we are today, that is having a published notice of a lease sale. Unfortunately, My visuals would not show up in this and I attempted to use some opaques and they smeared terribly. And so at the end of this you can pick up two diagrams that I will leave out there. One of them is a step-by-step process which I will explain. The other one is the current schedule for proposed leased sales.

The current schedule for proposed lease sales is our basis planning document. This document is arrived at by the analysis of aobut 5 different elements. The first is the national energy demands. An energy demand in this sense incorporates the needs of this nation for hydrocarbons, either natural gas or petroleum, identified either as petrochemicals or petro-fuels.

The second is the nations enery supply. I don't think that anything I could say about the national energy supply would be any news to you except for the fact that we do analyze the existing and projected supplies of oil and gas. They come from imports and domestic production, domestic production from private lands, state lands, federal on-shore lands and the outer continental shelf. And then we try to project that portion of the demand that should come from the outer continental shelf. We analyze the alternative sources of energy, the long term outlook and the short term outlook for their development. Some of the alternative sources that we examine are coal liquidification, gasification, geo-thermal, geo-pressure, thermo-nuclear, solar and hydroelectric. Then, several years ago, we had a programmatic environmental impact statement that covered the outer continental shelf leasing program, as it was accelerated at the time. This tentative planning schedule that we are currently working under is attentive to the potential environmental impacts from the leasing in the different areas of the outer continental shelf.

Next, we have had what we call a "first tier call for nominations and comments." The Secretary of Interior twice has published a map which identified approximately 18 sedimentary basins which are thought to lie off the coast of the United States and he asked these to be ranked in various orders, some by preference by energy for development, others by preference from environmentalists not to lease. He asked both industry and anybody else to comment on the environmental sensitivity of any of the areas. This information was all analyzed and incorporated into the present schedule.

Once we have this schedule, the next step is a requirement for requesting resource reports. The Department of Interior requests resource reports from all of the departmental agencies and other agencies which have a particular expertise or some jurisdiction

over the outer continental shelf. Then, we begin with what we call the "development of an environmental profile". This is done in the field offices. Now the proposed leasing planning schedule identifies the approximate month in which all actions leading to a sale will likely take place. And the date that the nominations are due is the key to the planning of the completion of the environmental profiles. Now we must actually begin the assembling evaluation and portraying these environmental data about three to four months prior to the approximate date that the nominations are due on for a particular lease sale. In the culmination of this effort we attempt to map all of the individual resources that are identified and where possible, the quantification and qualification and depiction an "environmental profile".

Now, in order to secure this data, we use two different methods. The first, we try to obtain all the technical data we can by informal contacts. We have a staff of about 14 environmentalists in the New Orleans office and we send them out in the states that are going to be affected by any particular lease sale to meet with their peer groups, both or all the federal agencies that are in the area, the state agencies, the academic institutions, and fact is, we will even gossip with fishermen in the search for data. And, believe me, it has paid off in the past. At one time we believed there were eight particular features in an area and by gossip with fishermen, we finally identified 21, which was a double of our data base. We go to libraries, we have contracts for research of all published information. We try to contact all private research groups that are working in an area. We ask people who have unpublished studies to share them with us if possible. As we say in New Orleans, "We ain't proud. We will take anything we can get."

Now we do obtain data in a more formal method. The requests for resource reports are a part of the formal method. Federal agencies and state agencies do generate responses containing information of specific use in the development of these environmental profiles. Now some examples of the studies that we have had result in special stipulations in a particular lease sale. The lease sale that Mr. Wood referred to has about four pages of special stipulations.

The second tier call for nominations and comments is according to the proposed planning document that I have previously referred to. Now, an integral part of the offering of tracts for lease-sale is this call for nominations and comments. It's an invitation to industry to nominate tracts, specific tracts, of their interests that they would like to seeoffered in a lease-sale. It's an invitation to states, other federal agencies, any citizen, any citizens' group, to anyone to submit comments if they do not wish to see a particualr area leased or, if they wish to stipulate that the only way you ought to lease that area is with a particular protective device which is what we call "protective stipulations" or any other special conditions. This call for nominations is published in the Federal Register. I think there are about 28 news media in the area that it is circulated to particularly. We have a mailing list of around 1,000 names in our office that it is mailed to. During the time of this period for call for nominations, it's like most everything else, you don't receive any nominations or comments until the last day they are due. And these do specify specific tracts that industry is interested in and that other people are interested in the protection of.

During the last day or two of activity, we prepare a map in our office which is circulated to the representatives that have been designated by the governors of the states and the other Interior agencies that are involved in tract selections. They identify the industry interests. They also identify all other comments that we have received on the sale. At the field level we meet twice with the representatives of the states and the concerned federal agencies during what we call the "tract selection process."

At the first meeting we show them the broad outline of the environmental profile. They are also briefed by Geological Survey, by Fish and Wildlife Service, always a representative of National Marine Fisheries, National Park Service. Then at the second meeting at the field level, with these same people, we try to derive with the concurrence of Fish and Wildlife, Bureau of Land Management and Geological Surveys, recommendations to the Secretary for the tracts that should be offered in a particular lease-sale.

This tentative tract list and recommendations are forwarded through our agencies to the Department. If the Secretary decides to go along with this proposed tract selection,

we circulate the tracts only; it is not published in the Federal Register. But we circulate a list of tracts that are proposed for inclusion in a draft environmental statement. Upon preparation of the draft environmental statement, we publish a notice in the Federal Register as to its availability, and we set a date for a public hearing and a place. The public is informed of this only through publicity in the newpapers and not in the Federal Register and through our mailing lists. Copies of statements, the draft statements, are also circulated to the state governors, representatives, and to the clearing houses. Anyone can appear at a public hearing. If you can't appear, you are invited to submit a written statement and there is usually a grace period after the public hearing of around 15 days for the acceptance of written comments.

Then we publish a final environmental statement. If that is accepted by the Secretary, along with what we refer to as PDOD or a CID, which enumerates the options that are available to the Secretary, we have a draft notice of the sale published in the Federal Register. We ask for comments from the governors. The governors in this instance of 43 have commented. The final notice, which Mr. Wood referred to, has been changed in accordance with some of the comments received from the governors.

The sale comes to Savannah on the 28th, and you will see us open the bids and read them aloud and make no other pronouncement at that time. The rest of it is almost mechanical in that BLM. Geological Survey get together and make recommendations to the Secretary whether to accept or reject bids on certain tracts. I always hate to leave it and say that the sale is the end of it. The sale is not the end of it, gentlemen and ladies. It's the beginning, because that's when you begin the operations and the monitoring and the policing of the activities. I've enjoyed it. Thank you, ladies and gentlemen. I'd like to echo Mr. Wood's thanks to you ladies of Trident 2000. You're wonderful.

Roy Wood:

...Keep this in mind. The Secretary administers the Outer Continental Shelf Act. John Rankin has the prime responsibility for pre-sale activities up to the sale. In other words, he carries the ball for the Secretary through the sale. Then the ball is handed to the Geological Survey represented here today by George Brown sitting right out there, or was, and he carries the ball then for the Secretary of Interior with the Geological Survey with the drilling and exploration. Keep that in mind. We're talking about activities up through the sale. This afternoon he will be talking about what happens then.

The next one of our panelists is Mr. Gordon Frey, consulting geologist for environmental affairs for Chevron Oil Company. Previously he was chief geologist for Chevron and assistant Vice President and general manager. He has a degree, as you know, in Engineering Energy from the University of Cincinatti with MS and PhD degrees in geology and physics. Mr. Gordon Frey tells me that he is Swiss in origin and he went to Switzerland and found kin folks all over the place. We're glad to have you, Mr. Frey. You're one of the veterans in the oil business. Mr. Frey.

Gordon Frey: "Industry Process and Expectations"

My part this morning is to talk about what oil industry does up to the time of the sale. Before I start that, Mr. Stahr's remarks about not knowing all the answers, the industry doesn't know all the answers either, but we're trying to find them out. One place where I think the multiple use of land is very well demonstrated, and I'm sure mr. Stahr has been there, is down at Avery Island in Lousiana. Avery Island was an old pre-war salt dome mine. It is a salt dome mine. It is a salt dome very close to the surface. The MacElhaney family owns most of the area down there. They have a botanical garden, they have a wild bird sanctuary, they have a big pepper farm. They make this hot sauce, MacElhaney Hot Sauce, that you use on meats. They have a great number of things down there and right in the middle of those things Exxon has a producing oil field. So oil gets along pretty well with neighbors such as that.

Another example, I think, is in the Gulf of Mexico. We've had a lot of problems with people saying that oil production has damaged the environment. Maybe Mr. Shirley will talk about this later, but one thing I wanted to mention. We had a survey to find out if production over the past 20 to 25 years in the bays of Louisiana and the off-shore did do any damage to the pelagic or benthonic life in the Gulf. Rather than have the oil company's laboratories, such as Exxon's laboratory, Shell's, Gulf's, etc., which are very fine scientific establishments - rather that have them do the work, we engaged a group of universities called Gulf Universities Research Consortium which included universities from Miami clear around the Gulf, Alabama, Mississippi, Louisiana, Texas, on down to the university at Mexico City. They conducted a thorough survey over a two year period and their conclusions indicated that the Mississippi River with all its material caused a far greater damage to the environment. They could actually find no damage done by the oil industry to life in the vicinity of Tumberly Bay of off-shore where the tests were conducted.

A third example I might bring up as far as the chronic effect. Dr. Dale Stron, who is on the staff of one of the universities out in California has conducted a study off of Santa Barbara, off a place called Kool Oil Point that Captain Cook and his navigator, Vancouver, noted as they sailed up the west coast several hundred years ago. The surface of the Santa Barbara area was covered with a film of oil from natural marine seeps. Other people have noted that through centuries. In fact, an old Santa Barbara newspaper said many ads were carried in the Eastern newpapers to entice people to come out to that area because the air blowing over the oil covered surface of the water purified it and it was an area free of disease because of the factor. I don't subscribe to that, but they were trying to induce tourists. So those are some of the things that we have studied. Dale Stron, in her studies there, found that the marine life in the vicinity of the seeps off there, and they're still seeping at the rate of 50 to 100 barrels a day, they measured the amount of oil coming up, that the marine life there is not damaged and a report by the American Petroleum Institue is available to show Dr. Stron's results. So like Mr. Stahr here, we're trying to get as many answers as we can.

As far as the oil activity is concerned prior to a sale, we have been conducting oil activity here in Charleston and probably no one knows anything about it. We have done geophysical work for about ten years. We've used bases at Charleston, at Savannah, at Jacksonville. Our geophysical boats come in, load up with the normal supplies that a boat would need for an extended period of activity in the Gulf, I mean in the off-shore waters. (You can see I'm from New Orleans. I talk about the Gulf all the time.) Then come on back in. To date, I think no one except, perhaps someone that works at the port would be aware that we have used your port facilities off and on for some ten years.

In a virgin area, frontier area, such as the Atlantic coast, the oil company scientists know very little about the nature of the rocks. We know that certain conditions should be present if we expect to find commercial accumulations of oil and gas. Some of these conditions are first an adequate thickness of sedimentary rocks, and the reason for that is, when the rocks are laid down, and when air is excluded from them so that the organic material is not oxidized into carbon dioxide and water, the organic remains are preserved in the rocks. As those rocks are buried at greater and greater depths, there is a natural geo-thermal gradient in the rocks that amounts to about 1½ to 2 degrees per 100 feet. When these rocks get down to a depth of around 6000 or 7000 feet, the temperature at that depth is around 150 to 200 degrees, it starts off about 60 degrees. If you've been in a cave, the temperature year round ina cave is around 55-60 degrees depending on what latitude you're in. And so with that increase in temperature it gets up to 150 degrees or so and at that time, at that temperature, the organic material which we call carrageens is very, very slowly and over a widespread area in minute amounts changed over to oil and gas. And for that reason, we feel that we must have at least 6000 or 7000 feet of rock before we can expect oil or gas to be generated.

We have to have source beds. Source beds are those beds, generally they are compacted muds, although they can be limestones, where this organic material is preserved. We don't know whether those source beds are present or not and that was one of the reasons for drilling the cost wells. As you know industry drilled four cost wells. One off Baltimore Canyon off the coast of New Jersey, two in the Georges Bank area, and one

off the coast here of Jacksonville in the Southeast Georgia Embayment. Those cost wells, anyone could join in the cost wells - it was open to all industry, anyone that wanted to join. I think in the first one there were some 30 - 31 companies that joined. The information was given to the USGS and given to the state geologists of the adjoining states who agreed to keep that information on a confidential basis. In other words, those wells cost 16, 18, 20 million dollars apiece or more depending on the depth.

The oil industry, in spite of what some people might say, is not a charitable organization. We try to make money for the stockholders and some of you may be stockholders. So when we spend a lot of money like that, we like to keep that information to ourselves and not give it to our competitors. So that's the reason for keeping the information on a confidential basis. We drill those cost wells to find out if there are source beds, if there are reservoir beds which is another condition.

Oil doesn't occur in underground streams, it occurs in between the pore spaces of the individual sand grains. If the sand grains are all uniform in size - all perfect spheres, then the void space between the individual sand grains or between the individual golf balls in a bucket of golf balls is about 35%, about one third of the volume. And its in this volume that the fluids, oil gas and water occur. And the better connected these voids are, the larger they are, the better production you'll get from your rock. So we want to find out if there are resevoir beds at least in the vicinity of the cost wells, whether there were source beds or whether there were reservoir beds. We wanted to find out about stratographic traps or structural traps. In other words, when the oil is generated it's in minute little droplets over a very broad area. And it doesn't become commercial until the oil migrates, until it moves and starts to collect, and where it collects, we call those traps.

So we wanted to find out if there were traps present and we did that by our seismic surveys. We found out the thickness of the rock column from methods because generally at the base of the sedimentary rocks, those are rocks laid down by the water, the base of that column you get into what we call our igneous, our crustal rocks, and generally you get a good reflection at the base of the sedimentary rocks. So we could find the thickness of the rocks by the seismic method, we could find out the presence of traps by the seismic method, and we could tell something about the migration routes where the oil moved from the source beds into the reservoir beds. If you have a good interdigitation or interfingering of source beds and reservoir beds, you can expect movement of your oil and gas from your source into your reservoir.

Timing is always important in most anything you do. In timing we what to know were the traps present when the migration occured or were the traps formed afterwards? We can tell from our seismic surveys the time of movement of the rocks when the rocks were thinning and thickening and tell if the movement is very recent or if it's old movement that perhaps formed a trap when the oil and gas were being generated. So those are some of the things the oil industry has been doing the past ten years. Trying to find out as much as we can about the nature of the rocks in the off-shore and make judgments as to whether or not we think they are capable of producing commercial quantities of oil and gas. The other thing I wanted to talk about is why the industry wants to keep this information confidential.

You know there has been a lot of agitation about giving the states all the proprietary information the oil company has so that the states can better prepare for what might happen off-shore. Well, as Roy says, up until the time we drill the well, we don't know whether there is a drop or not out there. In one sale which was held in December, 1973, the industry bid about 1.5 billion dollars for the leases. We drilled 17 dry holes down there and found absolutely nothing. This afternoon we'll talk about the exploration phase.

But let me just review briefly, if time allows here, what happens and how much you can tell about what's out there. The call for nominations for OCS 43 was in September 1975. The industry nominated 778 tracts. Then from that you can see where industry is interested. The Bureau of Land Management generally publishes a map - and they did here - the area of high interest, area of intermediate interest and the area of other nominations. The area of high interest means maybe eight or ten or twelve

companies nominated those tracts. That means a lot of competition on those tracts. Everybody thought a lot of oil and gas might be there. So that's you first clue. Then in the Draft Environmental Impact statement the government puts out figures as to the amount of oil and gas the government thinks is going to be there. So you know where industry thinks it's going to be and how much the government thinks is going to be there. Then the governmnet has an idea that the don't like this bonus-bidding system, so occasionally, and I understand in this sale they are going to introduce a royalty-bidding system. My information is that the government in the North Atlantic sale, possible in this sale, will put high royalty bids on those tracts they think are most likely to produce. Certainly in the sale 40 off the Baltimore Canyon they did just that. So that's another clue. Those high royalty tracts are where the government thinks oil and gas are going to occur.

Then when the sale is held and when the bids are opened and the competitive bids are read out, the high bids are generally the winners. Or, as John said, sometimes the government in its wisdom declines to give the high bidder the tract because of some reason or other or because they think it's worth a little bit more.

But, anyway, if you were to take the high bids on each tract and plot that value in the middle of the tract, then contour the values, you would have close contours on those values where a number of bids have been made. In the Baltimore Canyon area the top bid was $107 million by Mobil Oil Company. Surrounding that were bids of $60, $70, $80 million value. So you could put a $100 million value, a $80 million, a $60 million value and it would pinpoint you to where industry thinks the best chance for oil and gas is and from the size of the bid, you can tell about how much industry thinks they are going to find.

So those are the things that lead up to the sale. And the sale itself. I emphasize at this time, that no one knows, the government, any oil company, or anyone else, whether there is any oil or gas to be found. I had some slide to show you how those values can be contoured and a few other things that I talked about. But as usual, I talked too much and showed too little, so I'll have to skip here. Thank you.

Roy Wood:

The third panelist is Dr. David Kinsey, who is Chief of the Office of Coastal Zone Management for New Jersey Department of Environmental Protection. Dr. Kinsey is a graduate of Dartmouth College in Government Architecture with advanced degrees from Princeton in Public Affairs and Urban Planning. He served as an adjunct to assistant professor on Urban Planning at Rutledge University, teaching a graduate course in "New towns, planning and budget." Dr. Kinsey, would you lead off, please?

David N. Kinsey: "State and Local Impacts."

Thank you, Roy Wood. I'm a state bureaucrat and what I'd like to do is speak from the perspective of a state that is not foreign to oil and gas industry, but is approaching a new facet of that industry, the off-shore aspect. I'd like to try to answer the question about what a state can do before OCS exploration begins , from the New Jersey perspective. In New Jersey, exploration is about to begin. We are still in the post-sale, pre-exploration phase. The sale in the mid-Atlantic took place August 1976, but through litigation the actual exploration process has been held up until this week when the Supreme Court, as many of you may be aware, declined to hear further appeals and, I gather, Exxon will have its rig off shore in about two to three weeks.

I'd like to talk first about the various state roles in OCS decision-making, the theory. Second, about some of New Jersey's concerns and describe our coastal environment and what oil and gas mean to us. Third, talk about various New Jersey actions in terms of on-shore planning. And fourth, presume to share with you some lessons we've learned and offer some advice.

First, I think it's important to realize that there are numerous state roles in OCS

decision-making process. The first basic division is between off-shore and on-shore activities. The two previous speakers have focused largely on the off-shore process and tract selection and the nomination process, selection process and the operating procedures that are developed to govern what will happen when exploration activities take place. The other major impact is on shore. What will happen? What facilities will be needed? what secondary impacts will be caused by on-shore locations of projects necessary to support the off-shore activities?

I'd like to focus on the on-shore effects because that's the greastest area where the state has responsibilities and authority to influence decision-making. I think it's important to think of ploitical powers of the role of the state in two ways: both authority and influence. Authority can be seen as the state has various permits. In New Jersey we have three major coastal permits to direct state regulation. The state's riparian system is tide floodlands. The state owns and also regulates construction activities in the tidal wetlands. There is a major coastal permit program known by its acronym "CAFRA" which stands for "Coastal Area Facility Review Act." These three state coastal permits give the state a strong measure of authority to say yes or no to what activities will take place along the shoreline.

States also have influence though. An opportunity to effect decision-making by others by various means. One is simply to create and then share information so people have better understanding of what's going on. Another is to work with the various interest groups and local governments at municipal and county levels, also to lobby Congress to change the ground rules on what will happen off-shore and on-shore. But it's the area of authority where the state has the greastest opportunity to affect what will or will not happen.

New Jersey has numerous concerns in terms of the off-shore industry and what it'll mean. I'm sometimes abundantly aware that people's perception of New Jersey as a state is shaped unfairly by the section of the New Jersey Turnpike around Newark International Airport, where there are a number of oil refineries and the air quality is not the best in the world - New Jersey does have one third of the east coast refining capacity. The state is criss-crossed with oil and gas pipelines. The state has been a conduit of economic and commercial activity for hundreds of years as we are situated between Philadelphia and New York City. It was Ben Franklin who said 200 years ago that New Jersey is like a barrel tapped at both ends by New York and Philidelphia and a state sometimes searching for its own identity. We're the most densely populated state in the nation, more densely populated than the Netherlands. But at the same time there is a 126 mile ocean along the Atlantic Ocean, from Sandy Hope to Cape May Point, of splendid barrier islands largely developed with decisions made 70 years ago, but nevertheless, glorious beaches and the mainstay of a resort economy.

There are vast expanses of wetlands, not unlike those in South Carolina and other parts of the South. So, in fact, some parts of New Jersey are below the Mason-Dixon Line in geography and perhaps in other ways too. The state also has resources of statewide and national importance that lie beyond an immediate coastal area that are nevertheless likely to be affected by off-shore activities, in particular is a section known as the Pine Barons. This is a 1000 square mile area that is the northern most strech of some southern vegetation and the southern most location of some northern vegetation where a really unique eco-system comes together. It sits on top of a large aquifer, I've got the zeros wrong often, but it's either millions or billions, it's an awful lot of clear water. And this large expanse of land lies in between the off-shore tracts and some of the likely routes for pipelines that would bring off-shore hydrocarbons to the refining centers in New Jersey. So that we have to be concerned with the immediate coastal resources as well as other resources of statewide importance as we do our on-shore planning for off-shore activities.

Lease Sale #40 took place in August '76. 93 tracts were ultimately sold for 1.1 billion dollars. All of the major oil companies have tracts. All the major oil companies, except for Shell Oil, have refining capacity in the east coast. Shell Oil does own a large tract of land in New Jersey and had refinery plans that were postponed or deferred a number of years ago. So that these realities of the New Jersey oil and gas situation have to be kept in mind. Petro Chemicals is the largest state industry. New

Jersey also has a reputation as Cancer Alley, in part because of the heavy industrialization of the state. These are some of the concerns of the people.

New Jersey's position, in terms of the entire OCS program, has been to encourage rapid exploration but in a manner that respects the built-in natural environment of the coast and to make sure that New Jersey gets its fair share of evergy. We need energy, especially natural gas. New Jersey's petroleum consumption is almost double that of the national average. Although we use one third less of natural gas, we could use more if it were available. Just by way of rounding out the energy picture, about one quarter of New Jersey electric power is generated by nuclear facilities. We have five plants either inoperation or under construction. Energy is not foreign to New Jersey.

One other caveat that we try to keep in mind in terms of the impact of the mid-Atlantic sale is that while the mid-Atlantic sale by the range of estimates of what may be discovered off-shore, is that the supply is only sufficient to provide the entire nation with from 20 to 80 days of oil. So that, if the entire nation was forced to run on energy from off-shore New Jersey, it would only last from 20 to 80 days. I try to keep this in mind in recognizing what will take place, how we must take care.

Let me now turn quickly to ten different kinds of actions that New Jersey has taken in terms of on-shore planning for off-shore oil and gas exploration. First, the state's coastal management program under both the impetus of state law and with the impetus of the Federal Coastal Management Act has largely been the vehicle for some of the on-shore planning. I think that's a plus, and it's coming of age of the Federal Coastal Zone Management Program. It came about the right time with Project Independence and the accelerated off-shore activities. New Jersey is also moving beyond simple coastal zone management activities. The state now has a Department of Energy which has responsibilities to insure adequate supplies of energy as well as adequate conservation measures.

Second, the state was a vigorous participant and critic of the Department of Interior's Bureaus of Land Management inthe EIS process accompanying the lease sale of 40. The EIS process has improved over time and also with different administrations. Also, we are all collectively learning how to do the job of analysis better. The lease-sale documents prepared for the Georges Bank of the North Atlantic were far better than the ones for mid-Atlantic as far as New Jersey is concerned - closer to reality. I've not looked closely or really at all at the South Atlantic documents, but I would guess that they too have benefited from the increased understanding that all of Interior's various agencies have developed with more experience.

Third, New Jersey followed somewhat the model of leasing process of Interior. Interior has a call for nominations of tracts. New Jersey had a call for information requesting the oil and gas industry and governmental agencies to supply New Jersey with information on the sites that were desired by industry, or area on shore that were not desired for on-shore facilities, so we could have an idea of what industry had in mind. The answer from oil and gas industry was it was premature, too early to say what the needs would be in any more than a general sense. The call in New Jersey was also addressed to other forms of energy so the state's electric utilities were able to be more responsive. We've also, in the past two years, had as part of response to the call for information, a large series of workshops. Informal sessions of sitting around a table with people from the American Petroleum Institute, state environmental groups, state officials, local governments, etc., in a series of discussions so we can simply learn what the facts are. I'll be the first to admit that four years ago I did not know what the initials "OCS" stood for. There are many people in the same position in the state of New Jersey. All have to learn what is meant and the difference between the various types of facilities and what they will or will not mean.

Fifth, New Jersey enacted an oil spill law. It created an oil spill compensation fund as part of a program of getting prepared for what we hope will never take place in terms of damage to our shoreline.

Sixth, with the financial assistance from NOAA's office of coastal zone management, the state made available small grants to twelve of New Jersey's coastal counties so that a staff person in each county could spend last year learning more about energy in society in general, helping the state shape specific coastal energy facility siting policies and particularly simply raising the understanding at the local level of what oil and gas would mean to the county. It's a long, slow process of increasing public understanding, but

a small amount of money in having one person, I think, has done an awful lot of good.

Seventh, in terms of specific planning, one of the things we've done is to look at the first type of land use that will be needed on shore to support off-shore activities and that is for a staging area - a staging area for exploration activities - and have conducted a relatively intensive hypothetical study of the types of sites that might be appropriate for OCS bases, and examine the coast for places that might be suitable or not suitable. This process helped lead to a policy statement by the Department of Envirnmental Protection recommending strongly that on-shore support bases be located in the urban, industrialized parts of New Jersey's coast where there is adequate interest structure to support this kind of activity and at the same time discourage facilities from locating in areas that do not have the same industrial structure in place today, or that have sensitive land and water features, in particular, wetlands or resort communities where such activities would simply not be in keeping with the character of those communities.

Eight, as part of the coastal management program, we put together a document in response to state law as well as a draft of the management program to be submitted for federal approval that includes specific energy facility siting policies. Use statements on on-shore support bases, pipelines and gas processing plants, on refineries, the gamut of energy facilities. While the policies may not be as detailed and specific as they could be, with more years of work, they're a first step, I believe, in the right direction spelling out what the ground rules will be on making decisions where such facilities will be located in New Jersey.

Ninth, we are carrying out the same procedures in dealing with perspective developers of OCS facilities as we use all kinds of projects under the coastal management program in place today. In particular, we have a mechanism we simply call preapplication conference. If someone wants to build something on New Jersey's coastline that requires a state permit, we urge people to come to the state Department of Environmental Protection early in the design process, and sit down and talk about the perspective site, see whether it makes good sense, see whether it's a good site to do something or it's a poor site to do something, see if that's a place where a project is likely to be approved or likely to be denied. In fact, during the course of 1977 we had three such pre-application conferences with prospective developers of an on-shore support base near Atlantic City. We candidly discussed the project with the developer and frankly discouraged him by saying that's not an appropriate place in terms of state policy and, in fact, a place that likely an application would be disapproved. But I think that a quick "no", or candid "no," is far better than a slowly drawn out hedgin "yes," "maybe," "We don't know what our policy is," those kind of statements. So candor up front, but referring to documented statements os policy, is an important approach to insuring that everyone knows what is going to happen to the coastline.

Then, tenth has been a general program of simply sharing information with local governments and interest groups so that we can increase everyone's understanding.

Let me now close with some of the lessons that we have learned. The first thing is it's very important to define clear public policies. Nothing is more difficult that not knowing where one stands, either from a state perspective, an industry perspective, or interest group perspectives. Uncertainty is one of the biggest things we all have to fear. At first a policy taping will more likely than not be general, but with appropriate work, can become fore and more specific over time.

Also, I think it's important that these public policies stated from a state perspective take into consideration the long run. I think that is the job of the state. Consider, as the mayor did, things years hence. We look to what happened 50 years ago on New Jersey's shoreline. There were some major decisions that were made on what should happen to the Barrier Islands. If those decisions were made today, they might well be different given our sensitivity to that natural feature.

Next, I should think it's important to discuss the various state and local concerns very candidly with industry on my same statement as before. I believe that a quick no is far better than a very slow, drawn out yes.

Plus, it's important to devise mechanisms to keep track of activities that may or may not be related to OCS activities; for example, New Jersey regulates the construction

of helicopter ports or heli-stops. We have developed relationships with our State Department of Transportation that is a key regulatory agency for this type of use so that we have had brought to our attention some new helicopter operations that are being proposed in the Atlantic City region which will be one of the helicopter area for supporting off-shore activities. So like an awareness of what originally comes across as simply a proposal to build a helicopter port that it might well be related to OCS activities and it's important to be considered an OCS facility and not just a helicopter landing pad.

Next, I think it's important to raise the level of public understanding of issues, work towards demolishing some of the myths. There's a lot of misunderstanding going on this week as a result of the Supreme Court decision. There's a kind of flurry of activity for reporters in New Jersey asking, "How many jobs is this going to mean for New Jersey?" "What's it going to mean?" I think the best answer is, "We don't know." There are perhaps two extremes; people, some boosters, who will say that there are thousands and thousands of jobs for New Jersey . And other who are more gloomy. But I think the best answer, and we try to set the record straight, is there may be some small increments of employment but we really don't know until something actually takes place off-shore. The level of public understanding will be a bumpy road to improve understanding. One episode in the last two weeks where one of the counties, working under contract, had a very difficult time;a clash between the elected county officials and the professional staff that was doing the study. And the elected county officials in the case were, I think, unfortunately using the politics of fear or perhaps misinformation to say, not unlike the Queen of Hearts in "Alice in Wonderland," "Off with their heads!" Sentence first, verdict afterwards. We'll give you the conclusion so now go out and write the report. And as a result the professional planning staff did quit and left the county. So I think in that particular county it will take more time for the elected officials to realize what will or will not happen as a result of OCS activities. So it is a long process. We should all expect setbacks and confusion while continuing to strive for having more information.

Next I would urge people to visit areas of offshore activity, visit Louisiana, visit Texas, visit Scotland. Seeing is understanding what off-shore activity will mean for a new region.

Next, one should try to expect the unexpected. Atlantic City, at the time of the lease sale, was expecting off-shore activities to bring lots of new jobs to revise that then tired, old coastal resort city. Then two months later, the people of New Jersey passed a constitutional referendum authorizing casino gambling. For the past year and a half, people have not been very eager to talk about off-shore activities in Atlantic City. It's hotel casino construction that has been perceived as a source of economic activity. This also suggests a need for having flexible policies and, again, information.

Let my just close with one observation on what has happened to New Jersey as a result of the delay in the exploration process. The delay has simply provided more time for New Jersey to become better prepared, more informed about what OCS activities will mean. I won't necessarily advise that you seek some mechanism to have further delay but perhaps the same kind of preparation activities that we have been doing in the past year and a half can also continue during the first year and a half of the exploration process, should it begin on schedule. Thank you.

Roy Woods:

You've heard from John Rankin as to how you get ready to make a sale and make a sale. You've heard from Gordon Frey as to how private industry determines and gets psyched up to make a bid and explore. You've heard from David Kinsey as to how cities on shore prepare for the impact and anticipation of a big industry. Now, we'll hear from James Jones, Director of the Mississippi-Alabama Sea Grant Consortium, and the environmental impact anticipated as a result of off-shore drilling with its attendant on-shore exercises.

Jimmy is author of numerous publications. He is the chief scientist on a number of oceanic research vessels and participated in many international programs. His activities as a leader in academic and research fields with a subject: Profiles and Leadership Programs presented by TV networks. He's done undergraduate with graduate work in geology and zoology at the University of Wisconsin, has done post graduate work in oceanography and marine geology at the University of Miami Institute of Marine Science. Jimmy Jones.

James Jones: "Environmental Impacts"

I want to echo the sentiments and the thanks that have already been presented here to the group that has organized this. We're being treated very well, almost royally, and we certainly do appreciate it. In looking over the audience, I'm very pleased to see a lot of different and strange faces. Very often at these types of things we feel like we're talking to ourselves. The same group shows up consistently. Since this is really a public information function, I'm glad that the public is here and hopefully we can inform them.

The basis for my being on this program has nothing to do with my being the director of a sea grant program. But, rather is related to my eleven years in Florida, when I involved myself with the variety of enviromental programs. I was one of the principal investigators in the study done in Louisiana alluded to by Dr. Frey and finally left the womb of academia and took my chances in the political realm as a governor science advisor. One often wonders if perhaps they've done the right thing in making these choices, but whatever the reason, we do try to prevail.

I have a couple of comments on some of the earlier speakers, if I might. In the Louisiana oil patch study briefly described by Dr. Frey, it was true that the ability to measure damage to the eco-system, we were not able to measure damage to the eco-system. We were, however, able to measure significant alterations to the eco-system and at this point it becomes a matter of semantics, the meaning of the alterations. One of the more interesting aspects of it was that with the alterations, that is the natural system adjusting to a changed environment, by any measure of productivity that we could devise and utilize, we found that the productivity was as high or higher, naturally,than in those base regions we used where there had not been any exploration. This surprised me. I had to change some of my viewpoints in regard to this total aspect. I think most of us that have experienced a couple of years diving off platforms and working underwater around oil rigs and looking at various aspects of the marine environment as it may relate to sediments and benthic organisms, we are surprised to see that nature is fantastically adaptable and resilient and that while some organisms may disappear, they are replaced, their empties are filled and the total level of productivity of the area does indeed remain relativiely unchanged and in a couple of cases it appeared to have been enhanced. Also, in regard to Captain Cook and the oil that he saw in his trips to California, I have often felt personally that that was probably due to very early exploratory drilling by the Pacific Pertroleum Company, but I could find no verifecation of this.

My basis of experience really involves dealing with the Mafla Program. And we went through the whole show on that one from a very rapid attempt to respond to a government edict saying that there would be a sale in this area, which incidentally was the first sale in a "virgin area" of the OCS in many years. We went through the sale, we went through environmental evaluations,we fought tooth and nail, frequently with Interior, with BLM, and frequently among ourselves. Had the sale, went into an exploration phase and then essentially stopped because they didn't really find producible oil in economic quanties in the areas where they had expected to. I've often felt that this was a mixed blessing. Certainly we needed the energy. We needed the petroleum. But at that time we did not have a fraction of the protection that states presently have and the public then did not have the right to know as a deeply in-grained philosophy, so we were going much blinder in the things that we were doing. It pleases me to be

able to say that on the basis of that experience, we made some recommendations and some of our efforts were rewarded. I insisted to the Secretary of Interior that Florida should have a say in something that was happening in the planning of OCS, and indeed I was invited to come to Washington to meet with the officials of the Bureau of Land Management and other areas of Interior.

This series of informal meeting ultimately led to the system that we have today of Outer Continental Shelf Advisory boards or study committees or whatever. It is, I believe, the primary method of formal impact by the states on the thinking of Interior. I'll have more to say about this later - about my views of effectiveness or lack of effectiveness in this regard. I will, at this point, however, say that there has been relatively little effect on the previous adminsitration by the Advisory Boards because I don't believe the recommendations were taken to the highest levels. One hopes that with reorganization and with some promises by the officials in the Interior this will cease to be the case and perhaps it already has. But we remain to be convinced.

It has always been my opinion that the upper level management people in the Bureau of Land Management (that is those who are directly involved in implementing the environmental studies and evaluation for the states and presumably in cooperation with the states) have been very unresponsive and unfeeling in their regard to the states and that (they thought) we were a necessary evil that somehow had to be placated in the easiest possible way and ignored as much as possible.

The Mafla baseline study debacle is an example of this, in my opinion, in which a very comprehensive study was mounted in the Eastern Gulf of Mexico. It was allowed to continue for a little over two years, going on to the second year. Some 5.5 million dollars had been expended and a great deal of effort was involved. At that time it was a decision by these upper level science administrators in the Bureau of Land Management that they were dissatisfied with the organization of the program. In spite of abundant pleas, a lot of them mine, that the integrity of the program at this point was much more important than their dissatisfaction with mechanisms of implementation or management and that it would be to all of our advantages to go with what we had while investigating these various management and mismanagement charges and counter charges, but not miss the sampling periods so that our series was disturbed. The purpose of having these sampling periods, of course, was to maintain or obtain a feeling for what natural variation was in this area.

It's generally believed by environmental scientists that a minimum of three to five years of evaluation of the very perimeters is essential to start to get a feeling of what the total variability may be. Of course, what we'd be measuring beyond this natural variability in the long run would be small fraction of it. That is the impact on the environment of man's activity specifically as it relates to oil production.

Well, the decision by the upper level managers was that it is more important to maintain a higher level of contract performance than to get the science done to make these decisions and so they cut the program off in the middle of it. We lost sampling seasons, we lost actual samples. To all intents and purposes, the 5.5 million that had been expended had been wasted for the purpose for which it had been conceived. This was a major blow to us in Florida that this decision was made. We tried to take it up into the top of Interior hierarchy and were thwarted.

It grieves me to have to tell you that at this point in time, the some inept managers of the environmental programs are in their jobs and I don't see anything changing from their viewpoint that would preclude the possibility of that happening again. So I warn you in that regard.Additionally, the various committees that deal with the Outer Continental Shelf environmental problems have made recommendations to the Bureau of Land Management and to others in Interior as to how they might improve various aspects of thier operations - improvement meaning improved in light of a state's viewpoint because we were the states at this point. These recommendations were not followed upon. We never knew quite what happened to them. In our concern for this we established committees to evaluate what might be happening. A committee did investigate and did find the unresponsiveness that I defined was manifest in a variety of areas, at which point BLM said they would not accept that committee's report out of hand. That's about as unresponsive as one could be.

I'm pleased to be able to report to you now that a later study made by the National

Academy of Sciences vindicated and verified the earlier committee reports that came out of the OCS environmental studies group, and indeed is a rather damning indictment document of the program as it is presently conducted by the Bureau of Land Management in the environmental studies area.

Once again I warn you. The environmental evaluations that you are counting on to be able to protect you environment and determine changes that are made, really are the preview of Bureau of Land Management and once their decisions have been made, you have very little voice in it after that. They have the dollars and you do not. The study done by the National Academy of Sciences is out now. It is published. I would suggest that you get your hands on it and check some of these kinds of quotes in which it suggests the program be extensively revised, that it has inadequate administration and poor program design, that it is generally woefully inadequate, that the research, management, and procurement practices must be changed, that while the studies are carried on in a generally inadequate manner, there is in addition, no adequate evidence that they are being synthesized in a form useful for management decisions.

These are the very reasons that we pleaded with Interior to get the information so that we could get it to our decision makers and hopefully they could make informed decisions based on it. The three to four years of history now of the environmental studies effort, as it exists in this evaluation, at least, says that there is very little useful information for this type of decision making. Generally, they feel that there were poor and rigid procurement processes, that these processes were inflexible and excessively detailed in the requirements. I know this very close up. I remember going to a laboratory one time with a procurement officer from the Bureau, watching him go up to a machine that was measuring some aspect of water quality chemistry, whip out a measuring device and measure some tubing and say, "Aha! He isn't using exactly the same tubing on this instrument that he specified in the contract. Therefore, he is in violation of contract." That to me certainly is inflexible and excessively detailed requirements. I'm glad to say that this was noted by the National Academy of Science.

Finally, this National Academy of Science report notes that previous criticisms of the program have generally been valid and also generally been ignored, as per my reference to my earlier study done by Dirk Frankenburg and a committee of which I was a member. I don't want to say more about this particular problem and perhaps I've already said too much, but if I'm here to inform you, I want to put up some red lights for those of you that feel that on the basis of what is being done in the environmental area you have some safety and you have some utility and results. Until some substantive revisions are made to the existing program this will not be the case.

I'm going to conclude with a listing of some major problems as I see them, and some compliments where they are deserved. From my previous discussions, it's probably clear to you that I have frequently been an antagonist of the Department of Interior and Bureau of Land Management. I tell you, however, that in my relationships with them, I have worked with some extremely capable and competent people, some people that were every bit as concerned about the environment as I was. ...Most of our problems developed at the Washington level and it developed someplace between an assistant Secretary of Interior, the head of the Bureau of Land Management and his closest advisors. Once again, I warn you this is the area to be most concerned in under the present system and the system is essentially unchanged from that that I have known.

The environmental impacts that you can probably expect, given a medium to large find on your post line area, will probably be a great deal less than what you anticipate or fear. This is not to say they will be non-existent, because they surely will, but remember my discussion of alteration of environment as opposed to destruction of environment. Surely, someplace in the history of a 25 year producing field, there will be large and disastrous oil spills. That's the price one pays for taking this particular mineral out of the ground. They cannot be avoided; there will be some.

Remember, however, the resiliency of the natural environment and its ablility to come back. Also keep in mind that we have in Florida, especially, a very well documented history of fantastically large oil spills on our beaches and marshes in the second World War from the torpedoeing of tankers and that one is hard put, at this date, to measure any aspect of the environmental "milieu" that continues to be affected by that

and indeed somw few years after the war it was difficult to do that. Nature can bounce back, given a chance. The chronic pollution aspect is one that I have more concern for and this is partially because we understand it little. This is one of the major concerns, I think, that you must keep in mind - the continual, small pollutant activity. But as you concern yourself with this, also remember that well under five percent of all the spilled oil in the world is coming from exploration or production. The great bulk of it is run-off from the land. So as you worry about chronic pollution, worry about abatement of run-off from the land and transportation. Transportation, of course, was one of our major concerns in Florida because of our extented coastline. ...We worked with varying degrees of success with the Department of Transportation and the Coast Guard in regard to obtaining reasonable assurance as to safeguards relative to tankers transiting our shores; mostly in regards to the proposed Super Ports in the Gulf of Mexico. There is at the present time, and my guess is, in the near future, lack of a variety of effective mechanisms at the state and local level for input into the Federal process.

The best thing we have going for us is the Coastal Zone Management Program and the fact that we are involved in that. It was appropriate that some two years or so ago, the CZM people became deeply involved in the activities that the Outer Continental Shelf advisory committees were undertaking and have continued to have that involvement....We do have a functional group now addressing these problems and these meetings that have been held on the effects of on-shore impact of off-shore types of things are a direct reflection of this concern. Utilize this opportunity, because it is one of the few you have. Work to provide yourselves other opportunities for input into this particular decision-making process. They'll not be given generally freely or willingly because it will complicate the existing procedures to have additional voices in it. It is my feeling that as states, regions, counties or municipalities that are being affected by a federal process, you have every right to have this input.

Finally, I'd like to say that the most distressing aspect of my association of some five years in working with OCS was the documented inadequacy of the Bureau of Land Management Environmental Program. This is a reiteration but I think until changes are made in the program - very substantive changes, both in management and implementation, and process orientation becomes the role and goal as opposed to simple data collection and measurement - that this program will remain relatively ineffective in its hopes to provide answers to the decision-makers who are concerned with this at the state level. I sometimes talk two hours on this topic and could very well now. I'd be pleased to discuss with any of you at anytime, at any place any aspect of what I have (said) here. Thank you very much.

Roy Wood:

Thank you Jimmy. It is always good to have someone come along and point up the need to do things even better and he has opened up a great area here that we could explore in terms of improving our environmental approach on off-shore matters and we should constantly be searching for ways to improve our research and knowledge.

Now you have a chance to ask the panel questions that you might want answered or explored further. I'll be glad at this time to receive any questions that you might have. If you have one, I would appreciate your standing, identifying yourself and the member of the panel you want to answer your question. Do I have a question here?

Let me ask a question to Jimmy, if I may, to get him started. Jimmy, do you have some suggestions with respect to improved studies, improved research? I know when the Bureau of Land Management first was assigned the awesome task - and believe me, it's awesome - to conduct baseline environmental studies of the oceans and gulfs, the mere development of an approach to that problem is herculean, so that what studies were made would come up with specific data on which to predict changes or alterations that might occur. Jimmy, you criticized the program. Can you give some specific suggestions?

James Jones:

I certainly better be able to or else I shouldn't have criticized. Yes, I think that among the more obvious problems is what the decison which was made very early in the development of departmental studies program, that these studies could develop a base-line of information and that that would be a primary role of the study. Well, this is a .... It's more important, really, to understand the complex processes and interactions of the processes that are going on in the system so that one can hopefully develop a predictive capability in regard to alteration of the processes and various changes created by some aspect of the program and production system. So, I think, a change in emphisis - going to a process orientation, a process understanding - that is natural processes - is appropriate. I also feel that a change in the procedures by whic contracts are written, procurred, and monitored is absolutely essential. I think the scientific community must be given more opportunity and more flexibility than is possible under the present very strict type of contract that has been developed by the Bureau of Land Management. These changes must be made one way or another so that proper representation or governmental departments is addressed to the problems and the tasks.

Roy Wood:

I'm going to call on John Rankin to respond since John in on the firing line. He seems to grow well with it. He's been on the firing line for some time now, directing a very fine ecological staff in his New Orleans office. We've got to nail down your concerns in respect to environmental impact - with respect to the force that produces this impact. I've been concerned, of course, and there's one concern over the effects of turbidity and the shunning of drill fragments. Is this a concern of yours or do you have specific concerns? What area of impact are you particularly concerned about? What specific impact? Is it the effect of dredging and filling of the coastal marshes? Is it the effect of the drilling itself and the drill particles that come about? Can you nail down your concerns in more specific language than I can?

James Jones:

Are you addressing that to John or to me?

Roy Wood:

To you, Jimmy, so I can ask John what is he doing about it.

James Jones:

It's been rather clearly documented through a number of studies that the impacts in the exploration phase are known. Probably there is existing legislative control for these various sorts of activities so that, if they are mentioned and these controls enforced, this phase of it is very little likely to cause significant impact. You alluded to turbidity and to channelization and to various faults in dredging and so on. These are of great concern, of course, but they are a concern whether or not they relate to the petroleum industry or to channel maintenance or harbor widening or to any of these things and this is an area of major study that the Corps of Engineers at the present time are watching very closely to determine the results of the studies and various ways of disposal so that you get away from the aspect of particles. Practically no impact is there. Particles on the muddy bottom from the drill cuttings actually form a habitat to increase production. There is just a bit of a change in the environment.

The major problems and really one of the specifics to address are the loss from the major spill whether it's from a tanker or ruptured pipeline of what ever. There

is legislation in regard to this. Strict enforcement is absolutely mandatory. In the case of tanker traffic aspect, Florida requested that they develop a traffic pattern in the area of the Florida Straits where there was a possibility of two tankers colliding. It's my understanding that activities are moving towards this. As we find we get the very increased traffic due to a super port location in the Gulf, we probably will have along with that king of traffic control throughout the tip of Florida and the Florida Straits.

The problem of chronic pollution is one that is relatively poorly understood and deserves a basic research effort that will take some years to resolve. Unil we have answers to that, I think that a very strict enforcement of the chronic pollution aspects are at the minimum. (A study) is probably very important because if we don't know, we certainly should not take the gamble that we aren't polluting badly....I think you're more interested in the fact that there are aspects in this process that are more apt to be dangerous to their environment than others. Once again I would repeat the fact that the socio-economic onshore impact is going to have a great deal more to do with changing your community than even domestic offshore spills. This is going to be something you will be living with day by day. The large spill does indeed go away and the damage does indeed correct itself. So it must be kept in perspective. I would like to say, don't put all of your marble on the environmental aspect and the oil spill because when you find you have reached the point of production in the field, you're going to find that the socio-economic situation onshore is vastly more changed...

Roy Wood:

Gordon, would you like to respond to his commentary?

Gordon Frey:

It's very rare that I agree with Jimmy and this is no exception. As Jimmy said, we travel around like a travelling circus sometimes. But I'd like to pickup several points that Jimmy mentioned. One, he talked about tanker traffic. Certainly the longer you put off offshore drilling, the more tanker traffic you're going to have. Our best chance for finding additional research is in the OCS area and as long as we're not drilling out there, we're going to depend more on imports. In the past year, our energy consumption went up. The part contributed by coal and nuclear energy went up less than the average so that meant more and more we're dependent on oil and gas.

He mentioned chronic pollution. I referred to the ...area out in Santa Barbara where we had chronic pollution going on for actually hundreds of thousands of years probably. The old La Brea Tar Pits where sabre-tooth tigers and mammouths and all those things are trapped, that's been an onshore spill since Pleistoceni times long ago. And we've had seeps for time immemorial. In the Santa Barbara area there is no effective dammage. When they had the accidents out there, all the time the oil was coming out of the fractures there, the Town of Santa Barbara was dumping tens of thousands of tons of untreated sewerage and nobody said a word about that. Just like up in New York...I don't know for how many years they've been taking sewerage, they've been taking chemical waste, they've been taking sludge and plastic and brick and dumping it out into the area off of New Jersey and south of Long Island to collect...

David Kinsey:

It's called the Dead Sea.

Gordon Frey:

The Dead Sea! And that was not all time. As Jimmy said, the National Academy of Science in a study made, I think it was 1975, it's available to everyone, showed that offshore exploration and production contribute about 2% to the oil pollution in the ocean. The big fault comes from ocean traffic - ships of all sizes from little pleasure boats where they dump something overboard to aircraft carriers and tankers - and from urban areas such as Charleston where somebody might decide to change the oil and when nobody is looking, just dump the old oil down the drain - leaking transmissions on the road, the rain comes and washes it off. Those are the big contributors so far as I'm concerned. Jimmy jumps on the chronic thing because it's hard to measure the effects of chronic pollution unless you go to seeps that have been going on for tens of thousands of years such as out at Santa Barbara. And as I said, Dr. Dale Strong who's a very capable marine biologist and to her knowledge there's been no damage to the environment. People in Louisiana and Texas, where we've had offshore production for twenty-five to thrity years are not concerned with damage in their neighborhood. When John conducts a hearing in Louisiana or Texas, there are about this many people on the platform that come to tone of the hearings. The whole thing is accomplished in the time of the call for nominations until the sale in the time of a year - 12 months.

Now, there are generally two or three year baseline studies before anything happens. It's going to drag out the sales. They're already three years now. From the time you call for nominations until the sale, it takes about three years with all the new stipulations the OCS Advisory Board, through its chairman Mr. Tom O'Neill, has introduced which Jimmy and others think are necessary to protect the environment and which actually cause more and more delay. We're going to be five years from the time we're ready to start drilling until we can drill. And if you want to delay and delay why, that's alright. I would like someone to point out in an area where offshore drilling and production caused damage to the environment.

Roy Wood:

John...is on the constant receiving end of this thing. He's got to keep people happy; he's got to keep the environmentalists happy; he's got to keep the Secretary of Interior happy; he's got to keep his wife happy. John, how are you handling that, friend, in your present capacity?

John Rankin:

Roy,...I just spent three days and nights last week in Washington working on the revised study plan - which is being revised again at the Washington level - and will be presented to the citizen sector, not in its final form, but in a more final form than we could come up with in three days. Baseline studies or benchmark studies have consistantly caught hell. I really am not convinced what is right or wrong. I attended some of the pre-study conferences and if you had 100 lawyers trying one case, you can imagine what it was. ... I am not sure how the direction of the revised study plan will come out. I have sixteen proposed studies that include studies of this area as well as the Gulf of Mexico. Some of them hopefully will answer... Now you have to remember that we operate within the framework of a budget....

Roy Wood:

David, Jimmy has mentioned that while there may be some damage done in the exploratory stage, he has observed the greater damage will take place after the development is underway, and maybe from the attendant development - the shore, the coast, the cities and the service. Now, this is your area. What's your observation on that?

David Kinsey:

...in a state like New Jersey, my crystal ball does not show the need for extensive new intrastructures, new hospitals, the kind of facilities that we've developed in Louisiana, to the extent of intrastructures in place today. However, If onshore facilities were allowed to locate without prospectives on the more sensitive natural features of the state's environment, then there could be difficulties.

Roy Wood:

Well, this will bring us later into the role of the Coastal Zone Management program and fortunately, we have Mr. Bob Knecht of Washington here with maybe a very timely program to have to cope with these onshore impacts. Now, Jimmy, you had a comment, rebuttal, you wanted to make over there?

James Jones:

Well, no, I wanted to clarify to Dr. Frey that in my reference to chronic pollution I should have been more definitive. I'm really referring to enclosed bodies of water, such as ports and harbors where there is restricted circulation. I wasn't thinking in terms of the worldwide pollution aspect. I think we're pretty much together on most procedures.

Gordon Frey:

Good. I'm gald to hear that.

Roy Wood:

I'd like to turn at last and in conclusion to the audience again. This is your chance to have answered any question that you might have. And let me impress upon you the importance of this symposium. I view this symposium as the last roundup before the sale in Savannah and, naturally, those of us who work for the Secretary of the Interior would like to see the sale go through as planned after more than two years of investigations, of hearings, of exchange of information. You are seeing here the wrap-up prior to that sale. It is most important that we go through with this sale, that we achieve a solution to the energy crisis and at the same time preserve the environment through this planning both prior to development and during and after development. Do I hear any questions from the audience at this time? We have not run over but five minutes. We do have time for questions. I see a gentleman in the rear.

....(Man from EPA asks question)

Roy Wood:

The question, ladies and gentlemen, is directed to Dr. Frey with reference to his previous statement that the environmental aspects -- the detrimental aspect - of the Mississippi River discharge on esturine wildlife, flora and fauna, was more devasting than the oil development offshore.

Gordon Frey:

What I referred to there is your conclusion that the materials brought out by the Mississippi River, which included a lot of pesticides, a lot of garbage that had a cesspool effect on the United States - all that material that was brought out and dumped in the Gulf of Mexico was several magnitudes greater in introducing detrimental material

to the Gulf of Mexico than any measurable pollution caused by offshore exploration and production which they said was negligible. They were concerned with the introduction of polluting materials into the Gulf of Mexico. The Mississippi River was way high because of runoffs from cities and runoffs from agricultural fields, pesticides and so on, from sewerage disposal into the Mississippi River - all that material came and was dumped into the Gulf of Mexico and that far, far overshadowed any thing major in the way of damage, pollution resulting from exploration and production.

James Jones:

This would not happen to justify petroleum pollution in any way....It is an observation that the major natural variation in response to Mississippi River runoff was so much greater in magnitude ...than...

Roy Wood:

Anymore questions?

(Question from newspaper person)

The question is to Mt. Jones to repeat his criticism of the Bureau of Land Management and how it relates to the Charleston area.

James Jones:

Well, the specifics are really too long to go into. I'm referring to a National Academy of Science study which outlines any of the objections and critisms ... which is available to you. In a more general sense, however, it is the lack of response...Bureau of Land Management to various situations individuals face...The Bureau of Land Management is so (committed) to its procurement activities as to severely limit the ability of those individual scientists trying to determine the major factors...Also the administrative structure and guidence of the scientific management team of the BLM has been extremely nonresponsive and, indeed, in some cases, which can be documented, has severely limited state scientific activities.

Roy Wood:

The lady right here.

(Question from Barbara Peterson)

The question was, "What is the status of the byeline studies in the South Atlantic region Have they been stopped, cutoff, or something?"

John Rankin:

Until we see what happens in provisional studies, I could not give you a definite answer...

Roy Wood:

Let me ask Mr. Owen how much more time we've got.

Roy Owen:

Virtually none.

Roy Wood:

Alright. He said virtually no more time. Okay, we've got to conclude. I want to thank everybody for their patience and understanding. I might make one suggestion, Mr. Owen, as a prelude to serious discussion of the type. There's a man in the audience by the name of Mr. Don Allen who is the regional director of the Department of Energy. Sometimes it's good to get psyched up for a meeting like this in terms of its importance if a guy like Don tells you how critical the energy problem is. In answer to my friend from the Environmental Protection Agency, hear me out. My son attempted primitive living all winter by cutting his wood for his fireplace and his stove in a log cabin which he had restored. He was dedicated to go back to the primitive life without all these modern amenities. Man, I'm telling you, it took his chainsaw and my chainsaw and his energy and my energy all winter long to keep warm. Thank you, Brother Allen. We enjoy the opportunity.

Roy Owen:

Let me make a couple of announcements before everybody leaves. One, let me urge you to save questions that you might have and come back with them this afternoon. There will be opportunities to ask similar questions. I also encourage you to catch these people who are slipping down the steps out in the lobby. Perhaps even go with them to linch and get your questions answered in some depth.

Secondly, I'd like to mention that Frank Gregg, the new director of the Bureau of Land Management, will be here tomorrow morning at 9:00. He was confirmed two weeks ago today. This is, if not his first public address since confirmation, one of his first public adresses. There was a good deal of criticism of the Bureau of Land Management. The Bureau has a new director. He will be here tomorrow morning.

Thirdly, I'd like to say what's going on this afternoon will be dealing with exploration and production and, as was mentioned already, the major social and economic impacts on shore can be or are often expected to occur during the phases of exploration and immediately to production so, in terms of coastal communities, this afternoon is really key.

Forth, a real change of subject. You're on your own for lunch. There is a map in your brochure of places to eat lunch. They're all within walking distance... But, for those of you who are interested in more ideas and on non oil topics, I've been asked to announce that former Congressman Wilbur Mills is speaking directly acroos the street at the Stern Student Center - go across the street and upstairs- at a lunch meeting of the local chapter of the American Society of Public Administrators. Former Congressman Mills is speaking on the topic of stress and the public servant. One thing about that. There will be lunch served. They're prepared to handle as many as 50 people from this conference for sandwiches. Sign up in the back.

Lunch

Roy Owen:

The session this afternoon is being moderated by Norman Olson and I won't say anything about that session. We'll leave it to him to say that - but I do want to introduce Mr. Olson to you. He is the State Geologist for the State of South Carolina. He received his BS and MS in geology from Iowa State University and the University of Iowa...Mr. Olson served briefly with the U.S. Army Corps of Engineers, worked in the Rocky Mountains and Alaska for Corps Labs, Inc. and has worked for the state of Georgia Geological Survey. Before coming to this present location in South Carolina, he was industrial geologist for Southern Railway. Mr. Olson.

Norman Olson:

Thank you, Roy, I see that we're getting a little bit a late start after lunch so I'll try to proceed with as little delay as possible. One of the things I'd like to say before we get into the introduction of our speakers this afternoon...is the fact that our own General Assembly has done quite a bit of homework in this regard in preparation for the Oil and Gas Act and those events which follow the Oil and Gas Act. One of the early proponents of a study committee, and who was actually a chairman of that study committee, is with us today. Senator James Waddell, from Beaufort, is not only interested but actively participating because, in his capacity as chairman of the S. C. Coastal Council, it's the one area, of course, that's going to receive the most activity, the most impact, if you will, the most consideration where offshore oil and gas activities are concerned. The Oil and Gas Study Committee made what I think probably was its final trip - a fact finding trip - to Alaska which carries with it a report of that trip. The Oil and Gas Study Committee in the General Assembly, chaired by Senator Allen Carter from here in Charleston, has tried to find out over a period of the last five years what it is that S. C. needs to learn from the experience of others and this last fact finding trip - a report which should be out and released before the March 28th sale - runs the full gamut; experience learned from natives in Alaska, the effects on wage and hour sales, local reaction from citizens, a section in the report on oil and gas operations in which the committee not only visited a semi-submersible rig engaged in exploration, but on another day they visited a platform engaged in production and talked with state senators and representatives, federal and state staff people, all of which proved highly beneficial. I can say that because I was priviliged to be along with the group. So much for that. That report - although no set distribution has been made for it - would be available through the office of Senator Allen Carter and any of the members on the Oil and Gas Study Commission.

Our first speaker this afternoon is Mr. George F. Brown who is the conservation manager for Eastern U. S. - the eastern region. I can say this - that George has maintained excellent communications with the people in the state of S. C. , particularly the state government level over the past three years by mail, by a couple of trips - himself and his staff - to Columbia. The relationships have been, as I say, nothing short of excellent. His responsibility in this position as Eastern Regional Manager is to pick up from where the BLM leaves off, as all of you have heard this morning. And after the lease/sale is held, the inspection, the enforcement of the OCS regulations and related operations fall under his jurisdiction. In this position, he is the primary conservation representative responsible for implementing those rules and regulations. The primary emphasis in the region for implementing those rules and regulations. The primary emphasis in the region this year and the next few years is to plan for OCS leasing and lease operation. At this time, I'd like to present George Brown.

George F. Brown, "Federal Role - Prospects and Guidelines":

(Mr. Brown uses charts and slides in his presentation)

What I want to do this afternoon, as Norman pointed out, is discuss the role of the Geological Survey in the federal government post lease - after a lease/sale is held on the outer continental shelf. Before I do that, I'd like to back up just for a few minutes and cover some of the points at which the Geological Survey does outerface with the BLM and other agencies of Interior prior to the lease/sale and explain some of our other permitting and regulatory roles on the outer continental shelf. I have divided the program for discussion purposes into three segments; what I have referred to as presale, sale and post sale where I'll spend most of my time this afternoon.

Pre-sale activities, as far as the Geological Survey is concerned, have to do with permitting of geophysical operations. All the collecting of seismic data is per-

mitting and those permits are issued by the Geological Survey. Also, the cost wells that have been drilled offshore in the Atlantic were a function permitted by the Geological Survey prior to issuing the permits to drill. During the operation, the Geological Survey did maintain OCS inspectors on board the vessels that were doing the drilling.

We also participate in the Bureau of Land Management and make recommendations, as John Rankin mentioned to you this morning, on tract selection. We provide a technical review of interpretations of the geophysical data that has been collected in the permits that we approve. We evaluate and interpret that data and furnish our recommendations to the Bureau of Land Management based on that data and our evaluation of it. Also, at the presale stage, we do provide technical input, in summary reports, resource reports, which are furnished to the Bureau of Land Management which enable them to carry out their responsibilities as far as the environmental impact statement is concerned.

Once the Bureau of Land Management and the Department of the Interior decide to schedule a sale, we engage in evaluation in more detail, in more tracts -- specific evaluation. Then the blocks indentify going from pre-sale to the gross area. We concentrate our efforts on that portion of the sale area and do evaluate that area with a core or minimum value that is one of the input factors that the Bureau of Land Management uses in their preparation of their recommendations to the Secretary on whether to accept the bids. That is also our role in the sale of tracts themselves. Go back to one more item on the presale stage. When you do, once tracts are identified or selected, i.e. the red group of tracts shown on this chart; once those are known, the Geological Survey, our office, does engage in contract or collection of shelf siting - hieroglyphic siting data which will identify and give us additional information as to what geological patterns may be present in the area. This is also in the recommendations from our office ... which is another piece of the decision document the Secretary uses in making his final decision on whether to hold a sale and beyond, what tracts he will accept and reject, and beyond that, we use that data also in post sale.

Okay. We've covered presale/sale activities as far as the services is concerned. Then the Bureau of Land Management issues a lease and we go into what we refer to as the post sale activity. This is when the industry has a valid lease from the Bureau of Land Management and, if there are no legal impediments or other items that would cause delay, they then have the right to explore that tract of land for which they have paid their money and received their lease. We also subdivide this post sale/lease activity into five different - well, really 4 different stages; (1) the exploration stage which is where I'm going to spend most of my time this afternoon; (2) the development stage -- going from stage one to stage two is a very big "if" particularly in these frontier virgin areas; (3) production. Actual production can begin - platforms installed, wells installed pipelines installed, methods of transportation are installed - and they move to shipping hydrocarbons - gas or oil. Part of that production phase is also another aspect of our activities - the collection of the royalties that may be due as a result of finding and selling the production. Then once the production is gone and the field is depleted, we move into (4) the abondon stage. Things are cleaned - sea floor is cleared.

That more or less sets the stage for the various phases of activity were talking about and now I would like to concentrate on the regular part of our activity which is a very large portion of this - what our primary role on the Outer Continental Shelf is. You are probably aware that basic authority for our jurisdiction is found in the Outer Continental Shelf Lands Act which passed on August 7, 1953 on which there are various amendments on the Hill at the present time. The Act provide the Secretary to establish regulations. On the left hand side, first of all, we talked about the leasing regulations which are basically adminstered by the Bureau of Land Management and under which they conduct their lease/sale. There is the pipeline regulations. And also it's at

this stage in the presale where the lease stipulations are developed and it's certainly the lease instrument. The leases are issued with lease stipulation attached. They are part of the contract.

On the other side, on the right hand side, where the Geological Survey is primarily responsible are the OCS Oil and Gas operating Regulations, what we refer to as our title 30 CFR 250 regulations. These regulations apply to all the outer continental shelf areas surrounding the United States - Alaska, the Pacific Coast, the Gulf Coast and the Atlantic. As you might imagine, they are somewhat general. They cannot be too specific because of different operation conditions in all the areas. There are provided for in the operating regulations, the process of establishing OCS operationg orders which further define, refine, and provide more detail as to what requirements we set up with the industry - what operator - lessee must follow in activity out in the outer continental shelf. These OCS ordinances will give it to you in a little more detail. They cover a very broad range. What we're concerned about initially is activity related to drilling, production, and oil spill and pollution control. The oil spill ordinance regulations provide for another form of guideline, OCS rules, by which the lessee, must operate. These are called notice to lessees. These further define and specify in even more detail yet additional requirements that are specified in either lease stipulations or the OCS operating orders. They refer to such things as cultural requirements, biological requirements, the necessity for complete reports and a myriad of different points that are covered by notice to lessees. The OCS orders have been established on an area by area basis. There is a set of orders on the Gulf of Mexico. There's one for the Pacific. There is now a set of orders for the mid-Atlantic. And there is now, as of February 14th, a set of orders for the South Atlantic area. These orders are developed over a time period which involves input from industry to the public rule making process by the publication of draft in the Federal Register. They also include input from the other Dept. of Interior agencies and including input from affected states where you have various means in myself and in others on my staff with state government representatives in the Southeast in developing these OCS orders. We have received their comments and made a considerable amount of recent improvements in the OCS orders accommodating some of the concerns that have been expressed in the various areas where we are working. I might point out that, as the gentlemen from the Audubon Society mentioned this morning, we would hope that things are getting better and not worse. We feel that this exercise of broadening the base from which we recieve comments and work in developing these OCS orders has led to a process of effective OCS orders.

The same process has been followed in the Mid Atlantic for preparation of the notices to lessees. There has not yet been set notices to lessees on the South Atlantic. As I mentioned, notices to lessees are due to requirements. They are only an explanation or a more definitive explanation of what is included in the OCS ordinances of lease stipulation. So they don't go through the formal ruling process of federal register. However, notices to lessees for the Mid Atlantic were, and will be in the North and South, developed with the various state governmental agencies that have our OCS contacts in various states, continental or in other parts of rule making process. This provides the basis, the authority, our jurisdiction in laying out the criteria, guidelines, our rules, by which lessees must operate and by which we must enforce.

One of the things the companies must do if they plan to explore their lease is they then must file a plan of exploration. This is a little out of date now as a result of a recent change that came about on January 28th in one of our regulation which is 250.34 which deals with exploration plans. There is now a requirement on exploration plans that in addition to the plan itself which must describe in a considerable amount of detail what the lessee must tell us, in regards to this plans for exploration.....
...tape change some missing (end of side 3) ... exploration plans under these new

regulations that require us to submit these to the affected states, receive comments prior to the approval. The regulations have now gone one more step. Now not only must we receive comments but if we have any non concurring comments or any disagreements with the leesee's act or what we plan to do as a result of that, we then must go back to the state and review those. We must attempt to resolve those differences and, if we can't, then we have to explain in writing what happened and why we intend to take the action that we intend to take. This is going to give the state agencies, the state government much more input into the plans of exploration, the activities on the outer continental shelf beyond the leasing stage as yet missing. Not only do thes new regulations require this at the exploration stage, they also require it at the development stage. Once there is a production or a discovery of production, they the lessee has to follow a plan of development before proceeding.

The next activity with which the Geological Survey is engaged is ensuring that these studies which we approved do happen. We do that by inspection. As I mentioned to you earlier, we did have inspectors on board around the clock during the drilling of the well in the Atlantic. The inspection of any lease activity that may occur will be done by inspectors. It will not be done around the clock but we hope that we can visit each drilling activity at least on a daily basis. These times or frequency of inspection which you see at the bottom here is the frequency of inspection in the Gulf of Mexico. Just briefly, the orders related to drilling, the notices to lessees related to drilling won't fit a requirement. They are reduced to quite a lengthy form. Our inspector goes out and checks these various items, it's there, it's working. This kind of thing. He answers yes or no. He has certain actions that he takes. He gives a warning, shelving operations until something is repaired or fixed, and then they can go back to work. That's the so called enforcement policy. The citation that we refer to down here, that's the document he gives to the lessee if he finds something wrong. This order is made up for both drilling and production. We have the same type of system for both. Right at the very beginning of course, we're talking about the drilling activity. The OCS orders that I referred to initially are the ones from the South Atlantic - order one, how to mark a well, order two, which is really the significant order, sets up the rules for the drilling -- how he must conduct his drilling operation, the minimum cementing requirements, casing requirements, hidden mud program, safety tactic, pollution tactic, equipment. Order three relates to abandonment -- what he has to do to the abandoned well. These are the orders. Completions -- if, and it's a very big if -- if production's found and he leaves a well, sometime in the future, how must he complete the well. That's covered in order seven which adresses pollution control matters. Order 12 relates to release of non proprietary data. And I think with that I won't go any further into the production orders.

One additional comment. There are a few copies of the South Atlantic orders here. There are a few copies of notices to lessees for the mid Atlantic which will give you some idea of what will be coming up in the South Atlantic. And then there's another copy of what we call a responsibilities document which the Geological Survey also has for your information.

Norman Olsen:

Our next speaker, Dr. Gordon Frey is no stranger to South Carolina. A personal experience that I had with Dr. Frey goes back to 1955 when I was an undergraduate at Iowa State. He was interviewing at that time, making the campus circuit. We talked, he usually would have done with scores of students and it was actually 10 years later that I saw Dr. Frey. I didn't forget him but he had seen probably thousands of students and as many adults and as you have heard about the stereotype hotel innkeeper who never forgets a name or a face, he called me by name ten years later so I was very surprised.

Dr. Frey is now a consulting geologist with Chevron Oil Company. A former assistant vice president but his work in recent years has been in environmental affairs. He is a geologist and geophysicist by background. His specialty, of course, is the technical side but he has related the technical side, unlike a lot of us in our profession, to the world around us, to communicating with the general public and this is not an easy task to a lot of people in the sciences, but he has bridged that gap and done it quite successfully.

Dr. Frey received his bachelors degree in geological engineering from the University of Cincinnati and his M.S. and Ph.D. in geology and physics from the University of Minnesota. Dr. Frey will speak to us now on the oil industry's role in exploration and its expectations.

Dr. Gordon Frey, "Industry Forecasts and Needs":

One thing I'd like to say right at the start is George Brown has given some of the rules and regulations and inspections that the USGS has with respect to the oil industry. We're also regulated and inspected by the Coast Guard and Corps of Engineers and OSHA, and EPA and the Department of Transportation. I don't think there is time on the program for all those men to come up and tell you how they regulate the oil industry but we don't suffer from lack of regulations.

There is one regulation that Mr. Brown mentioned that was in the Federal Register of January 27 and is particularly disturbing to many of the oil companies. It applies to the Gulf of Mexico whereby you have to file an exploration plan to the USGS and they in turn give it to the Governors of the affected states and I think the Governors have 30 days to look over the plan and give comments and if they are not favorable comments it drags on. Many of the companies in the Gulf of Mexico, once they get their leases and get their permits from the USGS, and the Corps of Engineers and so on as in the past, would move from one well right to the next where they had their permit. And with this new regulation now a number of companies are cut short. They cannot move to another area with their rigs to drill because now they have to go through this additional delay that George mentioned that we think is entirely unnecessary. But the USGS has ruled on it and we must abide by it, and the companies have expensive rigs that cost $20,000, $30,000, $40,000 a day that are going to sit by idle til we get those permits, until we get those programs written up and sent into the USGS and the governors say okay. Fortunately, I think our governor in Louisiana, Edwin Edwards, is not going to hold us up very much, but it's just another example of more delay, more red tape that many of us in industry think entirely unnecessary.

This afternoon we're to talk about what happens from the sale to production. Mr. Shirley, Shell Oil Company, will carry on and talk about what happens after an exploration well has found oil and gas and the platforms are set in and production occurs. He'll also talk about onshore impact as will the gentleman from New England River Basin. In some areas the time from the sale to production is very short. Let me just mention here Lease Sale OCS 47 in the Gulf of Mexico was held in June 1977. Industry paid 1.2 billion dollars for 152 tracts. Since that time up to February 1st, 19 wells have been drilled resulting in five new field discoveries and three field extensions, so in the Gulf of Mexico we move pretty fast.

In contrast, on August 17 the sale was held to the Baltimore Canyon, Sale 40. Leases were issued in September of 1976. Judge Weinstein ruled among other things, that the Environmental Impact Statement was deficient because there was no statement in there as to where the pipeline would go from offshore to onshore New Jersey. I believe that is right, although I'm not certain what the real problems were, but anyway, that went on and on until February 21 when the Supreme Court said they would not listen to the appeal and the oil companies will be drilling up there in March. I know Exxon, Shell,

and Gulf and several others have announced that they will be drilling in March. We are going to be drilling in conjunction with Mobil Oil Company. They have one lease and we have a lease adjacent them right on what we call the Stone Dome; it's a big igneous intrusion that comes up through the sediments and folds the sediments up and looks like a mighty fine prospect. It looks like that is perhaps one of the best prospects we have had since Dustin Dome. Of course that didn't pan out very well so we can't tell, but I think operations will start there very soon. But that has been a long time.

In the MAFLA sale held December 1973, leases were issued in January 1974 and the drilling began in July of 1974. It took about six months to get the necessary permits. This long delay that we had in Baltimore Canyon allowed us to get permits from the Corps of Engineers, USGS, EPA, Department of Defense and the other agencies which we must get permits from before we can start any exploration activity. So that was all done in the interim when the law suit was going on.

Its hard to separate the exploration activity, as I've been asked to do, from the development or production activity. In the Gulf of Mexico we've been having exploration and production for 30 years. We have an exploration phase and in drilling wells, if we make a discovery, we turn it over to the production department for development and production of the lease. The production department in drilling wells will drill a well and find some new circumstance, some new inclination of the beds, a fault, perhaps some new beds coming in that were not present on top of the structure which opens up a new idea and generates new exploration. So then we have another exploration sale and John Rankin's planning on one coming up very soon. We have many exploration sales on the Gulf of Mexico and much development going on and it's hard to separate them.

The simplest way to separate them is to go to an area like MAFLA where we only had the exploration phase. We can tell you what happened there. In the MAFLA area, as I say, we started drilling-when I say we, I mean the industry, in July 1974, and three bases for drilling were established. In OCS 40 the bases for drilling will be in Davisville-Quonsett, Rhode Island. Those were the bases that were used in the drilling of the cost well in Baltimore Canyon and the two cost wells up in Georgis Bank - a fine facility - it has docks, warehouses, office space and rail transportation, good facilities and the industry was gald to get that and the people of Rhode Island were anxious for us to move there and so it was a mutual benefit.

In the MAFLA sale we had the three bases, one at Tampa, Florida, one at Panama City, Florida, and one at Pensacola, Florida. In additon several wells were drilled by companies who had bases in the Delta Mississippi, Louisiana and operated from there.

I can tell you what happened at Tampa. Two oil companies subleased a ten acre area, used two rigs to drill three tests, some 40 to 80 miles distant. The activity extended over a period of five to six months, some 32 men were engaged onshore of which 12 were locally hired. Salaries amounted to $300,000 of the 1.5 million expended in the local community.

Three rigs drilled seven wells out of the Panama City base. The wells were 35 to 40 miles distant from the port and were drilled over a period of one year. Ten local people were hired out of 23 used to conduct onshore work. Total of 1.5 million spent with about $175,000 of the expenditure for salaries.

The third base was at Pensacola. It had less activity with but one rig operating out of it and drilling one well 50 miles distant. The activity lasted but a few months, the expenditure of $500,000 included salaries of $95,000 for 28 men, 17 of which were local. So you can see, if only the exploration phase occures, there is very little activity, very little impact. It's only when production occurs, as Mr. Shirley will discuss later on, that there is much activity and then it's generally overstated. I don't have a whole lot more to say so I'd just as soon close at this point, Norman, and perhaps there'll be some questions later on.

Norman Olson:

Dr. Lyle St.Amant, actually my first contact with him was at a public hearing in Columbia when the South Carolina Oil and Gas bill was still being debated in October 1973, at the invitation of Senator Waddell and Senator Carter, Dr. St.Amant appeared along with other witnesses and others from other organizations, voluntary and invited, to comment on the pluses and minuses of our South Carolina Oil and Gas bill. He is an old veteran; he's been around a long time in actual enforcement of state oil and gas activity. He is now, under the new reorganization in Louisiana state government to a cabinet style, the Assistant Secretary in the Louisiana Department of Wildlife and Fisheries for Marine and Coastal Resources. Dr. St.Amant received his bachelors and masters degrees from LSU and his Ph.D. from Northwestern University. He's worked in industry and as a medical researcher in tropical diseases for the U.S. Navy. He came to the Department of Wildlife and Fisheries in 1946 and has worked in many capacities before coming to his present position.

Dr. St.Amant will now present to us the state and local impacts as far as exploration is concerned. Dr. St.Amant.

Dr. Lyle St.Amant, "State and Local Impacts":

Thank you ladies and gentlemen. It's indeed a pleasure to be here today and I hope that in some way I can offer you something that will be interesting and perhaps will allay any fears that you might have of offshore drilling. By saying that, I don't mean to tell you that you don't have problems; you do have a few problems. But I think perhaps if I briefly give you something about the history of what happened in Louisiana you might have a better fix on what may happen here' what should not happen here. You may be able to benefit from some of the things, of the many things, that went on in Louisiana and in the Gulf area over the years.

First, I think you ought to understand that the oil industry moved from onshore to offshore in Louisiana. In the beginning,,they moved with early land equipment and no sophisticated marine equipment, and they moved first into the wetlands and marshes. And then when that worked out, they moved into the near-shore waters and then offshore waters. This took a period of more that 50 years. First wells in Louisiana in the marshlands were drilled in 1927. The first offshore wells out of sight of land were about 1947; however, there were some local wells in the near-shore waters as early as 1937. Aside from the fact that in the early days there was not very much sophistication in the way of equipment and knowledge and how to work in these hostile environments, there were no regulations. There was absolutely no control of the oil industry between 1927 and about 1950 in Lousiana. If nothing else gives you some peace of mind, everything that could happen did happen in Louisiana between about 1927 and about 1950 or '51, and we survived.

We survived without any regulations. We still have one of the finest fisheries in the U. S. and perhaps the world. It's not to say things could not have been done 1000% better. But it is to say that oil is not the monster people think it is nor is it as toxic or detrimental to natural resources as some people would have you believe. So I think I want to leave that aside because we could talk about the various aspects of it and some of the research we have done, and various other things we can demonstrate to you over the years, but this would take hours.

I've been asked to tell you a little about how you might have some impacts during the exploratory phase and some of the things you might run into during the early stages of the oil business. Here again, I'd like to divorce myself from one area of consideration that you might be vitally interested in. I have been in charge of taking care of natural resources and maintaining the reproduction of thse resources, including the nursery grounds, and I have not been involved in urban planning or the impacts in towns and cities, in tax structures and what have you. I am an environmentalist, an ecologist. I have worked in the area of trying to determine just what happens with an oil industry

involved in an environmental system or in a valuable eco-system.

Now, you have heard a great deal about regualtions and it is true. The OCS orders now are probably the best type of orders you could expect. They cover everything, and they made up for the fact that there were a lot of mistakes made in the early days. They may be improved, but I think the improvement will have to come gradually as we find from time to time that maybe there is an additional thing that we missed somewhere. They are aimed principally at preventing accidents and problems that we have discovered over the years.

I would like to point out, though, that in an oil operation you do have some normal operations which may give you trouble. They are not necessarily environmental problems, but they are certainly administrative problems and people problems. Perhaps this might pop up here if you begin to drill for oil on any real level of activity

First, let's look at the seismic problem. In the early days, everybody was concerned about blast effects on fish and (thought) we were going to lose fish populations and what have you. We went through this whole business and did hundreds of experiments and came to the conclusion that blast effects could be controlled and were not significant. Now these seismic companies don't even use high explosives. They use sparkers, gas guns and vibrators that have no effect at all. So what kind of problem do we have? We have a navigation problem. It's a people problem.

When we move into an offshore area that is intensively fished, we find that seismic activity, as it increases, may give us a problem that is not accountable or not really handled very well by the international rules of the road. One of the problems is that a seismic boat trailing about 8000 feet of cable is not very maneuverable. And a fishing vessel, particularly a shrimp trawler with 2000 or 3000 feet of cable out, and now two and now four trawlers in tandem is not very maneuverable. Under the international rules of the road, the fishing vessel has a right of way except in one instance and that is when one vessel has another vessel under tow. Now the seismic boats have assumed, and maybe rightly so, that towing 8000 feet of cable constitutes a towing situation and they want to revert back to the rules of the road. The thing about this is the international rules of the road are quite good but they are not really designed for a high level of activity where you may have several hundred or, like in offshore Louisiana, several thousand shrimp boats operating. Maybe you may have 15 or 20 seismic crews operating in an area that is relatively small size, so there is a conflict.

This conflict can be solved by good management and good procedures and regulations but you have to make some arbitrary rules and somebody has to have that authority or you may have some headaches with it. We had the thing under control in Louisian for the last 15 years and recently there has been a change in the way things were operated and now we are back in trouble, and we are going to have to straighten it out again. The kind of thing you have to do is develop where your fishing impact area is of high intensity area and you try and keep the two groups apart. You have to make a rule to determine what constitutes an arbitrary fishing fleet. If it's less than five boats, then the fishing fleet gives way to the oil company. If it's more than five boats, then the oil company gives way to the fishing fleet.

We never let anybody do any work at night because you can't see out there at night in bad weather; now this has been changed. Night operation makes it a little difficult to keep people separated. These are the kinds of things that I think someone needs to be aware of.

If you begin to produce or make a few wells, you are going to have to determine what to do with these wells. They're not going to move onto these sites immediately and put up a production platform. The rules for an abandoned well call for it to be cut off under the mud line. But if you cut off under the mud line then you have got to determine how you are going to get back into it if you are going to produce an area. Now we had a lot of trouble in Louisiana with stubls for a while. If they got a lease, started a well, hit a production, and decided not to operate immediately, they would leave this pipe sticking up 10 or 15 feet and go off and leave it for six months or a year, whatever necessary time it was before they could come back and begin to really produce the area.

Now this again is not an ecological problem; it's not going to hurt the fish, but it's going to cause a lot of headaches if you begin to hang up fishing nets and the like on it. We got a correction in the rule orginally from Geological Survey and from the Department of Interior where they can be cut off below the mud line in an interim period, but it's more advantageous for a company to leave that stub up if they plan to operate in a reasonable length of time, like two or three months. So, we still run a level of 90 to 100 stubs somewhere in the Gulf of Mexico we have to keep track of. Those were originally supposed to be marked, but here we run into an internationaly rule problem which says that you don't have to mark anything below 80 feet of water level. I presume they would not be involved in point-to-point navigation. It does not really consider the other side of the thing. Now, I think this may have been straightened out, but certainly if they are not marked they can cause you a little trouble.

I guess I should say something about pipelines because this is one of the areas that most people are concerned about. Pipelines, in my opinion, are the safest method to move oil, or for that matter, any toxic chemical. Properly installed pipelines in the sea floor and coming into shore have been no problem at all. Even if occassionally one is interrupted for some reason or other, they have these pressure valves and cut off valves in them. The amount of oil that might be lost is minimal when compared to something that might happen if a tanker ruptured offshore or had an accident.

Moving pipelines in shore becomes an administrative problem again. This is a state problem. This is a problem, in my opinion, that should be in the hands of people who are familiar with coastal ecology, who know and understand your coastal eco-system and who are given the authority to establish the rules and regulations for the rights of ways of these pipelines and how they will be put in. You can put them in very well. Pipelines come across a narrow intertidal zone or small beach out of relatively deep water into high land, and if you move into these areas rapidly, there is no big problem. If you keep them in corridors, you don't have any significant problem. If you come over a low beach and then get back into wetlands behind it or marshlands that are of significant size, you can have some problems. And here the problem is to maintain the integrity of the drainage pattern in this marsh system. You can still put pipelines through these areas but somebody who knows what is going on in the area has to dictate how they go in, otherwise, you may end up with some headaches. I think that this about covers the exploratory stage of the thing.

I can think of nothing that goes on in the exploration field that would give you any great problems. The activity level as pointed out by Dr. Frey is generally low. There are a lot more dry holes drilled in these areas than they every get production wells. The dry wells are no real problem because once they find they cannot produce, they move out of the system and the OCS orders call for the sea floor to be left in the same condition that it was when they started out.

This is an important factor. If you are going to issue leases or permits, certainly there should be some clause in it that says that you are going to have to clean it up when it is all aver with. At an old depleted oil field your problems are much worse than they are in anything new. While this is not in exploration, if you have a problem with oil, it will be in the depletion stage; it won't be in the beginning or even in the major production stage.

Toward the end, if you don't have the appropriate rules and regulations when the oil fields are not producing at high levels and the water production is up 100 times over the oil production, then the cost of maintaining pollution control and other controls skyrocket and you may have a little trouble there. The offshore OCS orders cover all this and I have no complaints with them. I think they do an excellent job. However, in Louisiana we want to be sure they are properly enforeced, because down the road, we are going to have to see things are cleaned up. You certainly want to keep this in mind. I think generally, this covers what I could say about the exploratory end of it, and if you have any questions, I'll try to answer them.

Norman Olsen:

Thank you, Dr. St. Amant. Our final speaker is Mr. William Nothdurft who is cur-

rently Chief of the Communications and Technology Transfer for the New England River Basins Commission. Bill has worked with the state of Pennsylvania, or Commonwealth, and the Commonwealth of Puerto Rico in establishing environmental information services and resource assessment services. He is a co-author of a forth-coming (book) Planning Methodology for Siting Onshore Oil Development, and I believe some of the background on that you might have brought with you, Bill. He was also instrumental in compiling estimates of New England, estimates of facilities and impacts for New England states stemming from oil and gas development and Fact Book, an encyclopedia of on shore facilities related to offshore activities. Mr. Nothdurft will present to us the community impacts that we might be expecting as a result of oil and gas activity. Mr. Nothdurft...

Dr. William Nothdurft, "Community Impacts":

As many of you may know, and as Mr. Olson has just suggested, the New England River Basins Commission, under a grant from the Interior Department's Resource and Land Investigations, sometimes called RALI Program, has spent about the last two and a half years studying the offshore oil and gas business and in particular, the onshore facilities that are normally associated with offshore development. Some of you may be familiar with a modest little document weighing inat about 25 pounds called the Fact Book, and I will leave a copy out back so you can sign up for one. It's a kind of encyclopedia, as has already been suggested, of about a dozen or so onshore facilities that are commonly related to offshore oil and gas development. At the present time it's probably the best compilation, at least in one place, of the kinds of processes that go on at these onshore facilities, the way industry goes about siting these facilities to the best information we could find, and the characteristics and requirements in some of the economic and environmental impacts of the facilities. We have also developed some methodologies that will be published in about a month that go into some detail in trying to help local and state planners to do about three different things.

First of all, develop offshore scenarios, is what we call them. It is sort of an offshore projections of what might happen based on the resource estimates promulgated by the survey and a number of other assumptions. There is a second methodology that goes into how you go about translating what is going on offshore into numbers and kinds of onshore facilities. A third methodology that involves primarily how you go about finding alternative sites that are suitable, both from industry's point of view and from the point of view of public policy for siting these facilities. I am happy to say that the entire methodological book is less than three fourths cf an inch thick.

What I'd like to try to do today in a relatively short period of time is briefly go over some of the offshore processes and then go into a little more detail of onshore facilities themselves.

As has been suggested already, the most important thing to remember about OCS development, both good and bad impacts, is that numbers and types and timing of the effects of onshore facilities are triggered by what is happening offshore. Things don't happen on their own. They relate directly to what is going on out on the outer continental shelf. Consequently, since nothing has happened offshore here yet, it is difficult to guess what may happen. The mix of oil and gas offshore, the place that we might find any oil and gas and when we might find it, how much is going to be there, how it is going to be extracted and later transported, and where it will finally be processed is really definable only within fairly broad limits.

If you can think back to when you were a kid, passing a drug or candy store window where they had contests of trying to guess how many jelly beans were in a jar is a pretty good way of trying to understand what is going on out there. The only problem is the jelly bean jar is buried under a couple of hundred feet of water and then several thousand feet of subsurface. You are not sure where the jelly jar is, and more importantly, you are not sure if there is anything in the jelly jar. It is kind of an "iffy" business. We normally describe the offshore business as involving a number of different phases. We will say there are four or five phases, but for simplicity, I am just suggesting three. One of the important things I want to bring out is that these phases

overlap. Mobil exploratory drilling rigs will begin looking for oil and gas in the South Atlantic probably about a year after the lease-sale, if there are no legal hold-ups. They are likely to spend a couple of years out there trying to come up with some commercial deposits. If they are lucky and they find something, they will try to outline the boundaries of that field and then set down platforms on the ocean bottom and try to drill some development wells.

When they complete the first well and begin pumping, the production stage essentially begins. It will probably be as many as five to eight years before you get to that stage. Exploratory drilling continues, as you can see in this slide, and then tails off over time as the companies decide they have found all there is to find. Development drilling will continue until each platform has drilled a maximum number of development wells that they are capable of drilling. That can be, depending on desigh of the platform, up to as many as 50 or 60 wells drilled directionally. And, of course, production will last as long as the fields hood out.

Each of the phases has different kinds of onshore effects. During exploration activity, onshore activity is relatively limited. There are some temporary service bases that are set up that provide the offshore mobil drilling rigs with men and materials and there are small service companies that provide equipment and supplies and so forth that keep the business going. But the impact of these facilities is really pretty negligible. If the oil companies find commercial quantities of gas and oil, then things will begin to happen. Temporary bases will be converted to permanent bases or new bases will be set up. Platforms for producing and drilling will be built and installed, although they can be built in a number of places. Pipelines and terminals will be constructed, gas plants will be built, if sufficient quantities of gas are found. And finally refinery capacity will be either built anew or expanded, more than likely expanded someplace where there is a significant market for refined products.

In all, the process can take something on the order of several decades, 20 to 30 years. Its impacts, even under bonanza conditions, are likely to be locally, not regionally, significant. And that places a kind of a special burden on local governments and on state governments in particular, who have to prepare for these kinds of impacts before we really have any idea what is going to happen.

One thing that has been proven, however, over and over again in Alaska, in the Gulf, the North Sea, and some other places is that when it comes to OCS development, the time we can spend now trying to get a handle on the timing and the impacts of onshore development even before it begins is going to determine the degree to which communities, especially smaller communities, are going to be able to cope.

I'd like to, at this point, go into a little more detail about the onshore facilities, and I will list them here but I won't go through them.

Under normal circumstances, successful bidders begin exploratory drilling as soon as possible after the lease sale. As the industry will be happy to tell you, we haven't had many normal circumstances recently, although maybe the South Atlantic will be a refreshing change. Service bases, small and temporary, are established almost immediately after the lease sale. The temporary base is, as I suggested before, the staging area that is established by the oil company or by an independent service contractor for shipping supplies, equipment, men, material, and soforth to the offshore sites where the exploratory drilling is going on. The base could include berthage space for vessels that run anywhere from 180 to 220 or so feet in length. These are supply boats, work boats, crew boats of a number of types. It is going to require dock space for loading and unloading supplies, warehousing, a lot of open storage area, building to house supervisory and communications personnel. That is about it. Maybe a heliport if there isn't an airport fairly close by.

The size of the base and the level of vessel activity at the base pretty much depends on the number and kinds of exploratory vessels and drilling ships that are out there drilling holes. The bases are relatively small operations. They require limited acreage, normally leased on a short-term basis, although I am not sure my informationis correct anymore, but in the MAFLA sale, industry was not able to get the short-term leases that they had. Seems to me they paid for about seven years. This is

in fact, a base in Florida that served the MAFLA sale.

For obvious reasons, the temporary base siting decisions are really not normally made until the lease sale is over, although land options can purchased and often are purchased earlier. If a permanent base exists within roughly a hundred miles of the leased tracts, then a temporary base is inlikely. But since that is not the situation here, then you are likely to see the creation of a few temporary bases during exploratory activity. If the lease sale is especially remote, temporary bases can be established before the sale even happens. That has happened in places like Alaska and a few others. Because of the high cost, particularly of transporting materials and men, it is likely that the companies will try to seek available vacant land in ports as close as possible to the offshore tracts. Again leased on a short-term basis.

Other factors influence the sites that they end up choosing, particularly if several alternative sites exist, as is the case in the South Atlantic. Characteristics of the port are fairly important. They want an all year port with ocean access that is easy, about 15 or 20 foot channel, adequate turning area for vessels in an uncongested inner harbor. Commercial fishing ports more often than not end up being the kinds of places that the oil industry seeks for temporary and permanent service bases because they generally have the kinds of services and the kinds of equipment already in place that are also used by the oil industry's boats. Generally, international ports are too big and difficult to deal with and small pleasure boat harbors just don't have the services. So they are generally ruled out.

Twenty-four hours, seven days a week ports are something that is pretty important. These guys work in an atmosphere in which time is money, and they don't want to have to lay around in port for repair on a piece of equipment or vessel while people are sleeping. They would just as soon have, if not a 24 hour repair operation, at least a 24 hour call for repairs, so that they can make a call while they are on the way, get the repairs made as soon as they get into port. A variety of public services which are pretty easy to get in most of the ports in the South Atlantic, electrical services, rail and roads and nearby commercial airport, medical facilities, solid and liquid wasre disposal facilites, etc. Just how many of these temporary bases ends up getting established in a frontier region is difficult to estimate, I am sorry to say. It depends, for the most part, on how may oil companies have successfully bid and how many service companies, private independent companies that provide services to the industry feel that there is a market for those services. However, because land requirements are small, all of the temporary service base activity for a lease-sale like sale 43 could very easily be operated out of a single port. So I don't think you are likely to see a proliferation of small service base activities in the South Atlantic.

The same kind of basic port requirements are also required for a couple of other facilities which come on line just about the same time. These are some of the ancillary support industries that include helicopter operators, food caterers, suppliers of mud, drilling fluids, and equipment, and the repair and maintenance facilities. I think that it is interesting to note that the repair and maintenance side of this early business is not so much a facility as it is an opportunity for local businesses to cash in on the oil and gas business. More often than not, there are welders and repairers and suppliers of a variety of maintenance kinds of services already in the port, and if they are savvy enough and can get the capital quick enough, they can build up and gear up to help service the oil industry. It is a common way and probably the best way for local businesses to make some money out of the exploratory phase.

We can make an estimate of how long this initial period of exploration might take, and of course we have, and of course the EIS's that are produced for any lease sale, like the one that has been produced by BLM for sale "43" make an estimate of how long the exploratory phase might last. If no finds are made, this low level of temporary service bases and repair and maintenance operations and some ancillary industries is going to continue for awhile. It will fluctuate up and down a couple times as the

industry makes some teaser finds, finds that are real but really are not commercial. The establishment of permanent service bases is really the first indication of a step-up in activity when commercial finds are made. The permanent service base provides the same kinds of services as the temporary base provides, except on a considerably larger scale. As with the temporary base, permanent bases can either be established by the oil companies themselves or by specialized service companies. Just as an example, in Scotland some of the operators, the North Sea Developers, sought to build their own facilities. Shell, Total and Amoco opened their own bases while a number of other smaller operators in the North Sea like Mobil and Transworld and Hamilton Brothers ended up contracting with these private service companies. Some savvy businessmen can create a service company, if they move quickly enough and have the right contacts. That was the case in Scotland where there had been no previous experience.

As the development drilling begins, the oil companies are faced with four critical decisions. The first thing that they try to do is determine the number and the type of development and production platforms that they are going to need to produce the oil and gas that they find. Second, they are going to try to determine the transportation strategy, that is whether the amount and the rate of production as well as the distance from shore indicates that it would be better to send the oil by pipeline or by tanker. Third, they will determine the partial processing strategy, that is whether they will separate the oil and gas and water and so forth that is in the well stream out at the platform or onshore at the processing facility. And finally, they will decide where the gas and oil that is produced will be finally processed.

I would like to take a look, now, for a few minutes at what each of these decisions means in terms of the onshore facilities.

Development drilling and production platforms for the South Atlantic will probably be conventional steel platforms not some of the more hybredized concrete structures that have been used with some success in the North Sea with deep water in severe weather. More than likely the platforms will be produced in Louisiana and Texas and towed to the South Atlantic. However, as many of you know, Brown and Root, one of the major platform fabricators, has an option to purchase land in North Hampton County, Virginia, a fairly substantial piece of land, and is negotiating to build a fabrication yard of considerable proportion so that could very well provide platforms for the entire East Coast OCS area. Since a platform yard does not have to be sited in the lease region, one yard can service a number of lease areas as I suggested. But even in the Broen and Root case, if a fabricator does choose to build a new facility in a frontier area, even if he has optioned land on speculation, it's likely that the yard will only be established after they've got a pretty clear indication of whether there is going to be a significant find made, what its size is going to be, how quickly it will be developed and so forth.

Once a platform demand is calculated, the platform fabricator moves to try to figure out how much market capture he can get. This is sort of an areane economic question that we are not really capable of explaining very much or very clearly. What constitutes effective market capture for one fabrication company is going to differ from another fabrication company because of the size of the business, the level of risks they are willing to take, and so forth. I think the question may be somewhat moot in the South Atlantic because I would be surprised if the platforms at least initially were not towed from the existing yards in Louisiana and Texas.

There are number of other considerations, but I am going to suggest that you browse through the Fact Book that I brought as an example and get as many copies within reason that you would like to have. I would rather give you a quick overview of what the facilities are like. Once the jacket is completed at the platfrom fabrication yard, it is towed to the offshore site on a launch barge by tugs and installed. The deck modules that to on top are towed separately and a couple of crane barges are brought out to lift the modules and position them on top of the jacket. Throughout this process which can take anywhere from three to twelve months depending on the weather, service base support is required. These bases are similar to the kinds of temporary bases

I talked about a little while ago. They are generally indistinguishable from other kinds of service operations in the port which seems to be providing most of the logistical support of offshore activities. These kinds of bases require wharfage and waterfront space, warehousing space, repair and maintenance facilities and so forth.

While the factors that influence siting platform fabrication yards is a little confusing, if anything the pipeline decision is even more complex. The impact on other facilities is especially significant. A yes decision on a gas pipeline means a pipe coating business and the establishment of at least one, possibly several, gas processing and treatment plants. And a yes decision for an oil pipeline can mean more pipe coating business obviously, probably some kind of marine terminal for transe shipment and possibly, although not probably, refinery development. The major factors that influence the decision to build marine pipelines include the estimated commercial recoverable oil and gas reserves, their distribution on OCS, the rate of production, distance and routes from the tract to the point of delivery - things like water depth, sea floor topography, capital cost, the value of oil and gas on the market, as well as the operating cost for the pipeline itself. Large volumes of oil and gas at relatively short distances from shore will generally justify the construction of pipelines where they are technically feasible. Most offshore oil in the U.S. and virutally all offshore gas that is commercial has been brought to shore by pipeline. That has been the past history. I think that you will find that EIS for the South Atlantic suggests that if... (end of tape)

...The decision to build the marine pipeline was made. The owner of the pipeline was going to move to a contract for the services of a pipe coating yard. In the pipe coating yard, the steel pipe is prepared for underwater use through the application of concrete and asphalt sealers to do two things, to protect it and, in the case of a fairly substantial size diameter pipe, to help it sink. A pipe coating yard is generally a large facility that sprawls along a water body characterized by a lot of storage space, stacked pipe and so forth, lanes for forklifts and other mobile equipment and several low structures for the coating process. In most cases, the pipe coating yard is sited on waterways that have rail, major highway accesses and can get the supplies in. While no decision to locate the yard is made until after a contract for coating pipe is awarded, the pipe company firm takes its cues from a number of companies that have participated in the lease sale and the amount of money that they have spent. If a large amount of activity is indicated by the lease/sale, the firm is going to purchase options on land at suitable sites. The short period of demand for pipe coating yard activity, however, since it can only last as long as they are laying the pipe and because of the seasonable nature of the pipe coating business - they can only lay pipe in good weather - suggest that the sites that are the most attractive to a pipe coating yard are going to be sites that either already have the intrastructure in place that they need to operate or sites which have obvious reuse possibilities after they finish working. A site close to the pipeline service is preferred. Most existing pipe coating yards are sited at or near the center of oil or gas activities for the particular reason that they are operating there.

There are a number of factors that enter into the decision for siting these things, a distance between the find and existing competition, building of existing yards to meet delivery schedule for the duration of offshore activity. There are a lot of pipe coating yards in the Louisiana area, so the question of whether they can gear up and produce coated pipe and how much the cost of towing that kind of pipe is going to be may affect the site of a new facility in a frontier region. The possibility of competitors siting the yards is another factor. We've got sort of a general fix on what it takes to get a new pipe coating yard sited. Generally, it is something on the order of about five million dollars worth of business that will be enough for one new pipe coating yard. If there is up to, or rather more than 15 million dollars worth of business, then the economy of scale is such, you are likely to see two or more pipe coating yards in the region.

Okay, moving onto gas plants. Gas plants are similar in appearance to, although considerable smaller than, refineries. They are designed to strip impurities and in particular, valuable liquid hydrocarbons from the gas stream, such as butane, ethene, propane and so forth as it comes out of the well. The oil company builds the plant to recover these hydrocarbons before they pass the gas onto the comercial gas transmission companies. There are no standard sizes, you cannont go out and buy them from a catalog and there are no standard designs for gas plants, so projecting what their impacts might be is a little risky. A plant is specifically designed for each gas stream that it produces... Gas plant have historically had a life upon the order of ten or twenty years. Of course, that depends on how long the gas holds out. If a commercially valuable natural gas find is made offshore, the construction of marine pipelines and one or more gas plants is virtually assured. The technology, as I said before, for liquifying gas at the platform is just prohibitively expensive. The decision to build the gas plant is made as soon as the characteristics of the gas supply and the transportation and partial processing strategies have been determined by the industry.

Among some of the factors that influence gas plant siting are the size and the quality of the find. There is no fixed quantity of gas which justifies a production. The quantity considered commercial really depends on the richness of the stream, the price of gas at the time, which explains all the interest in Congress, the cost of development and the production rate. The location of the pipeline land and the commercial transition lines is also going to have an effect on where that gasline is likely to be sited. For a variety of reasons they don't want to build a great deal of pipeline anywhere, whether it is offshore or onshore, so some nice spot about halfway in between land fall and commercial gas transmission line is preferred. It has been the case in the past that they prefer coastal locations for a variety of reasons, not the least of which was safety considerations according to the information that we have. A marine terminal is likely to be established if a major oil plan is made. There are a whole bunch of marine terminals depending on the technology that is used. If a find is made and the rate of recovery is high and the distance to the shore is less than say over a hundred and fifty miles, it is sort of a thumbnail kind of a guide. you are likely to get a terminal. But, as distance increases and/or the rate of production decreases, it becomes more economically attractive to ship the produced oil from the platform to shore by tanker.

Marine terminals can be developed for several purposes.... The lack of refinery capacity suggests that if you do have a substantial find of oil in the South Atlantic, more than likely what you will get is a trans-shipment terminal to store the crude that comes in from offshore and trans-ship it to tankers for processing elsewhere, more than likely, mid-Atlantic refineries. There may be some Caribbean refineries, I am not sure about that. A marine terminal typically includes a number of different kinds of systems, berthing space for the vessels, loading and unloading equipment, storage tanks, terminal control and safety equipment, pollution control equipment, and navigation facilities. A number of factors effect the siting decision for marine terminals and most of them are fairly obvious.

Probably the most important is the location of the oil pipeline land fall, and in the case of a crude oil receiving terminal, the availability of deepwater, on the order of 50 or 60 feet for medium size tankers and more than that for supertankers. There aren't at present any supertanker ports in the U.S., although one, I believe, is scheduled to begin to be developed in the Gulf. With most of the land taken up by storage tanks, the size of the marine terminal obviously depends on the through put from offshore, the number of berths that the terminal needs and the size of frequency of tanker visits. The extra storage needed to provide for loading down time for bad weather is another factor that affects the eventual size of the facility.

The last but certainly not the least of controversial facilities are refineries, and as I suggested before, we are not likely to see, as a result of lease sale 43, refinery development in the South Atlantic. The fact of the matter is there is virtually no correlation between the development of a commercial find and the adjacent OCS area, and the construction siting of a refinery. Refineries have economics that are such that

they have to produce for a long time and they need a dependable source of crude for something on the order of 20, 30, or 40 years. A small or even a large find directly offshore just isn't enough to justify the construction of a new refinery, so that is why I am a little pessimistic about refinery construction.

The production phase begins as soon as the first platform completes its first well. In my mind, it is like the beginning of the end. Certainly there is going to be a great deal of additional new developments, a long period of development, something on the order of 15 or 20 years. The completion of the first well is the beginning of the decline.

In closing, of all the planning that is required at the state and local level, probably OCS planning is the most difficult. What you are asked to do is invest a substantial amount of manpower and staff time and money into considering an activity the timing of which is only hazily known. It seems constantly postponed, at least in the most recent history and the scope of which, as I said before, can only be calculated within fairly broad limits. So, it is a tough situation.

But inspite of all this uncertainty, we've got very clear experience. In several places around the world, the communities and the states that benefit the most from offshore oil and gas developments or hurt the least are the ones that have spent some time, even before exploratory activity begins, trying to gage the timing and the scale of activity, and trying to get institutional arrangements in place to be able to manage that activity effectively.

This was followed by about a 10 to 15 minute period of questions and answers.

Roy Owen: (introducing Phillip Clark, moderator)
Phillip Clark is the Coastal Zone Management Coordinator of the American Petroleum Institute....He has a BA in political science also. His professional background includes State Planning Director for the State of Missouri, Regional Planning Director for the Association of Central Oklahoma Governments, and City Planning Director for Independence, Missouri. Phillip Clark.

Phillip Clark: Thank you. I'd like to caution our speakers that the microphone is pretty directional so the closer you can get to it, the better. We'll try to stick pretty close on time and if we could stick to the 15 minutes per speaker, or shorter, we can hopefully still have time for a question and answer period before the cocktail hour. I personally am with the American Petroleum Institute (API). Our state petroleum council is one of the sponsors of this meeting. It's certainly a pleasure to participate and on behalf of Bill Ross, our state petroleum council director, it's an important function for us to be in.

Rather than go into any kind of overall remarks about this particular panel being a production panel, what I'd like to do is just introduce our first speaker, Bob Knect. Most of you know of him; alot of you know him personally. Basically, he heads the CZM program. He's been a continuum for some years. He's been between administrations and a central and an early policy maker. It's not too many people in the Federal Government who have been privileged to serve as the key top function when a program is first evolved and then to actually see it through. Bob fits the description. There are not very many people in senior positions in the Federal Government that that would apply to. Having served as a mayor of Boulder, Colorado, he certainly can be termed even a successful politician, but he does have a masters in marine sciences from the University of Rhode Island so he is a professional ecologist as well as a good politician and a fine administrator. Bob Knecht.

Robert Knecht; "Federal Role-Coastal Energy Impact Program":

I would like to add my congratulations to those that have been given earlier to the citizens of Charleston and Trident 2000 and the cooperating organizations for having the farsightedness to call this particular meeting at this time. I think the fact that events that have transpired in other places along the shorelines of the nation have often unfortunately involved litigation suggests that this is a much better way to approach the problem. I think there is nothing wrong with meeting at the Court House on certain

issues,..perhaps that has to happen...but, unfortunately, frequently that leads to decisions, but not necessarily solutions to problems. I think it would be far better to try to reach sensible solutions this way than the other alternative of litigation.

Charleston is connected with Coastal Zone Management in many other ways. Charleston, of course, is the home of Senator Ernest Hollings, and Senator Hollings is in many ways the father of Coastal Zone Management nationally. We have Charleston to thank for that as well.

My remarks this afternoon will be aimed at trying to elucidate the relationship between Coastal Zone Management and outer continental shelf oil and gas activities, and, in a sense , kind of provide a setting or context within which my colleague, Joellyn Murphy, will discuss the Coastal Energy Impact program which is a part of the overall Federal Coastal Zone Management effort. Our remarks, mine and Joellyn's, really refer to the entire sequence of pre-lease activities, exploration, development and production; so we are a bit out of order here in the production phase, but nonetheless I hope our remarks will be helpful in that phase as well. I will talk briefly, hopefully leaving a little more time for Joellyn's remarks, which I think are a little more suited to the impact, production phase and to the discussion at hand.

The National Coastal Zone Management program, in a sense, also began here in Charleston four years ago. Dr. Stahr mentioned that earlier this morning. It was four years ago, a half mile down the road in the Hibernian Hall where the first Coastal Zone Management grants were awarded to three coastal states. If my memory serves me right, they were Rhode Island, Maine and Oregon. That was the beginning of a sequence that has led to about 120 additional financial grants to states from the federal office that followed these three. Since that time four years ago, all 30 of the coastal states and four of the five eligible territories have been first planning and moving toward the implementation of the Coastal Management programs. Three states have completed that process and are now receiving financial assistance funds from the office to assist them in administering the management phase of the program, the operational phase. Those are the states of Washington, Oregon and California. Thirteen additional states expect to complete their programs within the next three or four months and submit them for federal review and approval. Thirteen more to join those three. The six states that are most advanced, the next six states, so to speak, are Rhode Island, Wisconsin, Massachusetts, Michigan, North Carolina and Puerto Rico, so the program is just now the overall effort, moving from program development and planning on the one hand, into the act of management phase on the other. Added to those 13 that I have mentioned will be 10 additional states next year that plan to complete their programs and actually move into the implementation phase. That includes, of course, South Carolina.

South Carolina has been receiving grant assistance from the beginning as a part of the federal effort and has received four grants, totaling about 1.3 million dollars in funding assistance. South Carolina has made good progress in its coastal management effort, especially since the passage of the Coastal Management Act in 1977 under the very effective leadership of Senator James Waddell and his staff. We think the Coastal Act is a very significant achievement for the state and the Coastal Council is getting off to a good start with the development of regulations in the beginning of a permitting program and especially in the formulation of the Coastal Management Program which, after it goes back to the legislature and receives its blessing, will form the foundation for the permanent program in South Carolina.

Now, a few words on Coastal Zone Management. What is it and what should be expected in a State Coastal Management program relative to energy activities? What is Coastal Zone Management? It is a process that should lead to more informed and rational decisions regarding the use of the coastal lands and waters. What you should do is to see to it that we obtain optimum public benefits over the long term that we receive from our coastal resources. To do this, it seems that a state program should do three things: One, it should protect the sensitive and valuable natural areas of the shoreline in the

Coastal Zone; two, it should make priority and indeed make provision for and encourage needed water dependent development that has to appear along the shoreline. This is a positive side. Three, it should make sure, largely through the improvement of intergovernmental relationships, that intergovernmental confusion and lack of coordination doesn't make the attainment of the first two objectives impossible. The third objective has to be the improvement of intergovernmental coordination and procedures so that the first two goals, protection of the natural areas and assurance and encouragement of appropriate water dependent uses, can take place. These are the three essential goals, to my way of thinking, to a state Coastal Management Program.

Now, obviously, if there is a prospect of outer continental shelf drilling and production in the ocean areas adjacent to a coastal state, then the state should begin planning for the onshore consequences as a part of its Coastal Management Program. And indeed most of the affected coastal states of the nation are including effective plans for outer continental shelf drilling as a part of their Coastal Management efforts. South Carolina, as a part of its Coastal Management Program, will be looking at pipeline quarters and other onshorequarters and other onshore consequences of offshore activities. The fact that the Coastal Management process is seen as completely consistent with, and indeed an essential part of offshore drilling and production, I think is clear especially from a publication of the American Petroleum Institute issued a couple of weeks ago. They titled this a "Shore for all Purposes" and it's their description of Coastal Zone Management Programs at the federal level and state level and how those programs can help achieve rational planning and rational management of onshore consequences of offshore oil. It is a very positive document, a very helpful document. It is a balanced description of the Coastal Management Program as seen through the eyes of the oil and gas industry and I commend it to your attention and I think copies are available outside.

The Federal Coastal Zone Management Program basically offers three kinds of financial assistance and one other tool that is helpful that you should know about as you consider CZM and OCS. The three kinds of assistance are: one, planning assistance, two, management assistance and three, impact assistance.

First planning assistance--80% financial grants have been available to the coastal states for the past four years and in fact, about 65 million dollars in aid has already been put out. This is about over; there is only about 4 million dollars in next year's budget for this kind of planning assistance for coastal states. In fact, it is the last year that planning assistance is going to be available. The Congress and its timetable, the Office of Management and Budget and providing funds available to the office, has insured in a way that this has got to be the year and part of the next that states move from planning into the actual implementation of management programs because the funding for that part is running out.

Secondly, management assistance. Funds are available to assist states in actually administering management programs once thay are adopted and in place and here again these are 80% federal grants. These grants are now going to the three western states as I mentioned and they are going to be available to 13 additional states this year when those states have their programs federally approved.

The third area, impact aid. This is additional federal financial help which is available through the Coastal Energy Impact Program to states and localities that are impacted by coastal energy activities including outer continental shelf gas and oil. Joellyn Murphy will explain in detail what kinds of assistance are available for what purposes under this phase of the program. To qualify for this, a state has to have a functioning and effective Coastal Management Program, either in the development or the implementation phase. So there is a direct tie between the eligibility for the impact aid and effective Coastal Management Program in place.

And just let me mention as I close, the last tool that is provided by Coastal Zone Management that I think is directly relevant to outer continental shelf activities. And that tool refers to the Federal Consistency Provision of the Federal Coastal Management Act, which says in effect, it guarantees in effect to coastal states, if they take the

time and trouble to develop and then implement a Coastal Management Program for the shorelines that federal actions have to be consistent with the policies of that state Coastal Management Program. The extent that those federal activities affect the state's coastal zone, those federal actions have to be consistent with the state's policies and the state's programs. It goes on to say that no federal license or permit can be issued until the state certifies that that federal license and permit is for an action consistent with the state's Coastal Management Program.

Now the 1976 Amendments to the federal act which were largely energy related made more precise this requirement in terms of outer continental shelf oil and gas activities. In effect, what the amendment said was that before industry can have approval for its exploration or development plan to develop the offshore, they must receive assurance from the coastal state that these plans are consistent with the state's Coastal Management Program. It explicitly requires that the coastal state affected, if they're going to be impacts in the coastal zone, in effect, sign off on the exploration and development of industry in the offshore adjacent to that state. Now, what has to happen in order to insure that this kind of very effective tool is available to the state? It is a potentially important link, I think, a necessary link, between state and local policies with regard to coastal management, on the one hand, and the national interest in exploring and exploiting offshore resources on the other.

First of all, the state has to have its Coastal Management Program federally approved in order for federal consistency to be available. This means that the requirements of the act have to be met in the state's coastal program, including the national interest requirement which means the state has to look at the national interest in the siting of energy facilities and it has to have a program that responds to that through the national interest involved in dealing with the outer continental shelf. It cannot arbitrarily forbid, for example, facilities along its shoreline. It can indeed set up conditions under which those facilities will be sited. It can insure that those facilities do not go into more sensitive coastal areas for example, wet ones, but it can't arbittrarily exclude facilities of that sort. So the national interest has to be built into the state's program in order for it to receive federal approval. So there is a balancing there in order for federal consistency to be available.

Secondly, the state's program must be sufficiently specific in terms of state policies in order for federal consistency determination to be made. Obviously, if the states program is defuse and vague, you would have a hard time arguing the proposed federal action or siting of the facility was inconsistent with the program. So specificity has to be there if, in fact, the state wants to use the federal consistency provision to influence the proposed license and permit connected with offshore drilling.

Third, it seems to me the state's Coastal Management Program and the ones being developed by your Coastal Council will have to have sharp, well defined policies and purposes. These policies have to provide effective guidance to future decision-making with regard to the use of the shoreline. They have to increase predictibility, that is what it is all about. People have to know, to be able to read this policy and know what the state intends with regard to the use or conservation of the shorelines. There has to be some guidance in the policies, indeed the policies should be clear enough so that they affect you, you understand them viscerally. You know whether you like them, or not, in other words. There has been a tendency, I'm afraid, in Coastal Management today to hedge the hard articulation of policy, because it is uncomfortable if you state it too clearly, then you make enemies; or, conversely, you can make friends. But, nonetheless, these policies should be predictable, should increase predictability, should be clear statements of what the state wants to protect and what its policies are going to be with regard to uses of the shoreline, including a siting of energy facilities.

Fourth, the state program has to insure that the processes for achieving these policy goals apply evenly to appropriate local and state government actions if they are to apply to federal actions. It certainly would be unfair for a state to include policies in this coastal program that were only meant to apply to federal actions and indus-

try offshore. The thing has to cut both ways. Those policies have to be applied as well to local and state decisions if the state expects them to apply to federal decisions. So obviously, that is simply an equitable consideration.

It is my firm belief, if a state does this, if the Coastal Council comes with a program in South Carolina that has clear cut policies, has appropriate procedures to see to the achievement of these policies cut evenly, local, state and federal, that it is a comprehensive program duly adopted by the legislature, then I believe Charleston, the state of South Carolina and, indeed the region, as the other states develop the programs, will have a workable, effective process to insure that sensible things happen onshore that are consistant with the state and local desires with regard as to how to use the shoreline and also achieve the national interest of energy self-sufficiency or move us in that direction. Thank you very much.

Phillip Clark:

Our next speaker is Joellyn Murphy of the OCZM office of NOAA.. I think the most interesting way, perhaps, to understand the very significant program that she heads (is that) she is the Director of the Office of Federal Programs for OCZM. In drawing up the original Coastal Energy Impact Program, when OMB, which is certainly the federal program manager, began to draw it up and analyze it and input to it, Joellyn was the key staffer there. As is traditional in Washington, a smart administrator, when he has a chance, often tries to bring in the key people when he implements the program. Bob was able to do this when he brought Joellyn from OMB to OCZM to help administer the Coastal Energy Program. Joellyn has a BA and an MBA from Stanford and I think her program, particularly for the state people here today, the possible monies and so forth, will be a very interesting presentation.

Joellyn Murphy:

I would like to talk a little bit about the Coastal Energy Impact Program today. We all recognize that the expansion of energy supplies to meet increasing domestic needs is placing significant new demands on the lands and waters in our nation's coastal areas. Because these unique areas are already so intensely used because of their unique environmental, recreational, and economic characteristics, competition for the use of coastal resources for new energy development presents us with one of the more complex resource management issues of the decade.

At least three things are extremely clear to us at OCZM about the situation as it faces us now; first, our nation must move ahead with the crucial task of increasing our energy self-sufficiency in a timely manner; secondly, this task must be accomplished with balanced sensitivity to the value of environmental and recreational resources; and thirdly, governments at all levels must assist in achieving the objectives, their responsible, coordinated, predictable and consistent policies for dealing with the private sector and for managing resources. These are three key policy objectives which must be shared by the private sector and the public sector at all levels. Our success in meeting them will depend on how well we together use both the relatively new concept of balancing as well as new ways of doing governmental business.

In this region, lease/sale 43 will present significant new challenges and opportunities for managing the Coastal Zone. The Department of Interior's Environmental Impact statement predicts a wide range of potential activity from the 1.2 million acres that will be offered for sale. Depending on the quantity of oil and gas discoverd, the region's population could increase by 2000 to 22,000 people. Onshore facilities could include at least one onshore support base, one or two terminals, storage areas and processing plants, between one and four pipelines and possible one new oil refinery.

However, the actual level of activity that will take place is unknown at this time. Coastal communities near OCS lease/sales must plan for such impacts even given that type of uncertainty, so that the potential environmental damage can be minimized and the eco-

nomic and population growth can be managed appropriately. They may also have to build new public facilities and provide new or increased public services. The Coastal Energy Impact Program was created to provide financial assistance to coastal communities impacted by energy resource development for such purposes that I just mentioned. It was created at a 1.2 billion dollar total authorization for 10 years, 800 million dollars to be available in the form of credit assistance, loans and guarantees, and 400 million dollars in formula grants. Currently, we have appropriated 220 million dollars in loan authority and $37 million in grant authority. For our 1979 budget, however, there is only 30 million dollar grant money appropriated and a zero funding level for credit assistance.

The CERP provides four types of assistance: planning grants to prepare for the consequences of new or expanded energy activity affecting the coastal zone; second, credit assistance, loans and guarantees to provide public facilities and services on a lead time basis or where other access to the capital markets is otherwise restricted to communities; repayment assistance, these are grants or supplemental loans in our modification of credit terms to meet the loan obligations or debt servicing when expected energy activity does not materialize and therefore revenues have failed to materialize as we originally projected; lastly, recreational and environmental grants to be used for the prevention, reduction or repair of damage or loss to environmental or recreational resources where the cost of such cannot be directly attributed to an identifiable source.

The Southeastern states have already received over seven million dollars of these funds. By that, I mean Georgia, South Carolina, North Carolina, and Florida. This seven million dollars includes six and a half million dollars in credit assistance and over $600,000 in planning grants. All of these funds can be used now for projects related to Lease/sale 43. We expect an additional 2-4 million dollars to be available to this region in fiscal 1979. 2 to 3 million dollars of this would be in the form of formula grants allotted as a direct result of Lease/sale 43. Another $800,000 would be available in planning grants. If credit assistance funds are appropriated for fiscal year 1979 even though they have not been requested in the President's budget, we estimate that about 10% of this appropriation would also be available to the South Atlantic states.

I would like to discuss briefly some of the program philosophy because, in administrating this program, the office of Coastal Zone Management relies on several important principles and objectives which are relatively new to federal program in general. First of all, we believe that those involved in developing energy resources should pay the full cost of development, including the socio-economic and environmental cost that can be attributed directly to that development. Secondly, since new energy activity benefits the entire nation, we believe that its localized fiscal and environmental risks should be shifted from the coastal states and coastal communities to the federal government when they cannot be assumed by the consumers and/or users of the energy produced. Third, coastal states and communities should assume the primary responsibility for planning for and providing public facilities and public services, financing them from the increased revenue base created by newer expanded energy activities. The federal role, therefore, should be complimentary in nature. The fourth principle that we are strongly committed to is that federal impact assistance should be provided in a manner that acts as an incentive to federal agencies, states, communities and industry to work together to develop mechanisms to assure that sufficient funds reach the point of need and the time of need. The fifth principle that we believe in is that the Federal Impact Assistance should not operate as an incentive to locate energy facilities in the coastal zone which could otherwise be located inland and it should not encourage unnecessary growth in the coastal zone. We also believe that an assistance program should be as simple to administer as possible with maximum discretion and control retained by the state and local governments. We have a very small staff to administer this program because we rely very heavily on the decision-making at the state and local level as far as who should be... (tape ends)

...Who is elegible for assistance under the CEIP? Since the program was intended

to work in harmony with State Coastal Resource Management Programs, the act required that, to be eligible for assistance, the state must be either an active participant in the coastal management program or be undertaking a management process on its own, which is consistent with the objectives of the act. Communities in any coastal county in a state which is participating in coastal zone are eligible for CEIP assistance.

Now, what is required of each eligible state? Each state itself is responsible for allocating, according to need, its allotment from the federal government among state agencies and local government. To accomplish this in an equitable and efficient manner, each state must formulate an intra-state allocation process which is reviewed for approval by OCZM. The state itself is also responsible for coordinating and submitting all applications to us from within the state.

Let me discuss briefly some of the current projects that we have funded and that we expect to fund in the near future, to give you some sort of an idea of how these funds can be used. We have recently granted $600,000 for environmental and fiscal planning to the states of California and Alaska and another quarter million for planning in some other states. 10.6 million dollars loan for a hospital;1.2 million dollar grant for some hospital equipemnt; $800,000 for a water supply project; 1.3 million dollars for a water siphon project to rejuvenate a fresh water marsh that had salt water intrusion problems; and $300,000 for a force draining project. We expect to award, in the near future, about a 2.5 million dollar raw water intake from the Mississippi for the city of New Orleans and a couple of park projects and there is a multi-million dollar port improvement project on the horizon. Now we are developing a pipeline. We have only been operational about six months and we have some road projects, some water and drainage projects, sewers, port projects to relieve traffic congestion and reduce the potential for collision and therefore oil spill in some areas, fish hatcheries in Alaska, hurricane and flood protection projects also in Louisiana. Now that should give you a little bit of flavor for what kind of projects we fund. The full range of public facilities and services are eligible under this program with one exception; we have excluded professional sports stadiums. Everything else is eligible.

We also have probably the broadest definition of planning activities of any federal government program.

Let me close by mentioning the OCS Land Act. This has passed both Senate and House and will go to conference very shortly. The OCS Land Act's amendments contain amendments to the Coastal Zone Management Act which do two primary things; first, they make some changes to the program structure which will increase our program flexibility; and secondly, they raise the funding level if the formula grants from 50 million dollars a year to either $75 million a year on the Senate side or $200 million a year on the House side. So, according to the rules of conference, the new figure for our program will be somewhere between 75 and 200 million dollars a year. That's just an authorization; that's not an appropriation level, but we expect that the monies for the formula grant will be increasing over the years as the OCS activities increase.

Phillip Clark:

Thank you, Joellyn. Our next speaker is O.J. Shirley with the Shell Oil Company out of New Orleans. Although O.J.'s title is Manager of Safety and Environmental Conservation for the Southern Region, we have always kidded him a little that the Southern Region, as defined by Shell, is running from Texas to Maine. So his is a broad swath ot responsibility. I've worked with O. J. for sometime and I think one of the most intersting things to be said about him is time and time again, when you're meeting with people, even in little hamlets, they'll come up to you and say, "yes, I know somebody from your industry. We don't have any oil people but I know O.J. Shirley." So this man has traveled extensively. I would have to credit him with being an indiviual who has tried very, very hard to bring a balanced approach from our industry to the challenge of Coastal Zone Management. Obviously there has been reticence on the part of the industry to accept it or perhaps the validity of its public purpose and O. J. has had

a tough job. I think we have to admire someone who has taken it on and made a success out of it. O. J. holds a coveted degree in Petroleum Engineering from the University of Oklahoma and will be making remarks today on the production phase of our business, some of which has been touched on a little bit by the previous commentators but O. J. will go into that in some detail.

O. J. Shirley, "Industrial Facilities - Needs and Forcasts - Lease/Sale #43:"
(slide presentation)

Thank you, Phill, for the kind words. It is a pleasure for me to be back in Charleston. I want to compliment the folks who arranged this conference. I think it's an excellent conference. I particularly want to compliment you on arranging a nice day though. It's beautiful outside.

What I had hoped to discuss with you today, Gordon Frey and others have talked about, various facets of the operation that will occur offshore and what the potential impact will be onshore from that particular operation.

We have some slides from some of the support bases and a number of different activities that will impact onshore. First, I might say very briefly, there are probably four questions that concern people when they think the oil industry is moving off their coast.

One, perhaps, what is the justification for the activity? I think that has been covered, but as most of you know, we are using about 18 million barrels of oil a day here in the U. S. and at the present time we are importing about 50% of it, so we do need to increase our domestic supply. The Geological Survey estimates that there may be from 2 to 4 billion barrels of oil and 5 to 14 trillion cubic feet of gas in the Atlantic offshore. That is in all phases, all areas, but in my company we believe that you really can't predict accurately what amount of oil and gas is going to be located in any specific area and it is best to explore them all because, as Gordon Frey pointed out earlier, in the Big Bay Marchand Field, twelve dry holes were drilled before the 13th well hit. We do feel that 60% of the future oil and something like 35% of future gas supplies will come from the offshore areas. So it is an area of interest to us in helping us to resolve our energy problem. What we find offshore will not resolve the total problem, but it will help.

There are four areas of primary interest on the East coast. Up in the north, the Georges Bank, then the Baltimore Canyon and the area most concerned by you and the area where the lease/sale is to be held March 28 barring any legal action, is the Southeast Georgia Embayment and then later on there will likely be a sale in the Lake Plateau which is in much deeper water. Now, what kind of activities will occur or have occured? We have already talked about seismic activity, This is a picture of the Shell seismic vessel Phaedra, which is worked up and down the East coast. This activity occurs for some period of time before lease/sale. The industry started collecting seismic information in the Atlantic in 1967. We have actually been out there operating for about 10 years. This is quite a large vessel. As you can see, it's about 180 foot class vessel and as Dr. St. Amant said, it does have roughly a two mile tow behind it of sensitive instruments and cable.

The next phase, once we have done the seismic work, is to do the exploratory drilling work. This is a shot of a semi-submersible drilling rig. This activity will not occur, of course, until there has been a lease/sale and until we have obtained all of the permits. Looking at the South Atlantic area and particularly if the lease/sale comes off March 28 as scheduled, one would anticipate something like 6 to 9 months before all the necessary permits can be obtained. If there were no legal actions or other obstructions, one would then expect sometime around the first part of 1979, maybe in the first quarter of 1979, such a rig as this might be moved off the South Atlantic shore.

Now, to support the seismic operation, there is really hardly anything required because the vessel comes in perhaps every two weeks. It does have to take on supplies, but it works 24 hours a day so it needs about the same kind of support that any other

vessel would require and the benefits, both positive and negative, to the community are very small. The most positive benefit would be from supplies the vessel might need or repairs, groceries for the crew, that sort of thing.

When we get in the drilling phase, we do need a support base. This is a shot of the support base that was used - I think Dr. Frey described this particular base - to support some of the drilling in a MAFLA area. It employed 32 people. Shell operated out of this base as did petroleum helicopters and another couple of supply companies. It is not a big deal. You can get an idea of what's needed. We need space for the boat, we need space for the storing of pipe and various kinds of supplies. We also need a place for the helicopters to land. The size of this area was slightly less than 10 acres. So that's the kind of facility you would need during exploratory drilling.

The industry has pretty well chosen Davisville, Rhode Island, as the site from which to operate for the exploration of both the Baltimore Canyon in the mid-Atlantic and the Georges Bank. Hopefully, if there is ever a sale in the North Atlantic, we'd operate out of the Quonset Naval Base. It is ideally suited for our needs; there is plenty of deep water around the warehousing, lots of space. This is the type of operation that is ideal, not only for the exploration phase, but also very useful in the later production phases, except for the fact that it is a long way from the action. It is a long boat ride from this base to operation in the mid-Atlantic or north Atlantic and it would be desirable over the long term to have a base nearer to operation. Primary activity again that would be evident at these bases would be helicopter transporting of people. We move all the equipment, all of our people and light supplies that are needed in a hurry by helicopter. If any of you have ever tried to ride a boat 50 miles offshore in about 15 or 16 foot waves and still get off and work, you can understand why we chose helicopters. It is a lot quicker and people are in better shape when they get there.

This is a work boat that would be used to support the rigs. Most drilling rigs will have two work boats like this. This is a 180 - 200 foot class vessel. It serves many purposes. It brings supplies to the rig and it also, on a semi-submersible rig as I showed you, serves as an anchor mover. Each of the rigs have large anchors that have to be moved whenever the rig moves from one location to the other.

So, during exploratory drilling, again, what we need is a support base (we have a relatively small area) at which we will have boat traffic, helicopter traffic, people coming to and from and supplies brought into that base.

In development we get into something else. We really should look at the time frame that is involved. From the time that a discovery is made until we could get a platform installed would be on an average of 3½ or 4 years, counting construction time and actual installation. Once that platform is installed on what we consider a significant find, the first order of business is to put a drilling rig on it and drill wells that will actually produce oil and gas.

This is a shot of the Venice terminal. The Venice terminal houses quite a large number of company operations that operate in the Gulf of Mexico. It serves about half of the Gulf of Mexico operation. It looks a lot like the Davisville operation except for the vehicles about. It is a very attractive area.

There is another base in Louisiana similar to this in Morgan City. This base and one like it serves all of the Gulf of Mexico operations.

Having drilled the wells, we then remove the drilling rig and install the production equipment on the same platform, so the platform serves as a base of drilling operations and production operation.

Well, here we are offshore in the production mode. We need one more thing though, even having drilled the wells and in shape to produce, we need some means of transportation. This is a pipeline laying barge that is used to install pipelines. In the Gulf, about 99% of all production comes ashore by pipeline and of course 100% of gas production.

Pipelines are of considerable concern, I have found in working various places and giving talks at various places. Pipelines raise a lot of questions by people. They are particularly concerned about them coming across beach areas, marsh areas, etc. Pipelines do cause a temporary disruption of the surface, but once they are installed, they

become essentially invisible. This is not true in marsh area where sometimes it is necessary to dredge a canal in order to lay the line.

We will also need, during the production phase, various types of onshore facilities. This is a small gas processing plant. It would be possible to process perhaps most of the gas that woudl be found in the South Atlantic through one plant. Shell operates a plant in Louisiana that processes over a billion cubic feet of gas a day, but it is likely that 2 or 3 plants would be necessary.

We also need on the oil pipelines pumpstations. Perhaps, if the oil pipeline comes ashore, it would be necessary to boost the pressure to get the oil to its final destination.

Most of the service work for the oil industry is done by what we call service companies of companies that do specialty work for us. There would be a large number of specialty companies, some local and some that woud have such a specialty that they would have to bring their own people in....

So, in summary, for the production phase and development phase as far as the coastal zone is concerned, let's look at what the impacts are going to be. We do have to have access to waterfront for the drilling operation. The drilling, the supply bases have to be on the waterfront. Pipelines must cross the shoreline someplace. Gas processing plants do not need to be in the coastal area. Pump stations do not need to be in the coastal area. In general they can be back away from the coastal area. Our people that would be employed, an again this would be very speculative as to how many would be employed, it would depend on the amount of oil that is found, but the Woodward-Clyde study which was made for the total mid-Atlantic estimated the total number of jobs around 28,000 for a 6 billion barrel find. Now that is larger than the USGS estimates for the total Atlantic. Nonetheless, that is not a large number of people when you consider the number of people that live up and down the Atlantic Coast. In the long haul, 3 out of every 4 jobs would go to local people. We would import managers and some technical people but we would prefer to have people work for us who live in this area or along whatever area we are developing because those people are going to be more content to live there than if we bring somebody from Louisiana or elsewhere. So, the only impacts that you see will be fundamentally the supporting activity for the drilling rigs. Those are the only activities that need to occur in a coastal zone. The other activities need not.

There are other concerns that I want to talk about very briefly. This is East Texas in the late 1930's. A lot of people are concerned that you are going to see oil derricks off your coast. Well that is not possible, because most of our operations will be so far out that you can't see them. Also, I want to say something about the refinery question. It is inferred that refineries are associated with offshore oil. I would like to say, as clearly as I can, that they are not. A refinery decision is based on a need for a product, and it may indeed process offshore oil, but it is a separate decision. If we were to find a large offshore field today, we would simply back out some of the roughly 8 million barrels a day that is being imported and refine that in the domestic refineries that we have now. There is no need to build a new refinery. I Think those two issues are often interrelated, but I would like to say as clearly as I can that they are not related. They are entirely separate decisions. A marketing decision on the one hand and on the other, simply searching for crude oil.

That sums up my presentation. In very quick summary, I think that there is more apprehension about onshore impacts from offshore drillings than is justified. Those who want a lot of jobs are disappointed to learn that there are not going to be that many jobs. At the same time those who are concerned about the environment should be relieved that there is not going to be that much activity. It is a good exercise for planning and I think that through the Coastal Zone Management Program that the states do have an opportunity to get federal monies to help plan for such impacts as they are and I certainly would encourage you to make use of that program. Thank you very much.

Phillip Clark:

The next speaker is Phillip Marcus who is the environmental planner with the RALI Program of the Department of the Interior. The RALI Program will be administering the OCS public information program. He has degrees from the University of Wisconsin in ecology and environmental planning. He was closely associated with the RALI study. You had an earlier presentation on the New England River Basin Commission Study, but here today particularly he would like to talk to you about the new OCS oil and gas information program regulations that just recently came out in the Federal Register. It is an important new development and is certainly keyed in with the kinds of work he experienced with the NERBC Study and closely keys in with the kind of program that O. J. Shirley described.

Phillip Marcus, "Community Impacts:"

I would like to bring to your attention today a new rule to the OCS Lands Act which is intended to provide the affected states with the best possible information on the course of OCS development. On January 27 of this year, what is called 30CFR252 appeared in the Federal Register which ordered the Director of the Geological Survey to establish an OCS oil and gas information program, Now, this program has two major functions: First, to prepare what is called a summary report to affected states which is to include current information on oil and gas estimates in production, the timing of offshore and near shore facilities; second, the rule states that an index is to be prepared which is to list all relevant programs, plans, reports, environmental impact statements, and other OCS related information. Now, when you read these new rules, it seems that their intent is to provide planning assistance to states and local governments concerned about OCS issues and to provide a single Department of Interior focal point from which certain OCS information can be disseminated. The planning assistance does not simply have to be the dissemination of existing data, but it can, rather, entail significant analysis of the timing and magnitude of anticipated development.

The summary report, which I'll describe more fully in a moment, is a planning tool which will be a vehicle for a continuing process of information exchange between federal government, industry, and the states and localities. It will be different from the Environmental Impact Statement which comes out perhaps once for a lease/sale, in that the summary report will be up-dated as new information becomes available and upon direct request of affected states and localities. The format and content of the report, as specified by the rules, is quite open and, in fact, will be decided upon by direct consultation between the Geological Survey and the affected states.

The content of the summary report will vary from state to state as state concerns and expertise vary. In other words, they won't be a carbon copy derived form uniform formula. Rather, the report is intended to be responsive to the planning needs of the states on OCS development. Now, the Geological Survey, through its RALI Program, which is a non-regulatory aspect program within the Geological Survey, has developed a capability to provide the information which the summary report is calling for. We developed this capability in association with our project with the New England River Basins Commission which Bill Nothdurft described to you earlier.

This project, which was well received by the states and locals, included a couple of products. One is the Fact Book which describes the siting requirements, characteristics and impacts of the more that 15 or so onshore facilities related to offshore development, a planning methodology which would enable a state of local planner to estimate the timeing and magnitude of offshore activities, to go on to identify the types and numbers of onshore facilities required by the offshore development and finally to evaluate alternative facility sites and impacts. In addition, we performed estimates for New England which tested out the complication scenarios for the New England region. We also tested some of the additional material for the planning procedure, the planning methodology with the states of Massachusetts and Maine on a couple of onshore facilities. I think you'll see how closely the information and techniques already developed through

our project with the River Basins project parallels the requirements of the new rules.

Finally, RALI, in association with the Environmental Protection Agency, the New England River Basins Commission, and the ASPO (American Society of Planning Officials) is conducting a series of training workshops specifically designed to provide sound technical information on OCS development and its impacts to coastal state planners and officials and local planners....

Let me now go into greater depth of the purpose and projected content of the information program and summary reports. The purpose is to supplement the information provided by industry to the Geological Survey specified in Rule 250, as Mr. Brown mentioned earlier today. Rule 250 calls for the industry to prepare exploration and development plans and an environmental report prior to initiating activities on the outer continental shelf. In turn, this information will be made available to the affected states and localities. Now, Rule 252 calls for the submission to the Geological Survey of all data and Information obtained or developed as a result of any exploration, development, or production activities. After the analysis, interpretation, and compilation of this data, the Director of the Geological Survey will make a summary report available to the affected states and localities. The summary report is designed to assist states and localities in planning for near-shore and onshore impacts of OCS development. The report is to include the following: first, estimates of oil and gas reserves together with projected rates and volumes of oil and gas to be produced from leased areas and estimates of oil and gas reserves that might be leased; second, approximate projection of the magnitude and timing of the development, if and when oil and gas is discovered; third, methods of transportation to be used by industry, including pipelines and approximate locations of routes; and finally, the general location and nature of near-shore and onshore facilities.

The rule also states, "The director shall consult with affected states and other interested parties to define the nature, scope, content and timing of the summary report." In other words, the states have to participate in the design of their summary report. This, it appears to us, is a key point which seems to imply that the information program is a program of OCS planning or technical assistance. If the scope, content and format of the summary report is to be negotiated with each affected state, then it follows that these reports may vary widely from state to state depending on specific state needs, capability and desires. Planning assistance, to be effective, has to meet the needs of the affected states and therefore will have to be flexible. For example, the Geological Survey may provide direct technical assistance to one state developing products perhaps similar to the ones we developed in New England or it may merely provide data to another state which already has substantial analytical capabilities. Now the rule states that the information program is to establish a process of information exchange, for the director to distribute updates when conditions change or new facts occur.

We are not talking about a one shot affair. It is the purpose of the program to comply with the Freedom of Information Act to the maximum extent. However, as you are aware, some of the geologic and geophysical seismic data is proprietary and specifically exempted from the Freedom of Information Act and the rule states, 252, that the director is not to make this exempt data available to the public. On the other hand, it is recognized that the states and localities should receive as much information as is legally possible in the most timely fashion practical. Some procedure will have to be developed in association with the states and with industry to aggregate or summarize this proprietary data by blocks of lease tracks or to otherwise interpret it so as to strike a balance between the legitimate proprietary rights of lessees and the rights of the affected states to the information, to as much information as possible, to support their planning.

In summary, I have described the new program which we feel can meet many of the states and localities real information requirements. The program is specifically designed to be flexible and will be amended as our experience deepens. At this point a number of uncertainties remain that can only be resolved by extensive coordination with the interested parties, particularly industry, the Bureau of Land Management and the affected states and localities. The budget and manpower requirements have not been set

and in fact we can't fully know what they should be until we get a feeling for the state view and their expectations from this program.

A number of questions are unanswered at this point. Some of them might be: how often should the summary reports be produced; how often should they be updated; at what point in the leasing and developing process should they appear; what information do the individual states need to derive their own planning process, how will this program be coordinated with the other OCS related programs within Interior? I'm talking about the BLM information program, the enviromental impact statement process, the OCS clearing house in the Secretary's office which is about to start. Further, how will it be coordinated with the Coastal Energy Impact Program? At this point it seems we have gone from a period a number of years ago when perhaps very little information was forthcoming from the federal government on the onshore impact of offshore development to a point where it is rather necessary for the different federal agencies to coordinate their own data and figures going out to states to make sure they are at least consistent. In summary we hope that this program can provide the information that the states and localities require to do the front end planning that is so necessary to deal with OCS development and we will welcome your comments and suggestions as we move ahead. Thank you.

Phillip Clark:

For a number of years there was a lot of criticism that the "Feds" didn't have their act together, but I think you have been privileged to hear today a number of presentations which certainly begin to fold in together with the 307 Federal Consistency Measures of the CZM Coastal Zone Energy Impact Program. Earlier today you heard a presentation on Rule 250 out of BLM and now 252 out of GS. Coupled with the new BLM coordinated transportation planning process, it has been hypothecated that for the first time an overall mechanism involving many, many bureaus and departments relating with both the states and even localities within the states and with various federal bureaus and departments is now evolving. I suspect maybe a year from now at a conference like this it will be interesting to take a synopsis or a synthesis of where we are once all these mechanisms come into play.

The last speaker on this panel probably has one of the most interesting topics and that is the oil spill question. We have Dr. Paul Lefcort here who is with the EPA. He is with the Environmental Research Laboratories in Narroganset, Rhode Island, and his current assignment is EPA national coordinator for ecological damage assessment of spills of oil or hazardous substances. He has a Ph. D. from Rutgers and I think of all of the flash topics that come up at public meetings, certainly the spill question has to be one of the most discussed ones. This may be our last presentation but I feel it may be the most interesting.

Dr. Paul Lefort: (slide presentation)

Thank you, Phil. The question of oil spills is certainly the most obvious consideration that comes to mind when we think about development of the outer continental shelf. A study done by Devaney and Stuart at MIT for the Council on Environmental Equality a few years back showed that the probability based on statistics for the Gulf of Mexico of a major spill is about 1-2 spills over the life of the field. A major spill is defined by EPA as greater than 100,000 gallons. My own interest in oil pollution problems really got started, besides the research interests, about a year ago with the Argo Merchant oil spill. The Argo Merchant oil spill off of Nantucket which spilled 7.5 million gallons of Number 6 oil into the ocean did cause an enormous uproar in New England and in the federal government with a large amount of activity to develop new legislation with efforts to develop programs for prevention of spills. It was perhaps not understood that the federal government has had a program for prevention and for control clean-up of spills for quite sometime, in fact, since shortly after the Tory Canyon, another major disaster.

My purpose here today is not to show you a number of slides of oil ducts or large slicks at sea or for that matter to discuss the ecological implications of major or small spills. I'm trying to describe what the federal government's program is and where we are going with this program and it takes its authority from the FWPCA of 1972, something called Section 311, and the regulation, the National Law Hazardous Substance Pollution Contingency Plan based on the law.

Here are the highlights and a sort of read-a-long presentation. The law prohibits the discharge of harmful quantities of oil and hazardous substances--harmful is defined by the EPA--; requires notification of a discharge; authorizes the President to remove or arrange for the removal of an oil spill; requires the promulgation of the National Contingency Plan to describe the various steps necessary for clean up in an effective way; and establishes liability limits for vessels, onshore facilities and offshore facilities. In addition, it establishes methods for removal of oil; it provides regulation for inspections of vessels carrying oil and hazardous substances cargos; it establishes criteria for development and implementation of lacal and regional contingency plans for spill removal, procedures and methods for preventing discharges and authorizing the establishment of a revolving fund to pay the cost of oil and hazardous substance removal in those cases where the spiller does not take the action and the Coast Guard or the EPA has to take the action. That fund is presently at 13 million dollars.

The regulation describes the different responsibilities of the different federal agencies. There are five primary agencies involved in this program: the Department of Transportation, that is the United States Coast Guard; Department of Interior; Department of Defense, namely the Corps of Engineers; the EPA; the Department of Commerce, mainly through NOAA and the National Weather Service. There are a number of advisory agencies such as the Department of Justice and Department of State. Now, one thing that the regulations recognize is that in attacking clean-up operations of a spill this essentially becomes a military type of operation. There is one person who is essentilally the general who is called the on-scene coordinator who has all the authority necessary to clean-up the oil as effectively as possible. He can call upon any resources that he he needs.

Here is just a little more detail of the roles of the various agencies under the National Contingency Plan. The Department of Transportation provides the on-scene coordinator for spills located in the coastal zones. EPA provides on-scene coordinator for spills originating in freshwater areas other than the Great Lakes.

One of the responsibilities of EPA is assessment of damages which is a subject that intrigues me. In the Argo Merchant spill with 7.5 million gallons of oil on the water with a total area at some points of over 8,000 square miles covered to some extent by an oil slick, there was an obvious question for the fishermen in New England, and everyone else for that matter, what was the damage?

The federal government spent over 1 million dollars in studies, using 40 different organizations, hundreds of scientists in the field. The result was, as most scientists. I am afraid, tend to say, that there is insufficient information to make a decision. The general opinion of the scientist, which is not his strongest feeling, but he would say that it appeared as if there was little or minimal impact. The fact of the matter was that it was a very fortunate occassion with only two species of commercial fish, at the time spawning, cod and pollock, the concentration of eggs in the water was quite low at that time of the year. We were very fortunate to have strong Northwest winds blowing. If you remember, it was a very cold time of the year about a year ago. The continuous Northwest winds blew the oil out to sea, but frankly the slick was staggering in its dimensions. There was enough oil in that slick to do definite and very drastic damage to over 5000 miles of coastline if the oil could be so nicely distributed across so much coastline which, of course, wouldn't be possible. To give you an idea of the size of that particular spill and the fact that there was very little damage was very, very fortunate.

This is an organization of the National Contingency Plan showing various agencies, states, secondary agencies functioning through something called the NRT which is the National Response Team which is a policy level committee which provides overall management of the program. That feeds into the RRT which is the Regional Response Team which exists by EPA and Coast Guard districts which provide advice and assistance to the OSC, the person who is assigned the responsibility for cleanup, the on scene coordinator. He can draw on resources from all the agencies, from on scene forces, from other resources and special forces such as the Coast Guard facility at Morehead City which provides equipment and personnel to fly out to a major oil spill and attack it.

After the Argo Merchant oil spill there were many unhappy people. But the state of readiness of the federal government to mount a major science program to study the effects of the spill, to answer the questions that certainly people living in the coastal zone and especially the fishermen wanted to know how bad was the damage? Well since that time, we have attempted to come up with a national program to study ecological damage of spills of oil or hazardous substances. We have three goals. One is to provide scientific advice to the on-scene coordinator during any major spill incident; the other is to up-grade our capability for performing damage assessments; and the third is to capitalize on spills using them as spills of opportunity to learn more about them.

The conclusions of the inter-agency task force that was formulated to address the problem of ecological damage assessment is not surprising; that there is a great capability across the country but there is very little organization presently available to tap the expertise that is available; that we must organize our efforts for future spills; and that we need to do quite a bit more research if we are going to answer many of the questions that everyone asks.

The task force did, in fact, write its report which was accepted by NRT, the National Response Team. There is now a national coordinator, there is development of local groups or local coordinators to coordinate the local expertise that exists in marine science institutes, state agencies, federal agencies and to organize this into regional contingency plans that are part of the contingency plan for spill clean-up. We achieve this by holding regional workshops, bringing in research scientists, field scientists, state agency scientists who assist us in putting together a program to respond to spills and to determine ecological damage from them. We have had two workshops so far. The first one was in Hartford, Connecticut back in August of 1977 for the New England region. The second was in Anchorage, Alaska back in November to organize Alaska because of the potential for major spills in that state. Our third workshop will be in Tampa, Florida on April 3-5 of this year for the Gulf of Mexico. After that we will have additional workshops. Hopefully, by the end of 1978 we will have a national program and will be able to respond to major spills, perform the studies that are necessary, write the reports, and answer the questions people do ask. Thank you very much.

Phillip Clark: Roy, do you have any announcements to make? That ends our production panel but Roy Owen is coming up. He may well have something about the rest of the session.

Roy Owen: Just to reiterate a couple of places and times. Cash bar will be at 6 o'clock at Downtown Holiday Inn, corner of Meeting and Calhoun Streets. If you need more directions on how to get there, then catch one of us right after this. Dinner will be at 7 o'clock. We reconvene tomorrow morning here at 9 o'clock. We'll begin with an address by Frank Gregg, the newly confirmed Director of the Bureau of Land Management and we'll follow with an excellent film, "Offshore/Onshore", which deals more than anyone has discussed so far with the social and cultural impacts of coastal communities as well as with the economic impacts. So, we'll see you later.

Leo M. Krulitz: It is a pleasure to be with you tonight. I want to talk about the Administration's new policy with regard to OCS oil and gas leasing which has been developed during the past year.

I have looked at your conference program and it is excellent. You are covering the

details -- the nuts and bolts -- of the OCS leasing process very thoroughly.

I won't duplicate that tonight. Instead, I would like to describe for you how the Interior Department's OCS policy was developed, balancing environmental concerns against the need for more production.

I will also try to explain what this OCS policy is today, a month before the sale which is of primary concern to you here at this conference -- Sale 43 in the Southeast Georgia Embayment.

The Georgia Embayment sale was not scheduled by some random process. We did not stick one pin in a map, another in a calendar and come up with "March 28, Sale 43." That sale on that date is the result of a complete review of the Department's OCS program and a carefully thought-out schedule.

The solid OCS program which exists today at Interior is one of the most important accomplishments by Secretary Andrus during his first year in office.

The U. S. began producing offshore oil and gas 25 years ago in the Gulf of Mexico. But the present OCS leasing program is far more than a natural progression from those first wells. Along the way, it has been shaped substantially by things never even contemplated in 1953. For example: The National Environmental Policy Act which radically changed the way the federal government conducts most of its work and the way citizens participate in that activity. More recently, the OPEC oil embargo of five years ago had a major impact on the leasing program. The current OCS program has been further shaped by what we have done -- or failed to do -- since then.

The context is important. It can be summed up very quickly:

-The embargo told us we were relying heavily and dangerously on cheapforeign oil.

-It told us that foreign oil suddenly was neither cheap nor reliable.

-The embargo emphasized the fact that our domestic oil and gas production was dwindling and that our energy budget was badly out of balance.

Five years after the embargo, the situationis much the same. But there is one criticle difference: Instead of cutting oil imports, we've doubled them.

In the panic following the 1973 embargo, the prior Administration pinned its hopes on Project Independence. The goal was national energy self-sufficiency by 1985--appealing but impossible.

The push was on to develop domestic energy supplies and the OCS loomed large in those plans. That was only natural. The OCS is a tremendous resource. But the goals set for leasing, exploring and producing oil and gas from the OCS couldn't possibly be achieved. Just before leaving office, the previous administration published a highly-optimistic schedule for federal lease sales.

We concluded the Department simply did not have the capability of meeting that schedule

When Secretary Andrus took office in January of 1977, he encountered two critical energy problems:

1. One of the worst winters in history has strained natural gas supplies. Shortages were serious and growing worse in the Midwest.
2. The OCS program he inherited was beset with problems. State and local governments in the frontier areas--those with no previous OCS leasing--were bitterly opposed to federal plans. They had succeeded in getting a federal judge to declare Sale 40 in the Baltimore Canyon void. They demanded environmental protection for their fisheries and coastlines and participation in the lease planning process.

In addition, many people believed that the natural gas shortage was contrived--the result of deliberate withholding of supplies from the market by the oil companies.

The Secretary first tackled the pressing problem of natural gas shortages. His first step was to send consultants to the Gulf of Mexico to learn whether more production could be achieved from OCS gas fields. This team recommended a broader study.

The Department contracted with the National Academy of Sciences to investigate six fields in the Gulf where increased production seemed feasible. The first report filed was in Tiger Shoal, a field leased by Texaco. It indicated that additional gas could be produced, especially from some producible but undeveloped gas reservoirs.

The Secretary directed Texaco to report to him what it planned to do to increase production. Reports on two other fields studied so for, indicate there is no feasible way to boost gas production without jeopardizing future supply.

At the same time, Secretary Andrus set up a task force to review all applications for extensions of non-producing leases beyond their original five-year terms. None would be granted without his personal approval.

It is, of course, difficult to know exactly what impact these steps had on natural gas production from the Gulf of Mexico. But this we do know: for the quarter ending in November, gas production from the Gulf was up by 1.5 billion cubic feet over the corresponding quarter a year earlier. We also know that the pattern in past years has been one of gradual but steady decline in production.

I think it is safe to say that the Secretary's firm position led to an understanding with the industry. A working relationship emerged which encouraged companies producing in the Gulf to develop those resources diligently, as the national need required. At the same time, the Secretary made it clear to the industry that he did not intend to jeopardize the long-range productivity of those fields just to achieve short-lived, immediate gains.

Next, the Secretary turned his attention to the broader problem of OCS development. The Federal OCS now contributes about 12% of our total oil production and 18% of gas production. Those numbers would have to be increased. And they could be. Only about five per cent of the 186 million acres of OCS off the Lower 48 states is under lease. Most of that is in the Gulf of Mexico.

The potential is enormous. But the potential is matched--if not dwarfed-- by the problems.

Several things were obvious:

--First, a realistic schedule--one the Department could physically achieve--had to be developed.

--Second, strict adherence to that schedule was essential:

--Essential to planning by the industry which would have billions of dollars at stake.

--Essential to the states and communities planning for the onshore impacts of offshore development;

--Essential to the Department which is charged with Administering those offshore lands.

--Third, the states would have to have full opportunity to participate in the planning of lease sales. The Department and the OCS program could benefit immensely from the states' first-hand knowledge of the areas under consideration. That participation would only be possible with adequate advance notice through a sound schedule, rigorously observed.

Before going any further, Secretary Andrus postponed a sale already scheduled by his predecessor for Alaska's Lower Cook Inlet. The sale was to have been held only a month after the Secretary took office. He needed more time to examine the studies, comments and options on which the proposed sale was based. The precautions taken with the

Cook Inlet sale set the pattern that Secretary Andrus would insist upon for all subsequent sales.

By May, the Department had drafted an OCS lease sale schedule for 1977 and 1978. In August, the Secretary announced a comprehensive planning schedule for lease sales through 1981, with the final revisions for 1977 and 1978.

Between May and August, we worked closely with the affected coastal states. We considered--and often incorporated--comments from them, from local governments, from industry, from environmental groups and others.

We took into account additional environmental safeguards we planned to adopt administratively or which could be included in legislation to amend the OCS Lands Act of 1953.

The schedule we announced in August includes these features:

--It allows ample time for states to review notices of proposed sales;

--It avoids back-to-back sales in frontier areas, allowing three years between such sales--time enough for feedback on work from the first sale be used in planning the next.

The schedule has shown itself to be workable. We can meet it. We have met it to date. We can meet it without sacrificing the adequacy of environmental statements. We can meet it and still make sure the states' comment period is meaningful, not perfunctory.

I'd like to return to the Cook Inlet Sale for a moment to show the Secretary's willingness to make the difficult tradeoffs between environmental protection and expanded energy production--his willingness to listen to the concerns states express about specific sales and accommodate the states, if possible.

After postponing the February 23, 1977, sale the Department began working closely with the State of Alaska and communities which might be affected by the exploration, development and production phases of the sale.

Secretary Andrus wanted to do the sale, if it could be done, with adequate safeguards for the environment.

To this end, the leases offered in October included the following stipulations:

--Leasees must include an environmental training program for all personnel involved in exploration or development activities; the training must cover environmental, social and cultural concerns relating to the job.

--No production may be barged except in emergencies.

--Use of boats and aircraft is restricted during critical summer months to protect seabird colonies and marine mammal rookeries.

--Leasees must submit to the Governor and local jurisdictions information about activities necessary to support exploratory operations before the Geological Survey can approve an exploration plan.

--If established by the Coast Guard, boat traffic lanes must be used to ferry supplies.

--Birds are to be further protected by the use of "scare techniques" in case of oil spills.

--Exploratory drilling will be monitored to determine effects on aquatic life in areas of biological significance. Alternate disposal methods for drilling mud and formation water could be required.

In addition, the Secretary eliminated 17 tracts from the sale for environmental reasons. He also announced he would require a development phase environmental impact

statement for the Cook Inlet sale area.

The State of Alaska sought 11 stipulations. We adopted four as requested and suggested alternatives for five more.

We think we have a workable program and a workable schedule. We think we can lease more OCS oil and gas, with a minimum of delay, red tape and unpredictability. We think we can do it and still provide the necessary environmental safeguards. We can do everything, it seems, except stay out of court. And that, ladies and gentlemen, is what I perceive to be the biggest threat to the Administration's OCS program.

I'm sure most of you saw in the press that the Supreme Court this week cleared the way for exploratory drilling in the Baltimore Canyon off the mid-Atlantic coast. Those leases were sold in August, 1976. We have been sitting on over a billion dollars of the oil companies' money while we fought in the courts to uphold the leases we issued to the companies a year and a half ago.

Our experience in January with Sale 42 in the Georges Bank sale came along we were confident we knew how to do it right. We already had the experience of the Cook Inlet sale under our belts. The Secretary had already ordered some changes in our procedures which answered many of the states' concerns.

As we began working closely with the states affected by the Georges Bank sale, we believed we could avoid litigation and hold the sale as scheduled.

The process begun with Cook Inlet had matured considerably by then. We addressed and--we thought, answered--the states' concerns, in a number of ways. The lease stipulations would require:

--Identification and protection of archeological resources and protection of important biological areas;

--Compulsory unitization of leases sharing common reservoirs, a move to cut down the number of structures and so minimize interference with other uses such as commercial fishing;

--Marking of tools, equipment and materials so ocean-bottom litter could be traced back to the owner.

We took pains in the lease stipulations to protect spawning areas in the rich Georges Bank fishery.

We notified potential lessees that the supervisor would consult a biological committee--including representatives of the affected states--in the enforcement of the stipulation covering biologically important areas.

We agreed to require unannounced inspections of oil rigs.

The states asked for deletion of 24 tracts. We deleted 23 of them.

Finally, solely at the request of the states, we promulgated a new set containing information on planned onshore and nearshore activities.

We did everything we could, short of postponing the sale pending passage of the OCS amendments. As you know, Congressional passage is never certain.

For the reasons I discussed earlier, it was important to all concerned--the industry, the states, the Department--that our schedule be kept. We gave the states 80 per cent of what they wanted. They sued for the remaining 20 per cent and succeeded in enjoining the sale. Georges Bank became the second sale in the history of OCS leasing to be blocked by court injunction.

Now we are just over a month away form the sale in the Georgia Embayment, Sale 43. I hope the preparations for the sale are being handled in a way that will make litigation unnecessary. I can certainly pledge that we in the Department will do everything we can to cooperate.

There is considerable evidence of such cooperation of Sale 43 already. The notice of sale includes nine stipulations. Some of them are common to all OCS leases offered by this Interior Department; others are carefully drawn to reflect conditions unique to the Embayment.

--Special care has been taken to protect live bottoms, cultural historical or arche-

eological structures and objects.

--Buried pipelines may be called for where feasible for transporting oil and gas. Once pipelines were completed, surface transportation of products would be banned except in emergencies. Final decisions on transportation questions would be made through an inter-governmental planning process.

--Lessees are warned that some areas in the Embayment may be subject to the mass movement of sediment and that operations in such areas will be banned unless their safety can be proven.

--They are further warned that they will be required to use the best available technology economically attainable.

Finally, they are notified that if the OCS Amendments pass, the Fisherman's Gear Compensation Fund and the Oil Spill Liability Fund may apply to leases in Sale 43.

Many of your concerns--if not most of them--have been heard. And that is in no way peculiar to Sale 43; it extends to every OCS sale the Department has held since Cecil Andrus became Secretary.

To a large extent, work on the OCS program is being done by people within the Department who are sensitive to environmental concerns.

We are not trying to ride roughshod over such concerns. Nor are we deaf to pleas from the states for a chance to participate in decisions will vitally affect their futures. All we ask is your cooperation as we balance environmental concerns against the need to tap the vast potential of the U. S. Outer Continental Shelf to meet our critical energy problems.

The simplest, most productive way to achieve that balance is for all parties concerned to look for it and work toward it. The alternative, as we have seen in Baltimore Canyon and the Georges Bank, is protracted, costly court battles.

Those battles are leaving a sour taste in the mouths of many--especially in the Congress. If the Department's ability to get needed oil and gas reserves into production is continually thwarted in the courts--even after painstaking efforts to address environmental issues--I fear we invite the Congress to re-examine the statutes which foster such delays.

I believe we at Interior have a solid, workable OCS leasing program. It eliminates the uncertainties which plagued past programs. For the first time, state and local governments are on the inside at every stage of the process. That's where we want them. That's where they have always belonged. I hope, in the case of Sale 43, that proximity is productive. Because we have a schedule to keep. I can assure you, we intend to hold that sale on March 28--God and the courts willing.

Roy Owen:

...people who are on the schedule are, quite honestly, some of the very best people in their respective fields related to offshore oil and environmental matters, citizen participation. For those of you who were not here yesterday, I want to acknowledge quickly the co-sponsore of this project, who are the South Carolina Coastal Council, South Carolina Petroleum Council, the National Audubon Society and Trident 2000. Also I would like to acknowledge again the financial support provided by the federal office of Coastal Zone Management.

To move very quickly to one of the first superlatives on the schedule, Ann Jennings is, in fact, South Carolina's premier private citizen in environmental affairs. She operates with the respect and trust of both governmental officials and private citizens and private interest groups. Ann is a member of the National Advisory Committee on Coastal Zone Management. She is a member of the executive committee of the La Conte Chapter of the Sierra Club, and presently serves as Vice Chairman of the South Carolina Coastal Council, South Carolina's new coastal zone management agency. She is a graduate

of Smith College and in addition to her other activities, is an account executive for an advertising agency. With that, I'll turn the morning over to Ann.

Ann Jennings:

Good morning. I'm delighted to be here. I hate to tell you this, but I did get up early this morning and drove here from Columbia. It's a spectacular day outside, and with introduction, I'd like to make an announcement.

The National Audubon Society is conducting field trips for the conference participants on Sunday morning, and we certainly hope you can stay over. One of the field trips to Dixie Plantation, home of the noted wildlife artist, John David Dick, is filled. We are sorry about that. The trip to Four Holes Swamp is still available and anyone interested should check with the Audubon registration desk in the lobby. I would recommend very highly going to Four Holes Swamp. It's a unique treasure that we're very proud in South Carolina to have been able to preserve. I would also like to read a letter that was sent to the conference by our Lieutenant Governor, Brantley Harvey.

"This is to acknowledge receipt of your invitation to me and to the South Carolina Senate to attend the Southeastern Conference on the Outer Continental Shelf Oil and Gas Development to be held in Charleston on February 24-25. As requested in your letter, I've made arrangements to inform the Senate of your invitation so that those interested Senators may adjust their schedules to attend the conference. Regretably, however, due to previous committments, I will not be able to attend. In reviewing the agenda for Friday and Saturday programs, it is evident that much worthwhile business will be carried on. Indeed, this is a major step in developing outer continental shelf and the beginning of activities which promises to have great future importance not only for South Carolina, but to the nation. It is incumbent upon all concerned citizens and groups to make every endeavor to locate and utilize the energy sources available to us, while at the same time insuring that our beautiful environment remains unharmed. The South Carolina Coastal Council has my deepest esteem as I feel the guidance and regulation it will provide in this area insures South Carolina of a bright future in the area of outer continental shelf development, and I look forward to working closer with you in this endeavor and in the future. Again, let me express my deep regrets at being unable to attend the conference, and I will appreciate it if you could inform my office of the results and achievements accomplished as I know there will be many."

We are indeed sorry that Brantley Harvey could not be here. This morning we're very excited. I'd like to introduce again to you William Nothdurft, from the New England River Basins Commission, who will be moving to the BLM with Frank Gregg.

William Nothdurft:

Frank Gregg has sort of an unusual backgound as BLM directors go. He began his professional career in the Colorado Fish and Game Department, which isn't so unusual, but then went on to become the Executive Director of the Isaac Walton League which many of you know as one of the largest citizen conservation groups in the West. He also ran the Citizen's Committee formed to implement the recommendations to the National Outdoor Review Commission, initiated by President Eisenhower. He served as Assistant to Secretary of Interior Udall during that administration and Vice President of the Conservation Foundation more recently. Ten years ago he was appointed by President Johnson to become the Chairman of the New England River Basins Commission and you've heard about that commission. He served to some extent as that region's conscience for the balance to management and use of natural resources in New England and served through two Republican and two Democratic administrations, something of a testimony to longevity. It's been my pleasure, in all seriousness, in serving him for the last five years and it's certainly my honor to introduce him as the new Director of the Bureau of Land Management, Frank Gregg.

Frank Gregg:

I suppose what I can do here today that might be useful is not to pretend to be an expert on Lease Sale 43 or on the specific concerns that you have about it, but to sort of share with you some of the experience that we went through in New England that may be pertinent to you and sort of provides a backdrop that I'm operating in, a frame of reference that I'm operating in, as I look forward to really becoming Director of the Bureau of Land Management.

When the prospect of OCS development came to New England, was first considered in New England, the region already had a reputation of sorts as being anti-energy development. You'll recall a series of controversies about the location of potential oil refineries in the region, later some hassles over nuclear power plants. Some of the reputation was probably earned but much of it wasn't; for instance, none of the refinery proposals were offered by a major oil company.....

But the fact that during this period New England's energy problems were becoming unique energy problems, were becoming more dramatic and more clearly important to the region's economy, led to a gradual shift in perception. We attributed that shift to two things: one was recognition of the nature of a problem; and one was information, really good information. We used the River Basins Commission and other agencies within the region, not in an argumentative way about how the resource ought to be developed or whose ox was gored or anything like that, but simply to improve the base in the region so that people could pursue whatever point of view it was that they wanted to pursue with good information. And it worked. And it's interesting to see that the attitudes toward energy development in the region have changed right along. While it's true that there is some legal action between one of the New England states and the Department, the fact is that the region as a whole is now quite solidly in support of developing oil and gas resources of the Georges Bank. It is on record in that respect. There are arguments about particulars, but that region supports the development of that oil and gas resource, is determined to protect the environment and wants to recognize the economic benefits.

Perhaps a more dramatic illustration of what happens when a region really addresses itself seriously to understanding these phenomenons was the Argo Merchant. You'll recall when the ship ran aground, I'm sure you all have heard about that, off Nantucket. Think back a few years ago to the kind of response that would have greeted that disaster. If we had not been spending a great deal of time in the region trying to understand more about the system and about how they are affected, these kinds of things, and instead of the politicians of the region using that as an opportunity ot posture against using this resource, the region absorbed it, put it in context, and was able to keep that from becoming the kind of dramatic, political issue that would have prevented the region from dealing honestly and straightforwardly with its energy development needs.

I offer that background simply because, not that it will be your experience or should be, but simply that New England got involved in a public and political way with the question of offshore development I think substantially earlier than this region did, and the experience there was that we were able to accommodate the body politics to the process in reasonable ways, and I'm delighted to see that the same phenomenon seems to be operating here.

Obviously, as speakers have told you, we don't know yet, what, if anything, is out there. Until we know what is there and where it is and what it is, we won't know precisely what is going to happen either out there or onshore or in between. We do know that once a field is commercial, the future will be brought sharply and quickly into focus and development will occur quite quickly. The work that we did in our onshore facility siting project makes it quite clear that the communities and regions which took the trouble to really inform themselves about the OCS development process, about the facilities, about how the companies make decisions, about the economic and environmental characteristics of various kinds of facilities and activities, were the ones who were able to take advantage of the ecomonic opportunities that were offered. They were the ones who were best able to work with the government and with the industry in making sure that environmental protections are appropriately strong. Even with the lease sale scheduled next month, it will be quite awhile before there is a find down here and you

are in a good position to learn and to act on what you need to know before the development actually takes place...

As we said last night, the Department has already established and is going to vigorously pursue a pattern of working closely and directly with state officials and with affected interests from the very beginning of these processes. The Secretary demonstrated over and over and over in the work that I'm familiar with in New England that he is determined to respond, as much as he feels that he legally and responsibly can, to the concerns of state governments and affected interests. The Assistant Secretary, for whom I work directly, Guy Martin, was the Natural Resources Administrator in Alaska, and was clearly for years the donimant state figure on the Outer Continental Shelf Advisory Board to the Secretary of Interior. He came into Interior breathing fire in his determination to see that the Department responded sensitively and sensibly to the concerns that states have to want to be involved in these decisions. In fact, he made that his number one priority when he walked into Interior Department. Obviously, I don't have to go back and draw the bottom line, but what I'm implying here is that we are all blessed by this unusual coincidence of a Secretary, Assistant Secretary, and Director of Bureau of Land Management who sort of have a state background, state association and, I think, reasonably balanced perspectives on the environmental versus developmental scale. The Secretary has strongly supported changes in the Outer Continental Shelf Lands Act (those amendments are now in conference) and has moved to promulgate some regulations in the interim that sort of anticipate the enactment of that act.

I don't want to claim that a state of bliss exists between Interior and state officials but I think there has been an authentic effort by the Department and I intend to continue it in the activities of the Bureau of Land Management.

We have one specific step that we're trying to implement now in addition to those that you may have heard about before, which is to try to get a better handle on transprotation planning problems. There were some problems in the Gulf, where, if we had that to do over again, we would have designed a different network of pipeline systems. Like a number of landfalls that have turned out to be greater than necessary, more miles of pipe than necessary, and this problem is addressed both in the lease/sale stipulations in terms of unitization of fields so that the companies may use, common pipelines. And, also, we're going to set up a series of joint federal/state work groups in each of the frontier regions to make certain that we get effective cooperation among federal agencies and between the federal government and the states in planning location of the pipeline, the landfalls and the associated transportation issue, because the transportation system is obviously simple, both to the environment and economic effects.

The responses that have come in so far to Lease/Sale 43 from the governors, at least, have generally been favorable. There have been differences of opinion about some of the stipulations. I trust and hope that these will continue, because it is out of that kind of argument that we're going to get the right kind of process developed. I hope that we can incorporate the new Lands Act amendments into our federal, state and local relationship here in ways that will permit us to go ahead in timely fashion.

One thing that is troublesome is the degree to which individual communities are prepared to deal with OCS developments. Most of the federal support systems that have been developed to help regions deal with OCS developments are directed at the states. When the oil companies want to locate, or the ancillary industries, they don't go to the state governments to find a location. They will characteristically go directly to the local government. The potentially weak link in this system, that we have developed to really anticipate and plan for the right ways to accommodate the government, is the relative lack of direct federal support for communities to develop and participate. Obviously, one of the purposes of this forum is to do precisely that. I know that representatives of the Bureau and Geological Survey and other federal agencies who are involved will be glad to participate in additional things to the limits of their time as you try to bring these kinds of insights closer to individual town and communities. I assume that the onshore facility siting workshop technique which we used down here once before is available to people who may want to hold community workshops.

Just looking ahead to the kind of relationship we are likely to have during the period Lease/Sale 43 is explored and developed, if there's anything there, I think we are on the right track. I think we will have a lot of delightful arguments and I don't expect either the Department or BLM to be heroes to everybody, or perhaps to anybody, but I think that I can tell you now, whatever the process is, that one of the complaints you won't have is that we didn't listen, because we're good listeners. And I think the record will show that we really tried to find the right balances between the national interest and, indeed, the regional interest in developing off-shore oil and gas and between the economic benefits that may accrue to the regions through that development and through the protection of the environment and the part of the economy the region depends upon, environmental quality and productivity of marine resources.

I'm an old hand at balancing acts, having spent ten years in running an institution that had no authority and represented the full gamut of interests in how you ought to be using a river or coastal estuary. We did it. We actually got agreements on ways to do things that were balanced. That's the kind of spirit with which I think the Department and Bureau will be approaching this job. It's interesting to consider the kind of framework in which the Department operates. You'll see this here. I think when people think about the Interior Department, when they are aware of it at all, we sort of have an image of eternal conflict and constant controversy. The issue may be the management of horses or burros; it may be grazing fees, or livestock on the western public lands; it may be any of a thousand things. If it looks from the outside like Interior is torn on the inside between the conflicting demands placed on resources, that's because it's just exactly the way it is. The Department is designed, it does have built within it, agencies which are designed to serve constituencies which are in competition for the use of these resources. With good leadership, and I think we have it in Secretary Andrus, the net effect of that is an honourable man is held erect by equal pressure from all sides, and is supported by the nature of his own agency as well as by the trust of his own conscience to do the right thing. I think that it's important to remember that. We are going to find all kinds of controversies down here and you will find Interior agencies on different sides of the controversy. It may vex our good friends, students of public administration, to see this, but I think it's healthy because that's the way the world is.

Because BLM has major responsibilities here, we will no doubt be among those who have opinions, among those that you'll castigate. I look forward to the process of listening, adjusting and developing the kind of relationship that will help us approach this process on Lease/Sale 43 in the spirit of thoughtful people. We are trying to make use of the resources that the country needs in a way to protect your interests and your ability to be involved in the decisions that affect you more heavily than anybody else.

I thank you for the opportunity to be here, and Sheri, I thank you very much. If you have any questions, I will be glad to dodge them.

William Nothdurft:

One of the real difficulties in trying to provide information, particularly down to the local level, is that there is very little perception of what OCS development is all about. It's hard for a lot of people, who haven't been to a rig in the Gulf or seen an Exxon commercial on television, to really visualize what OCS development is all about or what facilities look like, what the feel of this business is all about. A couple of years ago, a friend of mine and I, after, I must say, several drinks in a bar on a Boston waterfront, decided that it would be really nice if somebody could do a television program about the offshore effects of OCS development. We were immediately laughed at. My boss suggested that, if his name ever appeared in any way related to this film, my job and my life were in jeapordy, not particularly in that order. We went ahead and did it anyway (with) alot of mutual respect and I might say that, although I did not produce this documentary, "Offshore/Onshore" that you're going to hear about, I certainly did pimp for it. We extorted something on the order of $25,000 each from the Bureau of Land Management, Geological Survey, EPA and OCZM. The coastal states in

New England, including New York, embraced the idea the first time it was mentioned in a meeting of the New England/New York Coastal Zone Task Force Institution which has been in place for sometime as a forum in that region for coastal states relating to each other through CZM. They also put up funds for that film and provided a great deal of moral support. It's kind of a touchy job, as I'm sure Mobil or Exxon already know, to give the Public Broadcasting network money to do a film and have absolutely no editorial control over it. The federal agencies in particular - not so much the states - were a little edgy about the notion of having somebody produce a one hour documentary film for nationwide broadcast without their having some say.

But that's exactly what we did and I think that it's something of a testament to the degree to which things have changed - the degree to which the federal agencies that have responsibilities in outer continental shelf development are interested and willing to come forward with money with very little strings attached to help state and local governments understand what this business is all about. After about a year and a half of film production and editing, we have, I think, a fairly will balanced documentary about outer continental shelf oil and gas development. It focuses first on some concerns of the fishing industry in New England and moves to an examination of the history and the impacts along the Gulf. We'll see some familiar faces in this film, people whom you've spoken with and listened to in the last day and a half. It then moves on to Scotland and to the Shetland Islands to learn something of the experiences in the development of the North Sea. Then it comes back to the United States and draws a few lessons, how we might proceed in leasing and developing the outer continental shelf. It's a two real film so there will be a little delay between reels. If you'll bear with us, I think you'll find that the delay is worth your while. Thank you very much (film shown)

Nothdurft: after end of film

Of course, one of the things to remember here is that even under the highest USGS estimates of what there might be off the South Atlantic Coast, you're still only talking about a tiny fraction of the kinds of oil and gas reserves that have been found in the North Sea and in the Gulf - a tiny fraction - with the result that it's not too wild an estimate to say that the onshore facility impacts are going to be equally a fraction of what you saw in the film. I think one of the more importnat things to stress here is the fact that we've travelled a fairly great distance just in the last few months.

This film is only about 3/4 year old and just within those 9 or 10 months, we've seen substantial changes in the way Interior operates. The new regulations that were promulgated just before the close of the last year represent some of the things that I feel are what people in New England, people here, and people in the Gulf have been asking for and arguing for for sometime. Also importnat is the proliferation of cooperative agreements that have been handed out between industry and government, between the federal government, the state government and local governments. A very great difference. In some ways, a year ago was almost the dark ages of oil and gas development compared to where we are today. I think that that's a positive view of things; I think we still have a ways to go but I suspect that as Frank Gregg said a little while ago, as we continue developing information that is understandable and usable and can get down to the local government level - the poor planner who's got about 12 other things to do including zoning permits for housing developments, sewer easements, and soforth - get some information to him on what he should be doing to affect OCS development now before exploration begins - We have a greater likelihood of not getting into the kinds of emotional situations that you saw in the film in New England and in the North Sea. The film is available for those of you who would like to use a copy of it for whatever purpose from any of those sponsoring agencies in Washington - USGS, CZM, EPA.

We have a coffee breal for about 10 minutes and because we have a fairly full agenda, I've been asked to tell you that you've got 10 minutes or you'll be locked out. Be back about 11 o'clock.

Ann Jennings:

I trust that all of you got a cup of coffee, a cup of tea, or a cup of coke - whatever you liked - are ready to start again.

Now that we have listened to the experts and heard from people who have been through the offshore, onshore experience or preparing for it, we are getting into what I like to consider the heart of the matter. That is, where do we the public fit in and just what is our part in this whole system of coming to grips with the onshore impacts of offshore oil. We have a lot of things going for us as members of the public and, as I look through the audience, I see a lot of you who have already actively participated. What I hope will happen is that after today many of you who said, "I don't know quite how to get involved," will get involved because I think, as Frank Gregg pointed out, the next several years here in South Carolina are going to be extremely important as to how the onshore impacts of offshore impacts are handled; whether these tremendous benefits that have been talked about in forms of dollars into our economy, in forms of jobs, new industry, whether those benefits actually come to us or whether they turn into deficits. We need energy, we need jobs, we need stimulus to the South Carolina economy but what we don't need is a devastated environment - towns and cities that find themselves in a boom/bust situation, lacking in schools, lacking in fire stations, lacking in police power or towns who have invested tremendous amounts of capital to receive the oil industry only to find that industry stays not long enough for them to receive the benefits.

One study that I recently read revealed that it takes cities and town about 25 years to recover the capital investment from a tax base to receive a new industry. This is industry of any kind. So we're talking about long term planning. Some of the things we have going for us and some of our speakers this morning are going to address this. Nationally, we have the Coastal Zone Management Act of 1972 and its amendments of 1976 which you've heard about. This is a tremendous tool and one of the most improtant things in that act, to me, is a section which deals with public participation: no state can continually receive planning funds of can move into the management phase without demonstrating that the public has actively participated in all phases. We have to be assured that everyone has had their say, that there's been ample time, that regulations and plans and discussions have had comment after comment after comment. The books are open, the files are open in this kind of a program for a very good reason, I think, because it's your plan. It deals with the very heart of our lives, the way we live, the way we make our money, the environment in which we live. If each of us, for one reason or another, turns our back and says, "I'll just leave that up to those other people," and if it does go awry, we have nobody to blame but ourselves. Local government officials, state government officials, garden clubs, civic clubs, League of Women Voters, environmental groups, every one of us, the whole gamut of us must get involved, must learn as much as we can and I'm grateful to see so many people here this morning.

Our first speaker is a fellow that I met many years ago and he is something called the Land Commissioner of Texas. Texas is a unique state, as we all know, and Bob Armstrong is just as unique as the state that he comes from.

In the film we just saw, one of the finishing remarks was that it said something to the effect that almost none of the politicians in Texas-Louisiana, which in Massachusetts becomes one state, have ever publicly talked out against the oil companies. I'm glad they said almost, because in Texas they have what has been referred to as the "Lone Ranger"; this is Bob Armstrong. He is actually elected to his office, which means he has to go out and campaign. The Land Commissioner has many roles and probably the most important to us today here is his role as leasing the oil and gas leases on all the lands of Texas, which, uhlike other states, is quite extensive; so he really is the man who negotiates the settlements and the balance between development of oil and gas reserves both on land and offshore and protection of the environment.

Bob is a Sierra Club member; he is an active White Water canoeist; he understands the outdoors. He is an avid outdoorsman. He also is an extremely bright, articulate man who understands all the ramifications of the problems and, without much further ado, let me introduce Bob Armstrong.

Bob Armstrong: "Citizen Involvement in Planning and Controlling Onshore Impacts of OCS Related Activities"

Thank you, Ann, that's very generous.

I'd like to tell you a little bit about where I come from in the sense of what has been going on in Texas' experience. I want to put it in the same kind of contest that I think is made clear by the movie, which is, in my judgement, a premier movie, and stands without peer as far as getting the story out about the various conflicts. And then we'll talk in a minute, maybe, about how we'll resolve some of these conflicts. But I don't want you to think that I presume that this coastal region is identical to our coastal region, or that Santa Barbara is identical to our coastal region, or that Santa Barbara is identical to this coastal region. There are differences, as my friend Jerry Studd points out very articulately. I do think, however, that there are threads of common problems, there are threads of common interests, there are threads of a lack of knowledge, in some instances, that do bind us together. And so I welcome an opportunity to tell you a little bit about where we have been.

I can't talk to you about coastal zone management without talking about oil and gas development and vice versa. They are too inextricably interwoven for us to separate. I would make a couple of ground rules. One would be that I'm going to talk about them both and you would have to consider them together. Second, I will sort of interchange public participation and citizen involvement as probably the same words...

When we started having production, and we didn't plan it, it just happened, we started having production in the near-shore waters of Texas. People, if you'll look at the oil industry historically, formed the spindle top initial discovery in Beaumont, which was on the coast. If you'll look at the production figures of Exxon, you'll find that they produce 50% of their U. S. production within 50 miles on either side of the shoreline of the the state of Texas. It started on the beach and then it moved into the bay areas, shallow drilling. When you really look at it, probably the most environmentally damaging drilling of all would occur in an estuarine area at the very beginning. But we didn't care about that, and I would also have to observe that we probably didn't have to because it was an incremental thing and nobody cared much about anything except getting the production.

As the production proliferated and as we began to see the the incremental changes and the production began to move offshore, we began to think that we better make some rules. This is really the kind of thing that you have with any growth situation. The more you put people together, the more pressures you put on resource capability and the more rules you have to make. People don't like that necessarily. I don't like that, but it's still a fact of life. Hopefully, what you do, however, is have a sensible rule-making capability and you look at what you're doing. I was struck by one comment out of context that the gentleman from Scotland made when he said, "We just didn't know sufficient about it." I thought that was really the name of the game. How do we know sufficient about it before we make a decision?

One of the ways that I'm going to suggest to you that you can know sufficient about it is to know what the consequences are or learn what any activity is going to do to any given area and to involve yourself in the public participation process. Now, this is not just in the name of democracy. I'm not talking about something that just sounds good, that politicians ought to go to the people they represent. I'm talking about what kind of hard knowledge you can draw from a public participation forum that helps you with these extremely sophisticated and sometime controversial decisions that have to be made by those of us in government.

When we started managing the coast, we were very fortunate to have a person whose name was Dave Schwartz who was a fiesty, tough, little senator from the Galveston area. I don't know if any of you have ever heard Schwartz speak, but it's a real experience because, though he's made some enemies, he's probably been accountable for more capability on the part of government to deal with things. It started early on when somebody went down and built a fence across the beach and said that this is going to be for my apartment and my condo area only. Schwartz responded with an open beaches act. We had

one of the first open beaches acts which was all inclusive. Actually, we had an easement by prescription... But it took that act of stopping the public from using those beaches to get that enactment through the legislature. Then he went into the area of "my offs", which was just about the time I got there, which was seven years ago, and said: Look, if the public owns the lands which are submerged, and that's where most of our public ownership is, then it's proper that the state manage those in the public interest. Not just for the production of oil and gas, but in an environmentally sound sense. So he gave powers to the General Land Office. We looked at the dredging and filling aspects of our bay, because we're not going to move anything in Texas, on our coast, without dredging. We have a very shallow bay bottom structure, also a very fragile bay situation. But in any event, we began to work on that. We also passed some oil spill legislation. One of the problems I have with OCZM, Office of Coastal Zone Management, is to point out that a lot of things that they would like for a state to do, we have already done because of Dave Schwartz. He did this by being a terrible shrewd and dedicated legislator; powerful, because he had been there some time; devious when it was necessary. In Schwartz that's just a fact of life.

I sometimes tell a story in that regard about something that I discovered that I hadn't known until quite recently. That was that George Washington's family had originally come to Texas before he went to Virginia. This comes as a surprise to a number of people. He and his family had moved into Hedago County, which is the southern-most county, by Brownsville, and it so happened that they had the only shade tree in Hedago County in their backyard. At some point, young George fell heir to a hatchet. If this story has sort of a familiar ring to you, it should. But in any event, his dad went out one morning and found the only shade tree in Hedago County had been severed and was lying there. He immediately sent for his son. He said, "George, did you cut down this tree?" And George replied, "Father, I cannot tell a lie." His father grabbed him by the neck and said, "Come on, son, we're going to Virginia. You'll never make it in Texas!"

Now Schwartz might be sort of a manifestation of the guy that stayed behind. He did pass a lot of legislation. Everytime I look behind me, I think of Schwartz. He passed a lot of things that looked like a screen, but there was really a piano back there behind it. It wasn't quite hidden, but it was there. Finally he got to the legislature after he had done some things with beaches, with land office, with navigation districts and ports, and dredging and filling, and oil spill legislation which came this last time.

He came up with one called "Dune Protection." Well, the Senate had been patient for a long period of time. One of the senators came over and said, "Schwartz, this time you've flipped. Now why do you ask a conservative, business-oriented legislature like ourselves to protect sand dunes?" Schwartz gave a typical Schwartz answer. He said, "Senator, have you ever made love on a sand dune?" Well, history does not record who that senator was or what the answer was, but we do have a dune protection act. ...

When OCZM came and said that we're going to have to have a basic overall program of coastal management, I suddenly realized that the Schwartz method couldn't prevail. If you're going to have a meaningful capability to organized the various conflicting interests and to look at the rules that were going to have to be made in the state of Texas, a coast that's 389 miles long, with all of the diversity that you see in the East, where you have rain at 55 inches a year all the way down to the lower Rio Grande Valley, which is around 8 to 10 inches of rainfall just a ways from the coast, then you're going to have to get the piano out front and let people take a look at it. You're not going to run around the end with this, whether you need it or you don't need it. That's really the way it should be done.

So when I was designated as a coastal manager by the governor, I went to the people of the state and presented them with this problem. I said at that time that it was one of the most difficult tasks the government had ever undertaken. And frankly, in the corner of my mind, I wasn't sure whether we were going to be successful or not. I do think that we've made some progress. But a lot of the progress we made was not simply because the mandate from the Office of Coastal Zone Management that there would be public participation. It was made because, without public participation, it just couldn't have happened.

Now, who is the public? Do you just issue a little engraved invitation that says Mr. and Mrs. Coastal Zone Management cordially invite you to their home for a discussion of problems? That doesn't work. Do you say in the newspaper, "We're going to have a public hearing on coastal zone management?" This may come as a surprise to some of you, but that doesn't work. Do you advertise by radio or something else and expect to have crowds of people chasing you to death? That doesn't work. Why should a company person or lobbyist come to a public hearing and maybe run the risk of being spoken harshly about by some over zealous environmentalist when all he has to do is go to the speaker and say that he doesn't want it in that committee, he wants it in this one? What we discovered was, it had to be a combination of invitation, coercion, education, recognition of the problem, recognition of whose ox might get gored. And the way you do this is to ascertain who the affected people are and get as broad a range of affected people into some kind of public situation where they can do their part for government.

We chose to do this with what we call an advisory committee. Now once people began to realize the magnitude of the problem and what was about to happen, we began to get people to come to the party. We had the public hearings, but we found we did better by inviting the people to these public hearings that just the general legislative hearing where you publish a notice somewhere in the Texas Register or in a newspaper in the community. We did a lot of things. Some worked and some didn't. We had meetings where we asked people to come in the mornings before work - zero. We asked people to come after work - 4. We asked people to come generally at 9 o'clock - 160. Of that 160 they were pretty predictable. The League of Women Voters was going to show. The Chamber of Commerce was going to show. Someone from local government would come and make the customary railing speech against the federal government and a little bit against me and praising their capability at the local level, but we didn't tolerate a lot of this. We said that okay that's fine and that's what is wrong. Now, tell me what the demands are going to be on your coastline and what resource capability you have, what you want it to be like, do you need more jobs, what's your tax base situation, where are you as far as economic versus environmental needs and what do you want your community to look like in 15 or 20 years?

Well, the net result of this was that our advisory committee began to function in a very non or disharmonious way. The environmentalists were very crisp when they spoke to industry people. The industry was almost intolerant and yet we had them all in the smae room for the first time. Many of these people hadn't been in the same room, unless it was a courtroom, for years. They had shot acroos the river at each other in legislative battles and yet they didn't understand a lot about what the other was about, really. They thought they did. They presumed they did. And so, in the course of laying out some issue structures to look at, in the course of bringing some people in from California and New Jersey, in the course of hearing from them some of the real massive problems that they've had that we hadn't encountered yet, in the course of a biologist who is extremely intelligent telling about what made a bay work, why it was viable, why it was dynamic, why it was, just among other things, an economic necessity in terms of its productivity capability. When we had people in talking about hurricanes and things we might do, all of a sudden these people began to say, on both sides, "Look, we can't afford the luxury of some of the fighting we've been doing. Let's see what kind of a consensus we can reach in some of these areas.

Now, I think what I'm saying to you is that I could have gone 2 or 3 ways in my approach. I could have gone to a university which is sort of a typical approach that government sometimes uses; it has some advantages. Lyndon Johnson once told me when I first got elected - and I didn't know what he was going to tell me - he said there's one group that I found that from time to time you can really count on. They're the universities because they're free of self-interest in many instances. But one of the things that I think we've done is sometimes we go too much to the universities. We could also have gone to a legislative committee clerk and said, "Okay, what's your idea about this and I'm going to pass it and we're going to go." That sometimes is good; sometimes I don't think it's so good. But our third choice was to go to the people and try to arrive at a consensus. It's a slow process, but we're doing a job of great

magnitude. Sometimes being at least slow and progressive, in my judgement, is better that attempting a quick answer.

So, particularly when you're planning, I guess in terms of public participation, what I want to say is try to get the affected people there. Don't worry about how much contention there might be between the two viewpoints; in fact, that probably ought to be encouraged. But, If you get people who have a very strong advocacy feeling about something, and if they are people of good will, and it you have a chairman that gives everybody a shot and keeps the thing on line, I suggest to you that this is a very good way to resolve extremely complicated and contentious problems. I would also suggest that you still have to have not only a confidence on the part of the people who are being represented that they, in fact, are represented, that the environmentalists are there, that the Sierra Club is there, that the AFL/CIO is there, that the chemical council is there or that the commercial fishermen are there, that the outdoor recreation people are there, the boat owners, and we put them all together, there's 47 on the council...

(tape ends)

....the search word that we're looking for in all of this, you're going to have some measure of truth, because people have ironed out their differences and at least you know what the truth is in some areas. Now, when we did this we did it in about a one year time frame. I think that the combination of the work of that advisory committee .... definitely developed a capability of communicating with each other.

Some of the chemical people that came in at the ourset who weren't going to give one inch under any circumstances turned out after the lecture on what a bay could produce to be one of the best advocates that we had for the possibility of plant locations away from the bay margins and to use dredged canals to get up on the beach. All the people in the chemical industry said, "Hell, he sold out!" But he didn't sell out, he learned. He went back and when he showed them, all of a sudden they found out that it was better to maybe have an initial cost to dredge inland as one suggested method, or maybe it would be better to expand an existing plant than it was to go build a new one unless they found the proper site location. He convinced them that that was in their best interest because, among other things, it would stop a Sierra Club lawsuit. So there are some things that can happen when these people get together and we saw that happen. I thought it was interesting that most of our environmental people thought the environmentalists on the council sold out. It was a pretty good exercise in watching human nature work. And yet I'm convinced we've reached more good conclusions than if we had approached it any other way. It has to be a continuing thing.

One of the things we did when we passed our legislation creating a natural resources council was to insist that they too have an advisory committee. This does a lot of things. It gives you a chance for some representation that will keep the spotlight on the council itself, which is composed of the heads of the agencies, most of whom are appointed by the governor. Some of us are elected. It keeps that much more public pressure on the people to make the right kinds of decisions.

One of the difficulties that I've talked about in Savannah and I talk about generally is the timing process. We are in a problem area. Let me say this from the point of view of the state lands of Texas, not from the point of view of the oil industry or anything else. Our production is going down at the rate of 4.7% and it is accelerating. The thing that worries me more about that is, if you figure that to its logical conclusion, you might say, "Well, you're going to be out in 20 years, 5%a year." There are two factor that bear on it given the present situation; it is accelerating, that is the key word, which could make you think it should be less than 20 years. The other thing is that we are not finding oil and gas at the rate that we once did. If you look at a 50 year picture, you will see that in the good old days, when you could punch the shallow holes and find the East Texas fields, that offshore has been spotty in Texas frankly. The big finds are pretty well over with. We used to find 130 to 150 barrels of production, and that has a factor in it to include gas, for every foot that we drilled through the 40's and early 50's. That has dropped to 22 barrells per foot drilled. In the more recent 5 year period, it's dropped to 17. What does that mean? First of all, it means that the

that the nation is not going to be able to rely on Texas. I think the common thread that runs through all the testimony that you've seen, whether you agree or not, is that the traditional sources within this country with productive capability are now going down the drain. I think that the other thing that you find is that this then makes you go to foreign sources to make up the slack, or the difference. That's a problem that we're just going to have to deal with because it's a fact. The only thing I'm saying to you, if not for any other reason except that we find this to be true, is we're not going to be able to continue to do this.

Now there may be some bright sides to that. We're going to plug wells and abandon them and that marsh is going to look just like it did before they were there. We have some pretty stringent rules to make sure that they do look just like they did because we couldn't afford the pollution. We have also done something in the last 7 years that have been innovative. We don't drill in the marshes anymore unless we can do it in a way that doesn't disturb them. We make rules like no drilling at the time all the migratory birds are South and anybody who leases a tract knows that before they lease it. There's another thing that we've tried to do and that is to put all of the environmental restrictions up front instead of in an environmental impact statement after the fact. We think that's preferable. I don't suggest that BLM can do that simply because of the magnitude of the area with which they deal. I do think that they are beginning to pay some attention to the environmental restrictions, as well they should. We try to do that because, among other things, it's fairer to the company that pays the state some money and then gets stopped. We think the better deal is to say that here's what the restrictions are going to be and those restrictions are placed on generally after public participation.

This time that public participation happens to be our Parks and Wildlife Department, our Water Quality Board, any close environmentally sensitive area such as a national seashore, a wildlife refuge. And so we have worked out a lot of those problems, not all but a lot,ahead of time, which I think is preferable. We've also been able to conduct oil and gas drilling operations throughout at least my term when federal offshore was stopped off of Louisiana and other people were stopped because of these suits. So we can work things out.

I know that there's a lot of worry in this community about what's out there in the future. I don't think anybody can tell you. There's another thread that ran through it. It was that the best company geologist that anybody can find messes up, is wrong, and then sometimes something nice happens from their point of view. But at least you can plan and at least you can try to look at some various possible scenarios and then make some valuable and rational decisions that make some sense. I have not really worried a lot aobut anything in the last 2 or 3 years except how do we find out the factual data that is necessary on which to base decisions. It's occupied almost all of my time and I would submit to you, based on our experience, public participation is one extremely useful tool in trying to figure out what you need and how you base those decisions. Not traditional public participation where you just go to a hearing and sit and something nice is going to happen. But public participation where you get the people from the public in and where you get the people represented and you get the other input too. I think that all of these things are valuable in making government work better and being more responsive.

I'm going to pause now and see if all of this has raised any questions in your mind. We have Dallas coming up here pretty quickly and I hope I haven't used too much of your time. Does anybody have any questions?

Question: Did you have elected officials in great numbers on the forum?

Bob Armstrong:

On our advisory committee we do not but that is a point that I wanted to touch. How many elected officials are here? (one hand was raised) This is something that worries me. It's very difficult for a legislative body -- because I consider this conference to be excellent, as good as any that I have heard -- somebody who's an elected official needs this kind of exposure. They need to hear what the companies had to say; they need to hear what the environmental worries are. It's a great help to them and should be a great help to them in their decision making. It's mandatory that part of those people who are public participants really ought to be public servants.

I sure do thank you. I don't believe I've ever had a warmer reception or greater hospitality and this is just a super town with some really nice people and I'm very indebted to you for asking me. Thank you.

Ann Jennings:

South Carolina is always glad to extend some of its southern hospitality to folks from Texas.

Now that you've heard some of the bare bones of how they went about it in Texas, I think it will be interesting to hear form Dallas Miner from the Office of Coastal Zone Management. His title is the Coordinator of External Relations Group of the Office of Coastal Zone Management of the United States Department of Commerce. That's a mouthful but Dallas is a fellow who believes wholeheartedly in public participation, has traveled and cris-crossed this nation. I would say in the last year and a half that I have known him, he's probably put 100,000 plus miles underneath him working directly with citizens, with governments, with interest groups and opening up the doors for them to get into and involved in the process of developing a coastal zone management program that works and has support. Dallas.

Dallas Miner:

Thank you, Ann. Following Bob Armstrong, the "Lone Ranger", is always a tough job, and I've been "Tonto" twice this week already.

Bob had a short night last night. He obviously took my carefully prepared remarks and spent the evening memorizing every word. But he did cover an awfully lot of very important ground on the subject of public participation and I will try to condense my remarks to cover three points:

1) What is the requirement for public involvement in the Coastal Zone Management program?

2) What are some of the processes that are being developed to fulfill this requirement?

3) What kind of progress do we see, what's the experience of the 30 states that are now dealing with coastal zone management and getting very involved in the public participation process?

Alright what is the requirement? In 1972 when Congress passed the Coastal Zone management Act it was very obvious to all involved at that time that there was a real myriad of interest in how the coastline of the United States would be managed. Special interests, economic interests, recreational interests, private property interests, public interests, and also importantly governmental interests. It was apparent and obvious that in order to have the kind of balanced program that Congress wanted, in fact created, in the Act, a full opportunity involvement by all those that would be impacted by the program was necessary. Subsequently and consequently a requirement is in the act that, and I'll try to remember the exact language, opportunities must be made available for "full participation by those that will be impacted by developing coastal zone man-

aging programs." It is a requirement of law. Now what does that mean? To our way of thinking it means that in shaping the program objectives and in identifying the solutions that will be used to address the coastal problems and ultimately in implementing the program, that there must be ample opportunity for all of those that will be impacted by the program to help share in the development and ultimate implementation. This means industry, important oil and gas industries, port authorities, commercial fishing, etc.

Something like 40 per cent of the total United States manufacturing capability is found in the coastal counties. Something like 50 to 60 per cent of the total United States population lives in coastal counties. These are tremendous human and economic resources. Likewise, the valuable wetlands that are found, the public beach areas, the other wildlife areas found along the shores, all of thses kinds of entities have constituencies as well. The objective of the program is to identify the problems that the states and local governments are facing along the shores.

Well how do you do that? We feel the best way to do it is to have people who live at the shore, who work at the shore and who play at the shore identify those problems. It's a lot better and it's a lot safer to make sure you're going to find out what the real problems are if you go to the people and ask them to help identify what those issues are, what issues the program should deal with. Okay, within the Coastal Zone Management Act we ask the states who choose to participate, and it is a voluntary program, to do nine things, they must address nine programatic issues: to identify a boundary for their coastal area; to identify the kinds of policies and goals that they wish the state, in cooperation with local governments and citizens, to address in the program. I won't go on to the others, that's a good stopping point for this discussions.

Identification of policies and goals, what should the program accomplish? We feel it's much better to have people who live, work and play at the coast help shape those policies, goals and objectives rather than having professional governmental employees do it. We urge the states, and we ourselves through our own similar capacities and requirements, to go to the people and ask them to help shape these policies, goals, and objectives. I think that's one of the most important starting points. It's a substantiative, real contribution that the people who will be impacted by the program can make and should make. Now this takes many forms. As Bob was describing, use of advisory bodies, representatives of the various constituencies, meeting quite frequently and periodically with state program staff, with local government officials and so forth is very important. I feel it's important to have a wide variety of information meetings, public hearings, and use of the media. All of these kinds of things we look for, the federal office, when a state, again on a voluntary basis, comes to us with an annual grant renewal for continued funding. There has been an instance where the office has, on one occasion, turned down a grant application; in effect turned a state out of the CZM program on the very basis that it was not doing an adequate job of informing and creating opportunities for involvement to people who are going to be principally impacted by the program. So it is a serious component part.

What about some of the lessons we've learned thus far? Let's start with problems and then I'll end with progress. What have been some of the problems with public participation? I think one of the key ones has been a lack of objective, a case of having something to do but not fully appreciating why, how or with whom. Too often in a few cases, particularly early on, we have seen where, for example, the 208 Citizen Involvement Program, or a CZM citizen involvement program have been instituted without first considering very carefully what that process was to accomplish. Okay that's a problem we have seen and it's an important one to remember.

A second problem is that too often public participation is really an information process, not a participatory process. It consists mainly of governmental agencies providing information to people, rather than having a true participatory process, the kind of which I described before. There is direct involvement in helping to shape and eventually implement the program.

The third problem, and those of you who are active citizens, active with government programs, is we frequently have seen that there are not clear lines of responsibility. The ground rules for the involvement process are not clearly extablished at the outset.

This has mired many efforts and occasionally has resulted in open warfare between the state or federal program staff and the citizens.

A fourth problem, in my view, is that often times the public participation process takes a too low rung on the program ladder. We've seen circumstances in states where the individuals who have been responsible for public involvement have been the least senior members of the staff, often times the least familiar with local problems and local people. It has been our experience that that hasn't worked well. Public involvement should be a top priority of the program and should involve its most senoir management persibbek,

And finally, and lastly, one of the problems that we've seen with this experiment, if you will, is fear. There are a lot of people in government quite honestly who are fearful of opening up the process to the public. It makes them very accountable, very visable, and it causes a lot of tough questions to be answered. But I think where we've seen problems like that, and where we've helped to solve them, we've found that the process has been very productive. Now a good, strong participatory process is time consuming. You can't do the job as fast. But in the end the results are well worth that additional effort. Alright that's some of the problems. What about some of the progress?

I think one of the things we have seen in the CZM public involvement program is that where the process has been done well and thoroughly it has established some very clear objectives for the coastal management effort and it's very importnat. The process has worked best where it's been made meaningful, where it's been well organized and where the people involved in the process have been given substantiative, important missions to deal with in helping shape the program. I think that's very important. Conversely, of a program is developed too much by the staff at the outset and then given out to the citizens for examination, I think that's a weaker ground to start with. We've seen that happen in quite a number of occasions. So early involvement, involvement by senior level staff members and meaningful involvement and meaningful opportunities for people who will be impacted by the program, in our view and in our experience, is what makes the differnece. Where public participation has been treated in that respect, the programs have moved the farthest, the fastest, and we think with the greatest amount of clarity and greatest amount of ultimate benefit when the program is finally implemented because it's dealing with real issues, with real solutions that are important to the people who live, work and play at the shore.

Finally, and in conclusion, there is no program in government that I'm aware of that tends to suffer from so much confusion as coastal management. It's a very poorly understood program in many places. It makes the job of public participation even more important. I've spent quite a bit of time, as Ann mentioned, traveling in the mid-Atlantic states earlier this year, and we had some very stimulating meetings. Several of the meetings were attended by county police who had the meeting hall surrounded, our car was guarded outside and it was a pretty tense situation. The reason it was so tense is people didn't understand what coastal management was all about.

One woman stood up at a meeting that I remember very vividly, I thought it would be my last, and said, "We have been told on good authority that the federal government is going to come in and place a populationlimit on our community. We now have 640 living here, my daughter-in-law is pregnant, what are you going to do with my grandchild?" Of course the crowd starts surging towards the platform. Clearly a case of misunderstanding. These are things you have to deal with. We worked real hard at that meeting, I mean very hard, three hours of very intense conversation. At the end of the meeting, things had quieted down and we were dealing with facts at that point, facts about the program. There was an elderly man sitting up in the front row and he raised his hand, shrugged his shoulders and said, "Sonny, you make it sound pretty good, but I'm 70 years old and if there is anything I've learned, it's that if the federal government is involved, it can't come to no good." I don't know how you fight that. This program really is of state initiative, local cooperation and a lot of cooperation with citizens and industry and the public.

Deal with fact. Get the facts out on the table quickly, as quickly as you possibly can. I can't say that strongly enough. I'll never forget, we've been working in New Jersey for years now. Mr. Knecht and several others of us were up at a meeting. The

next day in the paper, there was a picture of Mr. Knecht, a very nice, well balanced story about the meeting. The caption under the picture read, "Robert H. Knecht, U. S. Zoning Director." Now that's something we don't need. I wish the word "zone" had never been put into coastal resources management. That's what it should be. But deal with facts. Get them out on the table and make sure that the conversations that ensue in the public involvement process are both substantive and factual. The reward will be plenty. Thank you very much.

Ann Jennings:

Well, now that we've heard from the state of Texas and we've heard from Dallas and the Office of Coastal Zone Management, I think it's time that we come down to South Carolina and see what we have got going for us here. What are the opportunities and the points and places at which each of us must be kept aware and begin to be involved?

I'd like to call up to the podium the panel of representatives from the South Carolina Water Resources Commission, the South Carolina Energy Management Office, the South Carolina Coastal Council, the South Carolina Development Board, and the South Carolina Department of Health and Environmental Control. We're very lucky today, to have several of the heads of these agencies, or the individuals with that agency who are directly involved with what's going to happen when we have development of offshore oil in South Carolina. Each of these departments, and really, if you want to know the truth, this is just scratching the surface - there are several that are not represented here that will actually have an impact on how we go about managing the impacts of offshore oil, but this is a beginning and I think we've got some very exciting things ahead.

First, I would like to introduce Ed Richardson with the South Carolina Water Resources Commission. Ed has been very much involved in offshore oil, in fact, chaired an early committee many years ago that I was on that was initiated by Governor John West, called and OCS Study Committee. From there Ed has gotten very deeply involved in the issue and will tell us how Water Resources is involved and how we can get involved with Water Resources.

Ed Richardson:

Thank you, Ann. There is a Gullah phrase down here in this portion of the country and when someone talks an awful lot, they'll say that gentleman "Unravelled a mouth." I'm going to try to unravel my mouth for just a short minute here and then I'll cease talking, which in the Gullah phrase is "the fella what did not crack his teeth." If I can get the slides first, please.

Like all good speakers we have our commercial and you see the S. C. Water Resources Commission. This is a proposed planning schedule. The important thing here is to note we not only have sale 43 but sale 54 and sale 56 forthcoming with their dates set in late '79 and '81 for the last two respective sales.

Facts. We're actually dealing with 224 tracts, not 225. One was subsequently deleted. About 1.3 million acres. Distances form shore run about 50 to 120 km; Water depths 13 to 165 meters. our oil and gas estimates running from about .2 to 1 billion barrels of oil. Peak production is running about 14 years after this area started with an estimated life of 25 years.

The area anticipated to be leased is aoubt 740,000 acres.

(The rest of Ed Richardson's presentation is meaningless without the slides.)

Ann Jennings:

The next speaker that I'd like to introduce to you is the new Director of the Office of Energy Management. This is Bob Hirsch, who, many of you may have known, was, up until recently, the Mayor of Myrtle Beach. So, in talking about coastal zone problems and knowinf about population fluctuations, he certainly is the fellow and we're looking forward to hearing what he has to say about the Energy Office.

Bob Hirsch:

Thank you very much, Ann, and I want to congratulate you stouthearted who have stayed here to the bitter end to hear the last bits of information being presented.

I think the things that are relevant to the energy situation here in the state of South Carolina are, first of all, the fact that we are an energy dependent state, as any one can appreciate. We are not a resource state. At the present time we do not produce oil or gas or coal or any of the other energy sources. The only energy that we produce here in the state is electrical energy and in the production of the electrical energy we use other types of fuels to convert to electrical energy generally. We produce some nuclear, some hydro but most of it is the burning of fossil fuels.

Now, the energy situation, Ithink, is the reason we're all here. We're here to discuss our need for energy which is created by our world demand for energy and, in order to hope to supply some of that energy, we're looking into the possibility of some drilling on the outer continental shelf of our state. So it is a matter of concern for everyone here in the state of South Carolina and something that we all have to address ourselves to at the state level. It not only impacts the coastal zone but other areas in the state, and for anyone who doesn't feel that way, I think it is like the guy who taps the fellow on the shoulder and says, "Hey fella, I think your end of the canoe is sinking." It is something that we are all involved in and we're all going to feel the results of. Now, the energy situation. At the present time we are using in the world 60 million barrels of oil a day and that's increasing at a rate of about 5%. So we're talking about increasing our consumption of oil at a rate of something like 3 million barrels per day. That is the equivalent of producing another Texas every year in the world, and, as was pointed out earlier by Bob Armstrong, the production in Texas is dropping off. The figure I'm quoting out of Texas every year is Texas at the peak of its production. So we are expanding our need for energy in the world and we have to do something to meet the demands.

I think as a comparison we might talk about what happened back in the days of the embargo. Back in the days of the oil embargo and previous to it, we were importing, at that time, around 6 million barrels of oil per day. At the present time, we are importing about 9 million barrels a day in the UNited States. That's at a cost to su in the neighborhood of $14.50 per barrel or about 130 million dollars a day in imported oil alone. This amounts to something in the neighborhood of 47 billion dollars a year which is just about the amount of our trade deficit on the international market last year. So we are concerned about the financial situation which exists in the country and the energy problem as it exists.

We're concerned about the increased demand here in the state of South Carolina and one of the areas of concern for the Energy Management Office is, of course, the conservation of energy. We're concerned about not only the energy sources that will be produced from this offshore drilling, but also the amounts of energy that will be consumed in the process both by the industry itself and the other people who come in here, the other industries that come into the state to be consumers of energy. We don't know exactly what form of energy that will take at this point. Of course, we're talking now about the oil and gas as the result of the offshore drilling, and we're talking about a finite resource. Talking about something that is not going to last forever and I think that's been very clearly depicted in the presentations that have been made today. But I think the thing that we want to look at in the state of South Carolina is that we do not want to be exploited in the effort to help solve the world need for energy. We have a selfish interest to look after, and I think we should be guilty of intelligent selfishness; that is to plan ahead so that we can reap the benefits for the immediate gain and for the long-range gain for the state of South Carolina and at the same time ward off the disadvantages and some of the problems that could result from this type of activity. We are vulnerable and I think that the problems that have been depicted by the previous speakers and by the pther presentations that have been made, would, I think, give you the indication that we are vulnerable in the state of South Carolina. We have a lot of things to learn and a lot of things to do in preparation for the impacts

that are to follow. We certainly want to do this.

One of the things the Energy Management Office wants to do is to be as much halp as we can to local governments, to supply them with the information and the needs that they might have to make proper decisions affecting their own communities and these would relate to the energy matters particularly in areas of building and codes and things of this nature because a part of our conservation program depends upon the proper utilization of energy which neans efficient construction, building, code adherence and things of that nature so that we do not become a dumping ground for inferior materials, that we do not become an energy defficient source here in the stae of South Carolina and that we grow in a manner which is going to have fine, good, long-range impacts on our area and that we grow efficiently and with planning and with direction.

So these are some of the things that we're looking at. We're going to have to revise, we're going to have to look at existing programs, we're going to have to look at some of our projected growth patterns that we've predicted and possibly come up with some different answers based on the cost factors that are involved. From an energy standpoint again, we're going to have to look at what the peak load aspects of these situations might be. When we talk about providing additional sources of energy, and particularly electric energy to support an industry as large as possible, if we are successful in the drillings in the offshore to produce electrical energy, and the lead time on developing plants and capability for this is something in the neighborhood of ten years at the present time....

(tape ends)

....capitol. So we have to look at about where these energy sources are going to come from; what are we going to use as a source of energy? Will we be using oil and gas that we are producing off our own shore or will we be converting to coal sources, which is the largest natural resource we have in fossil fuel? These are the things we are looking at, at the electrical industry. We are talking about solving these problems as much as we possibly can in advance and we are going to be looking at them very carefully in the months and years ahead. I want to thank Ann for inviting us to participate in the meeting and we are atanding by to be of whatever help we can to aid the local communities and look and the entire state picture.

Ann Jennings:

Thank you very much, Bob. You were right on target and even two minutes short.

Our next speaker represents the new kid on the block. This is the S. C. Coastal Council of which I am a part. The Coastal Council was created last year in legislation that passed the legislature and was signed by Gov. Edwards in May of 1977. The office is not that new. It's been in the process of planning and getting a lot of this information that we're going to need to make good decisions. Ann Baker is a member of the Office which is right here in Charleston on Carriage Lane, across the river. Her main job has been to coordinate ourplanning efforts and our management efforts on the state level with federal government agencies - the vast number and variety that exist. Ann has also been concentrating very much in the last several weeks and months on the Coastal Energy Impact program and OCS development. Ann.

Ann Baker:

The South Carolina Coastal Council program is new; it just started last May. You have heard a lot about the Coastal Management Program yesterday and today. I just want to mention briefly the major responsibilities, as we aee them, of the Coastal Council staff. The first would be the management program which is not going to be telling the

local government what it can do and cannot do. What it is going to do is set out broad guidelines that will say this kind of impact is damaging to the coastal resources and must be controlled and limited. That the Management Program is a very important thing to all of us whether we live on the coast or not and is the kind of thing we are going to be living with long after the offshore oil and gas are gone, and what we want very much is for people to become really involved in that now. We're writing back during this year for sections of that plan to come out piece by piece, they will be mailed out. There will be public hearings on them and what we need is response from each one of you to give us some ideas so that we can really be responsive to what people on the coast want their management plan to look like. The management plan is very important. It has a lot of sections to it. Two have already come out. One is the geographical areas of that need to be particularly protected. Another one is a combination of different histories and sort of a legal network. Some of the ones that are to come are the ones that we most need citizen involvement on - things such as the energy facilities siting part, and that's not going to just deal with offshore oil and gas facilities. It's any kind of energy facility and what kinds of impacts need to be controlled on our coastal regions whenenergy facilities are sited in this area. There's going to be another section on erosion control and that's very important. In fact, there's even a section in our bill. We're mandated to do that. There's going to be one on public shore and access. These sections are primarily outlined by the federal legislation and they will come out one at a time during the next year. There will be an opportunity for input as each one goes along. We're hoping that as each one comes out, the feedback will make the next one even better.

The next thing we're doing is the permitting, the state permitting in the critical areas - coastal waters, wetlands, which are periodically inundated, the beaches, and the primary sand dunes. Some of them are within our permitting authority now. This is a streamlined process, another real benefit is that we're operating under rules and regulations which are freely spelled out and specify the criteria by which permitting decisions are made. Those things are open to the public and open to the response of people who are concerned.

In addition to that, I've been working primarily in the area of energy. The Coastal Energy Imapct Program, which Joellyn Murphy mentioned to you yesterday, is a new program. The governor's office, Division of Administration is where that is actually located. The planning money for this year has been given to our office to get that process started and so we've been working very directly with the Coastal Energy Impact Program and we see that also as being not just related to offshore oil and gas, but those monies can be used to help deal with any kind of energy impact so it's not a limited thing. There are very broad possibilities in that program.

As far as citizen involvement, instead of saying this is how you can get involved in the management program, this is how you can get involved in permitting. I like to think of it more in terms of what types of involvement we're talking about. The formal structure kinds of involvement are very much a part of our program and they are crucial. They are a very important part of it. Things such as public hearings. We had public hearings on our rules and regulations for the permitting requirements in four places over the state. They will also be in various places, not just in Charleston or Columbia. All the meetings of the Council are open and that's a real improvement and a positive thing. Permitting appeals are heard before the Council in public; permitting controversies are discussed there; sections of the management plan; policies and philosophies that are going to be discussed as part of the management plan are openly discussed in Council meetings with the press available. We invite every one who would like to see how the Council operates to participate. Things such as information out of our office going out for review and comment is another kind of formal form of involvement which is very much a part of our program, The rules and regulations for permitting were out for comment for about four or five months. The sections of the management plan are mailed out to anyone who wants them. You can be put on the mailing list by simply telling one our staff or by calling the office or one of the Council members. You'll get more mail than you'll know what to do with. You can specify what you want mailed to you if you

if you don't want everything, if you're only interested in the management plan, if you're only interested in things relating to permitting, if you want just to get notices of meetings, you can be put on the mailing list for only that. So, you can keep up without having to watch the paper closely. You can keep up with what our activities are.

In addition to formal mechanisms, there are some less formal mechanisms which we're in the process of forming right now which I think are going to be very important to the integrity of the program. In connection with the management program, we are in the process of forming county working groups. There are going to be working groups within each of the eight coastal counties. They will be formed through our staff and through the county governing body. Those people will sit down; they'll be sent sections of the management plan as they come out; then they'll meet with members of the staff who will be assigned directly to the counties to work on a one to one basis with those counties. Then they'll discuss the nitty-gritty in an informal kind of situation - what they would like to see changed, improved, or strengthened in that section of the management plan. If you want to get involved, tell a member of our staff or call the office so that when those groups are formed, we'll know that you are interested.

In addition to that we're forming task forces. Instead of having geographic orientation, the task forces are going to have subject matter range. There'll be three of them. One of them will be related to facility siting; another will be on erosion control; another will be public beach and shoreline access. Those are three area which we feel particularly affect people on the coast and might be problem areas for the staff. So what we're going to do on these task forces is have representation from industry, state and local officials, geographic distribution, special interests, environmental interests, private citizens. And that will be another effort to sit around a table and really share ideas and deal with the nitty-gritty. When those parts of the management plan are written, we will really consider opposing points of view.

I also want to mention something that's not structured. It's not something that I can outline for you, but it's a basic philosophy of the Coastal Council and of the State and that is an open door policy of wanting to really have contact with people on the coastline and really reflect what your concerns are - to be sensitive to those things. In our permitting process, we have pre-permitting conferences where people who think they are going to be doing some kind of development sit down and learn what the restrictions are that they have to operate within. There are a number of personal contacts that I have had with local governments about the management plan or about the permitting, we have an office here and an office in Columbia. Let us know what your concerns are so that we can be of service to you.

Ann Jennings:

Just to give you an idea of the amount of paper flow in the Coastal Council office, last month they threw the Xerox machine 11,000 pieces of paper. So, if you do want to get on the mailing list, you'll never be hungry for mail.

The next person that I would like to introduce is the head of the State Development Board, Mr. Robert Leak. I was not aware that until the new Coastal Zone Management Act was passed, it was indeed the State Development Board who handled erosion in the coastal zone over and above their job of attracting industry to South Carolina and diversifying our economic base. Mr. Leak.

Mr. Robert Leak:

I am glad to be in South Carolina, a state which most people will agree has as much potential for economic development from this point on and into the future as any state possibly in this country. The state's development has reached a certain level of maturity and from this point on into the future is where most of our greatest opportunity will come in raising wages on the part of our workers, or increasing the per capita in-

come of our people, on have enough state and local tax income to improve the service delivery of these governmental units, etc. So, I've arrvied in South Carolina with a great deal of expectation about the future of our state in the area of economic development and I am predicting that it is going to be extremely attractive and extremely beneficial for the people of our state. Now, in order to describe what the State Development Board does, I would liek to point out that I was asked to answer two questions. One, does the State Development Board seek citizen involvement? Two, if we receive citizen involvement, what do we do with it?

I would like to address those two questions, but first of all, let me set the stage by telling you what the legislative responsibility of the State Development Board is. The Development Board is the state's economic development promotion agency. Unlike most state government agencies, ours is one of promotion and sales, in that we are trying to sell the state of South Carolina to people who can bring, hopefully, attractive economic development to our state. The business of industry hunting, if you will, around this country has been and will continue to be an extremely competitive activity. The more attractive the plant is, the more communities and the more states there are that are out there trying to attract it to their community or their location. You have read recently, I'm sure, about the tremendous grass roots petition effort that is going on in Columbia to try to convince the Phillip Morris Company to come to Columbia rather than to North Carolina. We have had a number of situations like that and it just shows that ther is tremendous grass roots support in this state for continuing our economic development process.

The State Development Board has a number of responsibilities in this area of promotion, no the least of which has been, I think, to be in charge of permitting for spoils disposal. We are also in charge of housing authorities in local areas. I am on the coordinating council for the aged, for instance, which is an interesting responsibility. So we wear a lot of different hats and we do a lot of different things, but our main thrust is into the business of attracting to our state more job opportunities for South Carolina. The record shows that from now until the foreseeable future, ending about 1985, the state of South Carolina must create in the neighborhood of 60 to 80 thousand new jobs each year. This is a tremendous mandate to the promotion effort of the State Development Board.

Now, what kind of citizen input do we get in doing the job we are mandated to do? First of all, we have a board of directors; we have 16 members appointied by the governor on six year terms. There is a member from each of our state's 16 judicial circuits, we have a chairman at large that is also appointed by the governor and usually is changed with the governor. But generally speaking, in the monthly board meeting of the State Development Board, we are getting input from the citizens of the various regions of our state. In addition, there are some 800 people in South Carolina that we have identified as being allies to the effort of industrial development. Local development force, Chambers of Commerce, people in the construction industry, the utility industry, people whao are in the technical training program, people with the employment security commission trying to find jobs for people. 800 people throughout our state then have been put on a list known as the Economic Development Ally group in South Carolina. Each fo these people individually brings to various meetings that we have with these people a citizen input.

There are a lot of people that ask me, "Why can't we have a public hearing when you are working with a project to determine whether the people want that particular industry to locate or not?" We have been charged in years past with trying to sneak some industry in and locating it, which might be contrary to public opinion in the local area that the plant is trying to locate in. You all remember the BASF and more recently the CBI, a situation down in Bluffton. We all know that there has been some controversey about the location of the huge Alumax Aluminum Reduction Facility. We know that in Anderson County when Starford Chemical Co. was announced that there was a citizen's group that was formed immediately to protest the location of Starford Chemical Co. because they thought a chemical plant was going to be built in their backyards. It wasn't a

chemical plant at all; it was a plant to make laminated plastic for putting on rooftops of automobiles, etc. Citizens' input cannot be gained in the business of economic development though public hearings with specific projects. And the reason it cannot is because the industries have come to the State Development for specific professional locational assistance on a confidential basis. It has been written into the legislation creating the State Development Board that when an industry brings to the State Development Board an inquiry about South Carolina on a confidential basis that the State Development Board will maintain that confidentiality. By breaking confidentiality with these industrial prospects, we could do damage to those industries that could be irreparable as far as them continuing with the expansion project.

There are a lot of reasons. First of all, there is a lot of selfish interest out there and when people read or hear that an industry is considering locating in a particular place, all kinds of insidious things begin to happen, such as the price of real estate can double in about 12 hours. In addition to that, the guy that lives next door to the site begins seeing shadows on the wall, thinks they are going tobuild a nuclear plant next door to him and he gets all upset and starts generating a little negative enthusiam in the community, etc. So a lot of times a premature announcement about an economic development event can do more harm than anything elase that can happen to a project. And being a competitive situation and being a confidential situation, we depend on our citizens' input at the front end and we depend on the man on the street to make himself or herself heard at the local level, through the local development board, through the local Chambers of Commerce and so forth before the sites are recommended to the State Development Board as being viable sites for economic development at the local level. That is the process of the citizens' input into the business of industrialization for our state.

In addition, we do have numerous studies, done by professional consulting groups, that are telling us on a continuing basis the kinds of wage rates that must be paid in order for us to close our per capita income gap with the nation's averages; the kinds of diversification we need in order to continue to reduce the complete dominance this state has had in the textile industry during its recent industrialization history. We have studies to tell us how to do these things and what we need to do, but the individual decision to locate and put in an investment, rests with the individual industry and we treat them with kid gloves.

That then is the State Development Board. We do coordinale our activity with all the regulatory agencies, as a matter of fact, the people at DHEC, the people at the Coastal Zone Office, the people with the energy office, the people with the Highway Department and the Ports Authority, and the technical institutes and the people with the Employment Security Commision and many others are very close friends of ours because we are gathering data and information which we use to try to professionally site industrial projects as they come to South Carolina. Thank you very much. I enjoyed being with you.

Ann Jennings:

Thank you very much, Mr. Leak. I think it is interesting that as South Carolina has moved ahead in the last couple of years, we are beginning to develop a fabric of policies that will allow us to coordinate the Development Board's activities with other agencies as we go ahead looking for industry and at the same time making sure these industries are sited in places where they should be and where they'll do the least amount of environmental damage.

Our next speaker is from the Department of Health and Environmental Control. As far as the state is concerned, this is the major pollution control regulatory agency in our state. I would first like to call on Mr. Bob Gross who is the Director of Agriculture and Industrial Waste Water Division with DHEC and his major area of interest is in industrial waste water and the implementation of the oil and gas regulator program that passed the legislature last year.

Bob Gross:

If there is one thing that people object having next to their home more than a new industry, it is a sewage treatment plant. Hell hath no fury like a person having a treatment plant built next to their house. So, If that industry does have a waste treatment plant that is when they really start to get upset.

I have had the honor of being at several meetings with Bob Leak. He is a very good speaker and speaking behind him is like being behink Santa Claus in the Christmas parade; It's kind of hard to follow Bob's talk. But, I would like to discuss with you today some of the requirements and regulatory programs we have at DHEC with respect to oil and gas implementations. One of the speakers mentioned yesterday that the oil and gas industries do not suffer from a lack of regulations and he is certainly accurate. I think that one area that needs regulations is the oil and gas area. For the offshore development outside the South Carolina waters, the primary responsibility is left the the Environmental Protection Agency. This is for the actual drilling itselg. The state would review and comment on the actual drilling itself outside of South Carolina waters. In South Carolina waters, the Department of Health and Environmental Control would have the primary responsibility for insuring that the regulatory programs are properly enforced. Those issues and safeguards are pretty well set. Industry knows their responsibility and the regulations and will satisfy those without much problem.

The area, I think, of major concern is the onshore development that comes with the offshore drilling. As Ann mentioned, last year the South Caroloina Legislature passed the Oil and Gas Bill of 1977. It was Act 179 and it requires that all terminal facilities in South Carolina be registered by the Deaprtment of Health and Environmental Control. This registration cannot be issued until the Department is satisfied that the company has adequate safeguards to prevent an oil spill. Also, the company should demonstrate that they have the clean-up equipment necessary if a spill should occur. This regulation pertains not just to actual terminals, as you might think a terminal should be, but to such operations as ships, refineries and a broad range of operations aside from just a terminal. We see this registration as a very, very strong tool to insure preventative protection and responsive reaction.

There are other regulatory programs within the Department that will provide very satisfactory environmental protection with respect to non-terminal onshore development, such as service bases, drawing water in sewer systems, etc. In short, I think it is very safe to say that the controls are there to protect the environment for offshore development should it come to South Carolina. As has been mentioned, and I think it needs to be reemphasized, adequate prior planning will alleviate many of the sudden growing pains which can accompany offshore development. This planning can greatly minimize the environmental impact of OCS development and must be incorporated in the process. Thank you.

Ann Jennings:

That was magnificent! Our next and last speaker is also from the Department of Health and Environmental Control, and I would say he is going to get down to the nitty-gritty for us because this is Robert L. Fairey who is with the Division of Biological and Special Services and his area of expertise and responsibility with DHEC is the control of oil and other hazardous material spills. Bob.

Robert L. Fairey:

I am new to the OCS. I have worked basically inland. I have been with the department several years and worked with oil and hazardous material spills under the auspices of federal law 92500 which you heard about yesterday, the federal law. Act 179, part 2, which deals with pollution control in South Carolina compliments public

law 92500. Our section or division has been charged with regulating, forming rules and regulations which will pertain to clean-up, removal of pollutant discharges. We are presently drafting, in the final stages of drafting, a contingency plan for the entire state. We have asked and are looking for public participation and involvement in this contingency plan. This plan will require that a response team be created; this has already been done. We have established a 24 hour phone number in Columbia for reporting of all hazardous material spills. It is manned 24 hours a day, seven days a week. The state is divided into 12 Health and Environmental Control Districts. We have 3 districts on the coast; the lowcountry which is located in Burton near Beaufort, the Trident office here in Charleston, and the District office up in Myrtle Beach.

Under Act 179, the government directed that all state agencies cooperate with the department to assign personnel, equipment amd material to be used in containment, collection and removal of hazardous waste discharges. This, of course, will fall primarily on the spiller but in the event that the spiller cannot be identified, we will have the facilities and personnel to respond and contain and remove the pollution. The department is presently working with the Oil Jobbers Association in the South Carolina division of the American Petroleum Institute in urging the formation fo co-ops which would involve the oil companies throughout the state so that we can better get a handle on the spills in South Carolina. I would like to mention one group, if you are not aware of them. It was formed back in the early 1960's here in Charleston and this is something, I think, Charleston should be very proud of. This is the Liquid Spillage Committee. This was formed of industry in the Charleston area. They have gotten together and purchased equipment, obligated manpower and have had drills and are ready for any spills or major spills that could occur on the coast.

We are in the process now, as I said, of writing the rules and regulations and look for or ask for any comments, for anyone who is interested to get in touch with us. We would be more than happy to hear your comments and have your input and to do something the risk of being hung by my thumbs Monday morning. I am going to give you a telephone number to call, 758-5496, and direct your questions to either myself or Mr. Henry Gibson, who is my boss. We will be more than happy to talk with you and look for your input. Thank you.

Ann Jennings:

According to my watch, it is exactly quarter past one and I would like to thank our panel. This morning, for me personally, has been very interesting. I've learned a lot from each of these departments as to where they fit in and it certainly seems as though we will be heard if we want to be heard. Let me turn the meeting back over to your chair, Roy Owen, with Trident 2000.

Roy Owen:

Frank Gregg was saying earlier that we in the Southern Atlantic states are in a prime position to respond to the development of the OCS off our coastal shores. Dallas Miner later on was pointing out the fact that the potentially weak link in this whole OCS process is the local community. So that gets around to saying what our challenge really is...to go back in here and take the initiative and take some positive steps in dealing with offshore oil development and particularly onshore impacts. For those of us who are private citizens, the impetus has to be provided by us. The work, the initiative, once the outside impetus has been provided belongs to the public officials. But the impetus, in large part, is going to be a function of what private citizens who have been here and exposed to in the last day and a half do in the following days.

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