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OI E OIL/DIALOGUES TOWARD UNDERSTANDING

GALVESTON, TEXAS JUNE 22–24, 1977

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OFFSHORE OIL

DIALOGUES TOWARD UNDERSTANDING

PROCEEDINGS OF A NATIONAL CONFERENCE ON THE EFFECTS OF OCS OIL AND GAS DEVELOPMENT ON COASTAL STATES

June 22–24, 1977
Galveston, Texas

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Presented by the

General Land Office of Texas
Bob Armstrong, Commissioner

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

Co-sponsors

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General
Land Office
AUSTIN, TEXAS 78701
BOB ARMSTRONG, COMMISSIONER

February 10, 1978

These are the proceedings from the national conference "Offshore Oil/ Dialogues Toward Understanding," held June 22-24, 1977, in Galveston, Texas. These three days were spent examining the techniques used and problems associated with assessing onshore and nearshore effects of offshore oil and gas activities. The purpose was to provide the forum for increasing communication among all affected interests and providing greater understanding of the problems and needs being faced by coastal communities and industries.

I would like to thank all the individuals and organizations who made this conference possible. Thanks goes to the Moody Foundation, the Kempner Foundation, the Texas City Division of Union Carbide, and the Galveston Wharves Board. Invaluable assistance was provided by Allen Cluck, representative of the American Petroleum Institute; Edna Fuller, member of the Galveston City Council; and Phil Clark, with the American Petroleum Institute.

Special thanks goes to the League of Women Voters of Galveston, who assisted us in handling local arrangements, and to Bobette Higgins of the League of Women Voters of Texas, who served as advisor.

Finally, I would like to thank all the speakers and panelists who gave us their time to come and share their views and expertise.

I feel this conference was successful in accomplishing what it set out to do--increase communication. With the publication of these proceedings, we hope to continue this communication and to increase awareness of the issues surrounding offshore development.

Yours truly,

Bob Armstrong

Bob Armstrong, Commissioner
General Land Office

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The General Land Office of Texas

The General Land Office of Texas is a state agency authorized by the Texas Constitution to oversee and manage the public lands in the state, consisting of mineral or other interest in 22.5 million acres, an area just larger than the state of Maine. The agency is headed by Land Commissioner Bob Armstrong, an elected state official, who is currently serving his third term of office.

Commissioner Armstrong oversees six broad programs that handle the day-to-day business of the Land Office, much of which revolves around the leasing of state lands for oil and gas activities, a function made even more significant in the past several years by the nation's energy crisis. The executive administration sets the policy for the office and handles all legal matters involving the management of the state's land. The Veterans Land Program provides low-interest, long-term loans of up to $15,000 to eligible Texas veterans who wish to purchase at least 10 acres of rural land. The Land Resources section handles the leasing of state lands for easements, grazing, minerals, scientific, and recreational purposes. Energy Resources coordinates the leasing of state lands for oil and gas, as well as collects audits, and distributes monies received from these leases. The Central Administration, as the support for all General Land Office programs, encompasses such areas as personnel, data processing, and the records department.

The Planning and Coastal Management division of the Land Office has developed into a major program area. Created by Commissioner Armstrong in 1971 to ensure environmentally sound management of state land, the Planning section has conducted inventory and mapping of resources on uplands and coastal lands. This section developed a federal grant application which was approved in 1974. Using this initial grant money, the coastal management program began an exhaustive three-year study of the state's coastal resources, aided by a 40-member citizens' advisory committee and countless citizens who lent their support to the study. In May 1977, the legislature approved a package of four bills recommended by the General Land Office as a result of this study. This legislation, which created a Natural Resources Council headed by the governor, will greatly streamline procedures for overseeing and managing the Texas coastal area.

A diversified state agency, the General Land Office has played a significant role in developing and maintaining the state's public land trust. Under the leadership of Bob Armstrong, the citizens of Texas continue to benefit from the income which the land and energy resources provide, while being assured that the land itself is a well managed and protected trust the state will enjoy forever.

What I hope is that this conference can be a tool for those of us in government to listen and a forum for you to talk. Maybe we can get some of the hard problems ironed out here rather than in the courtroom; then we can move forward in an orderly way with the business of handling our problems.

Bob Armstrong
Commissioner
General Land Office of Texas
22 June 1977, Galveston, Texas

1 CONFERENCE AGENDA

Wednesday, June 22

11:00 a.m. - 1:30 p.m. TOUR

A tour of Galveston, offshore support facilities on Pelican Island, and the Union Carbide petrochemical plant in Texas City was provided in the registration fee.

10:00 a.m. - 1:00 p.m. FILM FESTIVAL

A series of films were shown throughout the conference.

2:00 p.m. WELCOMING ADDRESS

Bob Armstrong, Commissioner, General Land Office of Texas

2:30 p.m. STATE'S VIEW ON OFFSHORE DEVELOPMENT

William P. Hobby, Jr., Lieutenant Governor of the State of Texas

3:00 p.m. ONSHORE CONCERNS WITH OFFSHORE DEVELOPMENT

James R. Jackson, Exxon Co., USA

3:45 p.m. OFFSHORE DEVELOPMENT: ENVIRONMENTAL PERSPECTIVE

Sarah Chasis, Natural Resources Defense Council

5:00 p.m. RECEPTION

Shrimp boil on the sand

6:00 p.m. - 10:00 p.m. FILM FESTIVAL

6:30 p.m. TOUR

Thursday, June 23

9:00 a.m. OCS IMPACT ASSESSMENTS: THREE VARIATIONS

Dr. David Kinsey; Department of Environmental Protection, New Jersey
Frank J. Sturzl, RPC, Inc., Texas
Allen Pearman, Florida State University

12:30 p.m. LUNCHEON

Luncheon address by Senator A. R. "Babe" Schwartz

2:00 p.m. CONCURRENT WORKSHOPS

Sociological Effects

Pamela Baldwin, Author
Dr. Alvin Bertrand, Department of Sociology and Rural Sociology, Louisiana State University
Richard R. Hickman, Exxon Co., USA
George McGonigle, Friendswood Development Corp., Texas
Dr. Lisandro Perez, Department of Sociology and Rural Sociology, Louisiana State Univeristy

The purpose of this workshop was to consider in some depth the pressures on social patterns in a community generated by rapid development, such as that engendered by offshore oil, and the processes by which communities respond, or might respond, to these pressures. Examples of pressures for change include demands for public services which exceed the organizational capabilities of small town governments and volunteer associations, an influx of transient workers, a reduction of out-migration among young people and alterations in the relative political power of economic groups.

Implications for Local Economies

Raymond Boileau, Coastal Energy Impact Program
C. R. Brownell, Mayor, Morgan City, Louisiana
E. Evan Brunson, Southern Growth Policies Board

This workshop discussed the economic impacts of offshore oil development on the public and private sectors of local economies. Of special concern was the business problems and opportunities generated by development. This includes the potential for adapting existing local businesses to meet the service requirements of offshore operators. The workshop also discussed the fiscal burden placed on local taxpayers by offshore development and the capability of current federal programs to alleviate any net burden. Another important question was the pattern in which costs and benefits are distributed among various groups in the community.

Effects on the Environment

Keith G. Hay, Conservation Director, American Petroleum Institute
Capt. Ralph C. Hill, U.S. Coast Guard, Marine Safety Office, Galveston
O. J. Shirley, Shell Oil Co., New Orleans
Linzee Weld, Environmental Policy Center, Inc., Washington, D.C.
Charles Woodruff, Bureau of Economic Geology, The University of Texas at Austin

This workshop covered the environmental implications of offshore oil and gas as energy sources. The group considered the impact of offshore operations relative to other sources of energy and the impact of onshore support operations relative to other forms of industrial activity currently found in various regions of the country. Of particular interest was the question of long-term harm to the renewable resource base versus temporary disruptions in ecosystems.

Fishing and Recreation

John Cole, Editor, *Maine Times*, Topsham, Maine
Steve Frishman, Coastal Bend Conservation Association
Edward Klima, National Marine Fisheries Service, Galveston
James A. Prunty, Fishing Advisory Subcommittee, Offshore Operator's Committee
Paul Templet, Louisiana State Planning Office

Much of the opposition to offshore drilling has come from fishing interests. This workshop was held to understand the issues raised by fishermen and to relate these to the experience of fishermen in existing producing areas. The group also sought to identify existing or potential solutions to these issues. In addition, many coastal areas adjacent to existing or proposed offshore operations are intensively used for recreation. This workshop also considered the historical and potential impact of offshore drilling on various forms of recreation and identified possible steps to reduce undesirable impacts.

4:00 p.m. REPEAT CONCURRENT WORKSHOPS

6:00 p.m. RECEPTION

6:00 - 10:00 p.m. FILM FESTIVAL

Friday, June 24

9:00 a.m. OCS IMPACT ASSESSMENTS: PART II

Suzanne Reed, Office of Planning and Research, California
Martin Zeller, Office of State Planning, Massachusetts
Kevin Waring, Department of Community Affairs, Alaska

12:30 p.m. LUNCHEON

Luncheon address by Guy Martin

2:00 p.m. EMERGING FEDERAL POLICIES

Bill Matuszeski, OCZM, National Oceanic and Atmospheric Administration
Barbara Heller, Assistant to the Secretary, Department of Interior

3:00 p.m. SUMMATION

Dr. Ronald T. Luke, RPC, Inc.

. . . we need recognition by all concerned – by government, by industry, by citizens' groups – that environmental protection is here to stay and that certain energy goals are important. For both to be done right, there has to be some really honest communication.

Barbara Heller
Assistant to the Secretary
Department of Interior
24 June 1977, Galveston, Texas

2 SPEAKERS AND PANELISTS

Bob Armstrong

Commissioner
Texas General Land Office

Bob Armstrong has been Land Commissioner since 1971. During this time, he has initiated new policies for the state's minerals, uplands, and coastal ownership; he has created an environmental planning division within the General Land Office; and he has directed the first attempts to create manageable blocks of state land in West Texas through land trade legislation. While serving as a state representative for three terms, Commissioner Armstrong sponsored coast and beach conservation legislation and created the Texas Conservation Foundation for open space acquisition. He is an attorney by profession, and has received such awards as the Distinguished Service Award from the State Bar of Texas and the Field and Stream Conservation Award. Armstrong is an instrument pilot, rancher, and outdoorsman who hunts, fishes, backpacks, and enjoys whitewater canoeing.

Pamela Lane Baldwin

Author
Great Falls, Virginia

Ms. Baldwin is a writer and consultant in environmental and energy policy areas. Her writings include: "Onshore Planning for Offshore Oil: Lessons from Scotland," and "Offshore Oil: Environmental Impacts on Land and Sea." She has consulting relationships with the federal Office of Coastal Zone Management, the U.S. Congress Office of Technology Assessment and the Conservation Foundation. While employed with the National Ocean Policy Study and the U.S. Senate Commerce Committee, she did extensive work on OCS and CZM legislation.

Alvin L. Bertrand, Ph.D.

Department of Sociology and Rural Sociology
Louisiana State University, Baton Rouge

Dr. Bertrand is currently serving as a consultant for state, regional, and national agencies, including the Sea Grant Program, Gulf Coast Fisheries Council, and the U.S. Army Corps of Engineers Water Institute. In the past, he has served as president of numerous sociological associations; he is currently president-elect of the Mid-South Sociological Association. Dr. Bertrand has authored and coauthored numerous books, monographs and bulletins, articles in journals, and chapters or sections in books and encyclopedias. A considerable number of the above works have been translated and/or used in foreign countries. Dr. Bertrand was honored in 1973 by the American Rural Sociological Society at its annual meeting with the hosting of the 3rd World Congress for Rural Sociology at LSU.

Raymond Boileau

Intergovernmental Coordinator
Coastal Energy Impact Program

Raymond Boileau is Intergovernmental Coordinator of the Coastal Energy Impact Program under the Office of Coastal Zone Management (Department of Interior). His key involvement is with state programs (CEIP); he also works in interstate allocation process and provides technical assistance on the program. Prior to coming to Commerce in June 1977, Mr. Boileau taught at the University of Maryland; worked as a city manager and county administrator; served as executive to the state (Maryland) Municipal League; and was a management analyst for U.S. Department of Housing and Urban Development and the Office of Revenue Sharing. He has a masters degree from the University of Maryland.

C. R. Brownell, M.D.

Mayor
Morgan City, Louisiana

Dr. Brownell has been mayor of Morgan City since 1950. He also served in the Louisiana legislature from 1948 to 1952. He is interested in coastal development, flood control, waterways, and conservation. Dr. Brownell is a member of the Louisiana Intergovernmental Relations Commission, the Louisiana Coastal and Marine Resources Commission (as technical advisor), and the Louisiana Coastal Management Commission. The mayor received his M.D. from Tulane University.

E. Evan Brunson

Director of Research
Southern Growth Policies Board

Mr. Brunson organized and chaired the January 1976 meeting of an ad hoc task force on Interstate Cooperation in Coastal Zone Management in the South. He is Executive Secretary of the Southern Growth Policies Board Regional Programs Advisory Council and has coauthored two books on southern growth and a special report on "Energy: Rural Development" for the Senate Agriculture Committee. A graduate of TCU in political science, he holds an M.A. in public administration from the University of Maryland.

Sarah Chasis, Esq.

Environmental lawyer
Natural Resources Defense Council

Ms. Chasis has successfully represented the NRDC in federal court, challenging the Department of Interior's Lease Sale 40 (Baltimore Canyon) as a violation of the National Environmental Policy Act. She has also

represented environmental groups in cases involving litigation and has testified before senate and house committees on OCS legislation. She holds degrees from Smith College and NYU School of Law. She is very much interested in coastal zone land use issues and onshore impacts of OCS development.

John N. Cole

Journalist
Editor, *Maine Times* newspaper

Mr. Cole has written two books: *In Maine* and *From the Ground Up.* He is a member of the Audubon Society, the Shellfish Conservation Committee, and the Natural Resources Council of the state of Maine. Additionally, he has been a member of Offshore Oil Development and the New England Policy Council.

Steve Frishman

Publisher
Port Aransas *South Jetty*

Mr. Frishman is an active environmentalist, living in an area of increasing OCS activity. He is president of the Coastal Bend Conservation Association and a member of the Texas Coastal Management Program's Advisory Committee, the Coastal Bend Environmental Quality Committee, and the International Game and Fish Association. As director of the Texas Championship Billfish Tournament and an author of fishing forecasts for the central Texas coast, he is knowledgeable of environmental concerns involving sport and commercial fishing.

Keith G. Hay

Conservation Director
American Petroleum Institute

Mr. Hay has published more than 60 technical and popular papers in the field of conservation. He has

worked as a conservation officer, wildlife biologist, assistant editor of *Colorado Outdoors* magazine, and has hosted a weekly outdoor television program. In 1974, he received the American Motors Conservation Award. Before joining API, Mr. Hay worked with the Department of Interior's Bureau of Outdoor Recreation and served as assistant chief in the Office of Conservation Education for the U.S. Fish and Wildlife Service. Currently, he is on the Department of Interior's OCS Environmental Studies Advisory Committee.

Barbara Heller

Assistant to the Secretary
Department of Interior

Barbara Heller was appointed Deputy Undersecretary of the Department of Interior in May of 1977. She presently serves as principal advisor and second ranking official in the Department. Ms. Heller provides coordination, liason, and technical review in major policy matters of department-wide programs. Prior to coming to the Department, she served as a member of the Energy Policy Staff of the Environmental Policy Center in Washington, D.C. Ms. Heller was one of the founders of the EPC. In 1972 and 1973, she was a seminar leader at the John F. Kennedy Institute of Politics at Harvard. She has also served on the Federal Energy Agency Environmental Advisory Committee and on the Energy Conservation Advisory Committee to the Office of Technology Assessment.

Richard R. Hickman

Southeastern Division Environmental
Conservation Manager
Exxon Company, New Orleans, Louisiana

Mr. Hickman has 22 years of experience as an engineer and environmental conservationist with offshore and onshore petroleum production operations. He is a member of the Environmental Conservation Committee

of the Louisiana Division of the Mid-Continent Oil and Gas Association; the Environmental Affairs Work Group of the National Offshore Operations Industry Advisory Committee to the U.S. Coast Guard; the Atlantic Offshore Committee of API; and the Atlantic Coastal Zone Management Team of API.

Ralph C. Hill

Captain U.S. Coast Guard
Galveston, Texas

Captain Hill's experience with OCS development dates back to his work as a staff engineer with the Merchant Marine Technical Division in Washington, D.C., and the Technical Branch in New Orleans. In 1972, he received the Coast Guard Achievement Medal for his work with the offshore drilling industry, and a letter of commendation in 1974 for setting up a National Vessel Traffic Service Plan for major ports of the United States. He is a graduate of the Coast Guard Academy and holds an M.S. degree from MIT in naval architecture and marine engineering.

William P. Hobby, Jr.

Lieutenant Governor
State of Texas

Lieutenant Governor Hobby, a graduate of Rice University and president of the *Houston Post*, has long been active in civic affairs. He has been a member of the Texas Air Control Board, the University of Houston Board of Regents, and the Houston Chamber of Commerce Board of Directors. Since his election as Lieutenant Governor, he has served as vice-chairman of the Governor's Energy Advisory Council; he has been elected chairman of the National Conference of Lieutenant Governors; and he is a member of the Executive Committee of the Council of State Governments.

James R. Jackson, Jr.

Manager, Exploration Regulatory Affairs
Exxon Company, USA

Mr. Jackson is a specialist in offshore gas and oil exploration. He has been concerned with outer continental shelf activities in Louisiana, Texas, California, Oregon, Washington, Alaska, and the Atlantic since 1947. Mr. Jackson belongs to the American Association of Petroleum Geologists and serves on the association's Environmental Geology Committee. He is a member of the American Petroleum Institute, the Executive Committee of the Offshore Technology Conference, and the Geoscience Advisory Council of Texas A&M University. Mr. Jackson is also associated with a number of conservation groups, including the Audubon Society, the Sierra Club, the National Wildlife Federation, and the National Parks and Conservation Society. He holds a B.S. degree from Texas A&M University and an M.A. from The University of Texas.

David Kinsey, Ph.D.

Chief, Office of Coastal Zone Management
New Jersey Department of Environmental Protection

Dr. Kinsey has been with the New Jersey Department of Environmental Protection for two years. The department is involved with planning and regulation. He holds a B.A. from Dartmouth College and a Ph.D. from Princeton, where he was a lecturer in urban planning.

Edward F. Klima, Ph.D.

Laboratory Director
National Marine Fisheries Service, Galveston

Dr. Klima is the administrator for several major programs at the Galveston Laboratory including the

Environmental Research Program, the Fisheries Assessment Program, and the Aquaculture Program. He served as fisheries consultant for the USAID and evaluated the potential of shrimp resources of several West African countries. He is affiliated with several fishing societies, including the Gulf and Caribbean Fisheries Institute. Dr. Klima holds a Ph.D. in statistics and fisheries behavior and ecology from Utah State University.

Ronald T. Luke, Ph.D.

Vice-President, RPC, Inc.
Austin, Texas

Ronald Luke is vice-president of operations for RPC, Inc. of Austin, Texas, and general manager of the *Texas Natural Resources Reporter*. The former director of administrative services for the Gulf Coast Regional MHMR Center in Galveston, Texas, Mr. Luke has served as a consultant in natural resources and human services in several states. He holds a B.A. in social studies from Harvard College, a Master of Public Policy degree from the John F. Kennedy School of Government at Harvard University, a Doctor of Jurisprudence degree from The University of Texas at Austin, and a Ph.D. in public policy from the John F. Kennedy School of Government at Harvard University.

George McGonigle

Vice-President and Operations Manager
Friendswood Development Company

Mr. McGonigle is a member of the Advisory Committee for the Texas Coastal Management Program. He is also Chairman of the Board of Commissioners for the Housing Authority of the City of Houston; a member of the Urban Land Institute; and vice-president of the National Municipal League.

Guy Martin

Assistant Secretary, Land and Water Resources
Department of Interior

Guy Martin is Assistant Secretary for Land and Water Resources in the Department of Interior. Mr. Martin was sworn in to this position in May of 1977. Prior to coming to Interior, he served as Commissioner of Natural Resources in the Governors Office in the state of Alaska. He has also served as Washington Counsel for the state of Alaska. Mr. Martin has previously taught political science at Alaska Methodist University and maintained a private law practice.

Bill Matuszeski

Director of State Programs
Office of Coastal Management

Mr. Matuszeski is very active in urban citizenship groups on Capitol Hill. He has served as a Peace Corps volunteer and is currently working with his wife on a book about old neighborhoods and cities in the eastern United States. Mr. Matuszeski received a B.A. degree from the University of Wisconsin and a Doctor of Jurisprudence degree from Harvard University.

Allen L. Pearman

Department of Urban and Regional Planning
Florida State University

Mr. Pearman spent a year as principal investigator on the Florida Coastal Policy Study researching the potential impacts of offshore oil and gas development, a joint project of the Florida State University System and the

Florida Energy Office. The ultimate goal of the study was the formulation and preliminary evaluation of a set of policy alternatives designed to guide the patterns of development associated with offshore activity. Mr. Pearman has taught Urban and Regional Theory and Planning Methods and has written numerous papers on planning information systems.

Lisandro Perez, Ph.D.

Department of Sociology and Rural Sociology
Louisiana State University

Lisandro Perez is an assistant professor in the Department of Sociology and Rural Sociology at Louisiana State University, where he specializes in demography, rural sociology, industrial and occupational sociology, and human resource development. Dr. Perez has published articles, chapters, and bulletins on demographic trends in Louisiana, Cuba, and Colombia. For the last two years, he has been working on a monograph on the labor-related aspects of offshore oil and gas exploitation in the Gulf of Mexico. The project is being conducted under the auspices of the Louisiana Sea Grant Program. He holds a Ph.D. in sociology from the University of Florida.

James A. Prunty

Marine Regulations Advisor
Mobil Oil Corporation, New Orleans

Mr. Prunty is chairman of the Offshore Operators Committee - Fishing Advisory Sub-Committee. He has been involved in OCS development since 1948, and since 1966 he has been increasingly involved in the pollution and environmental regulation aspects of development. Additionally, he is a member of the Atlantic Offshore Committee for the American Petroleum Institute; for

the past eleven years he has worked closely with the Louisiana Shrimp Association as well as with the fishing industry throughout the Gulf and Atlantic coasts. He has worked for Mobil Oil Corporation for over 38 years. Mr. Prunty is a graduate of Marietta College, Ohio.

C. Suzanne Reed

Governor's Office of Planning and Research
State of California

Ms. Reed is currently the Director of California's 1977 OCS project and the LNG Terminal Siting Project. She served four years on the professional staff of the Senate Interior and Resource Committee dealing with energy and environmental policy, including the Deepwater Ports Act of 1974, legislation to amend the OCS Lands Act, and legislation to establish a comprehensive oil spill liability law. She holds a B.A. degree from Smith College and a Masters of Forest Science from Yale.

A. R. Schwartz

State Senator
State of Texas

A. R. Schwartz is an attorney and has been a member of the Texas Senate since 1960. He completed prelaw work at Texas A&M University and received his Doctor of Jurisprudence degree from The University of Texas. Senator Schwartz is chairman of the Senate Committee on Jurisprudence and a member of the Senate Committee on Finance and the Senate Committee on Administration. A former member of the Texas House of Representatives, he has served on every major committee of the Texas Legislature. Senator Schwartz has been responsible for numerous coastal study programs and the passage of major coastal legislation. He is chairman of the Texas Coastal and Marine Council and the National Coastal States Organization.

O. J. Shirley

Shell Oil Company
New Orleans, Louisiana

O. J. Shirley is Shell Oil Company's Safety and Environmental Conservation Manager in New Orleans, Louisiana. He is a member of Louisiana Citizens' Advisory Board on Environmental Quality and the Public Affairs Research Council of Louisiana. He has served on the Executive Committee of Clean Gulf Associates and is the past chairman of the Environmental Conservation Committee of the Mid-Continent Oil and Gas Association. Mr. Shirley is also a member of the Atlantic Offshore Committee of the American Petroleum Institute, the New England Marine Industry Council Committee, the Environmental Affairs Subcommittee of the National Offshore Operations Industry Advisory Committee to the U.S. Coast Guard, and the American Petroleum Institute Committee on Offshore Safety and Anti-Pollution - Training and Motivation. He was secretary to Gulf Universities Research Consortium, Offshore Ecology Investigation. Mr. Shirley currently serves as chairman of Clean Atlantic Associates, a new oil spill cooperative formed to support oil activities in the Atlantic, and chairman of the Atlantic Coastal Zone Management Team of the American Petroleum Institute. He holds a B.S. degree in petroleum engineering from the University of Oklahoma.

Frank Joseph Sturzl

RPC, Inc.
Austin, Texas

Frank Sturzl is project manager for a study of the onshore impacts of outer continental shelf oil and gas development conducted by RPC, Inc. of Austin, Texas. As principal researcher for the study, he has managed

the investigation of impact assessment methodologies. In the capacity of research associate with Research and Planning Consultants, Mr. Sturzl conducted studies of the social, demographic, and economic characteristics of the Texas coastal region. A former State Fellow in the Governor's Division of Planning Coordination in Austin, Mr. Sturzl holds a B.A. degree in government from Angelo State University and a Master of Public Affairs degree from the Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin.

Paul Templet, Ph.D.

Louisiana State Planning Office

Paul Templet is the former assistant director of the Louisiana Marine Advisory Committee and is the primary author of a prospectus on Louisiana wetlands. Dr. Templet works with the Solar Energy Committee at the Louisiana State University campus and is a member of the Holistic Society. He received a B.A. degree in chemistry from Louisiana State University, an M.A. degree in chemistry from Duke University, and a Ph.D. in chemistry and physics from Louisiana State University.

Kevin Waring

Department of Community Planning
Division of Community and Regional Affairs
Juneau, Alaska

Mr. Waring is director of Community Affairs, the state agency responsible for coordinating state and local planning for onshore OCS development. He has had experience in dealing with offshore development in the North Sea. Waring is a graduate of the University of Chicago in political science and the University of Wisconsin in urban and regional planning.

Linzee Weld

Environmental Lobbyist

Linzee Weld works with the Environmental Policy Center in Washington, D.C., as an environmental lobbyist. Her principal concerns are oil spill liability, deep seabed mining, and outer continental shelf oil drilling. Ms. Weld has presented testimony on deep seabed mining legislation and on American Merchant Marine questions before House and Senate committees. She has lobbied on Senate and House Outer Continental Shelf Lands Act Amendments and testified on H.R. 1614, the House version of the amendments. Ms. Weld attended Stanford University.

Elizabeth A. Wilman, Ph.D.

Resource Economist

Resources for the Future, Washington, D.C.

Dr. Wilman's previous OCS experience includes work on a project for the Marine Assessment Division of NOAA on "Valuing the Environmental Impacts of Major Development Activities in Coastal Areas." She has published "An Analysis of Camping Behavior" in *Management Science Applications to Leisure Time Operations* and "Methodology for Valuing Coastal Zone Impacts," delivered at the Conference on Valuing Public Goods, June 1977. Dr. Wilman is a member of the American Economic Association and the Western Regional Science Association.

Charles M. Woodruff, Jr.

Geologist

Bureau of Economic Geology

Dr. Woodruff served as chairman of the Resource Capability Section of the Texas Coastal Management Program from 1974 to 1976. His projects at the Bureau

of Economic Geology include land resource studies of the San Antonio River Basin, the San Antonio Metropolitan Area, the Lake Travis vicinity, and the Capitol Area Planning Council Region. He is a member of the Geological Society of America, the American Association for the Advancement of Science, and the Society of Mining Engineers of AIME. Dr. Woodruff holds a Ph.D. in geology from The University of Texas at Austin.

Martin Zeller

Office of State Planning
State of Massachusetts

Mr. Zeller was one of the principal authors of *Offshore Oil Development: Implications for Massachusetts Communities,* a policy analysis of OCS issues. He has served as director of land use planning within the Vermont State Planning Office and is now chief planner and head of the energy unit in the Massachusetts Office of State Planning. Mr. Zeller obtained a master's degree in regional planning from Harvard University.

These are answers that are going to have to be worked out and resolved in each of the affected states, in each of the affected communities. But I hope in working these compromises out, the decisions will be made on the basis of facts rather than on the basis of ill-informed emotionalism.

William P. Hobby, Jr.
Lieutenant Governor
State of Texas
22 June 1977, Galveston, Texas

3 PRESENTATIONS

Bob Armstrong

Commissioner, General Land Office of Texas

I'm Bob Armstrong, Commissioner of the General Land Office of the state of Texas. It is my happy privilege to be here in a welcoming capacity, and I will be here throughout the conference to introduce the various speakers. Let me pause at the beginning to say that in case you don't know it, this conference is put on by the General Land Office, in conjunction with the American Petroleum Institute, which normally is known as API; the Environmental Policy Center, Washington, D.C.; and Texas League of Women Voters. We sought to provide balance for the conference, and we think this group of sponsors certainly does that. We have attempted, from the beginning, to see what we could do to get what I call the players together in one forum to talk about some things that sometimes, and too often, they talk about in the courthouse or in a very contentious situation, - perhaps before Congress. It is my firm belief that the energy situation generally, and particularly outer continental shelf development, is a matter of sufficient breadth and depth for national concern. It's important that the people who are involved get together from time to time.

Why did we come to Galveston? Well, there are a lot of people who have never seen an offshore oil rig; yet some of the things that they deal with have to do with potential offshore development in their states. I had hoped that Galveston would provide a sort of microcosm of offshore development within sight of tourist-attractive beaches and within sight of a very active shrimp fleet and shrimp industry. I hope on the tours you will go to the wharf area. It's one of the busiest ports in the United States of America. Across the bay you have a chemical refining complex, and yet in the back bays you have some of the best fishing in the United States of America. And so, we thought Galveston would be an appropriate place, even though it might have been a little hard to get to.

I want to start out by attempting to acquaint the people who are from out of state with what we do - to sort of put it in a perspective. We have produced oil

and gas from under the submerged lands of Texas for some 30 to 40 years, among other reasons, simply because we had to. We have not always done it very thoughtfully; we have not always done it in a very environmentally sound manner; yet, in the later years we have attempted to begin to have what I call "the why not both" theory of operation that perhaps you can have an environmentally sound context.

One of the things that disturbed me when I took office was that we were still not paying any attention to the environmental consequences of what we did, and we could get away with it. First of all, we have a fairly stable drilling platform, in the sense of geology. We don't have a lot of factors; we are not like Santa Barbara; we are not in a situation where we are likely to have massive geological disturbances. So that platform provides a good base from which to start. The second thing is that we don't work in terribly deep water, and except for the hurricanes, we work in a relatively stable weather situation. But, given those situations that are blessings in which to operate if you are going to operate - and I am going to talk about whether you should do it or not in a minute - we feel that we have made some progress, particularly in the last few years, in *how* we go about drilling for oil and gas. Now, in the Gulf at the present time, we have 1,066 tracts leased. These 1,066 tracts encompass an area of some 1,075,000 acres. A lot of people would expect that just to be a picket fence of oil rigs bordering the state of Texas. It's not that way at all. Many of them are grouped. The most frequent reaction I get when I fly somebody from out of state is, "Well, you have all this oil and gas production, where are the wells?" They are there, but when you scatter out 1,066 tracts all up and down, you will find that what we have out of those that are leased are only 197 producing wells. And, of the 197 producing wells, we have only 106 that are what we call "active." They are either permitted and/or drilled.

In the bays, we have 1,568 tracts leased over a total 78,000 acres, as compared to the million acres in the Gulf offshore. On those 1,568 tracts, we have 1,091 wells. Now most people think, "Well, you lease a 640-acre tract, wouldn't you have several wells?" Because

of unitization, which is both an environmental plus as well as a conservation plus, you don't have wells on all the tracts that you have producing.

On the 1,568 bay tracts, we only have 1,091 wells. We have 146 active drilling wells in the bays right now. But the way we set out to lease these tracts is somewhat different from the way that other states have done it, and certainly different from the way the federal government has done it.

What I started doing at the outset was to get away from the environmental review aspect of the production of oil and gas. Now, to an environmentalist, this might sound negative, but let me tell you why it is positive. Reviews come after the fact; reviews are normally time-consuming; reviews are normally costly. What I thought was, "Why don't we look at the environmental aspects of the drilling of this tract ahead of time, so that the people who are involved from an environmental point of view could have a chance to look at this tract before we ever leased it. " And then, if they wanted to put a restriction that made sense to the Land Office on the drilling of that tract - be it a dredging restriction, be it a restriction that the drilling would be from the beach and slant over under the proposed location - for whatever reason, I thought that was preferable to what was happening. You would have somebody pay the state of Texas a bonus for a tract, and then in the course of their permitting application to the Corps of Engineers, they would be told "no, you can't do it," or "yes, you can do it, but something else is going to have to be done first." Well, this, in addition to being time-consuming, didn't seem to me to be fair. It seemed to me that if you had set your environmental restrictions up at the beginning, and had policies that made sense and were cohesive, then you could do some business.

Now, frankly the oil companies said, "Armstrong, you know you could talk about environmentalism when you were running, but this is really too much. You know, you don't really mean that, do you?" And I said, "Yes, we do." And we did. But the other side of it was that when Louisiana offshore was stopped because of failure to consider environmental consequences, when federal offshore had been stopped, we went ahead and

were able to continue a drilling program in an environmental context that I think made sense all the way through.

And so I would like to share some of the benefits of some of the procedures that we have used with states that are either first starting into outer continental shelf development or are experiencing a decision-making process about whether they want to or not. I think we have a track record that works and could be beneficial to somebody else, if for no other reason than our experience. We've never had, to my knowledge, a situation where we have had bad pollution since we started this system. We have had one or two blowouts, but we handle that generally with a reporting system. Most of the companies will get things cured if they happen - fortunately, they haven't - before they have to report. And so, this has been another tool that we have used to accomplish the production of oil and gas from submerged lands with no pollution.

Your program has a very good example of what happens in terms of outer continental shelf development - one of the best I have seen. I think you can also look at the evidence of pollution in terms of what happens between tankers, barges, or lighters and offshore development. One of the things you'll see is that a well maintained and properly drilled and operated rig can get oil to the beach through a pipeline with considerably less, in fact almost infinitesimal, damage as opposed to what you would see in the tanker situation, the lighter situation, or the barge situation. Also, it makes a light case for the advantages of a monobuoy. But, I think, before you even get to that stage, it's necessary for you to look, first of all, at whether or not you want any kind of shelf development at all.

What I would suggest to you, and what I would think that the thrust of this conference should be, is to look at how you make your policy determinations. You know, we frequently have had difficulties with the way government operates, and part of that is government's fault. We have been through some very tempestuous times, in terms of how we handled our environmental affairs. The first observation I would make is that,

tempestuous or not, I am glad that we have begun to handle our environmental affairs. At some point you have to make an initial decision about whether or not you need the energy that is there. Basically, we live in a situation, which comes as no surprise to most people, where for the first time, we have realized that the finite aspect of the energy resources of the United States of America is a basic factor.

For a long time we considered them to be infinite, and what this really means is that we found all the cheap stuff. The easy big pools are now pretty well drilled, located, and found, and they are now beginning to diminish, so we are at the end of the cheap stuff. The question then becomes, "What do we do to find the hard resources that are left?" And what you find that tied to is cost. Some of those costs are dollar costs; some of those costs are environmental costs; and some are found in how we are going to handle basic policy decisions.

Well, the first thing is that you are going to have to determine whether or not to seek this resource, and we have pretty well determined that we are. The President's energy message talks about the policy of conservation, and that's extremely important; but, perhaps he doesn't talk enough about it. At the same time, he talks about additional production of energy. Then, the next question I think anybody rationally has to ask is "How?" And the how is where it gets hard; that's why we are here, because I would like for us to spend a little time talking about, How do we do it? If you still want to say, "Let's don't do it," then that argument is open to us. But, I think given the fact that we are going to have energy requirements, we have to get to the how. And so, I have hoped that this conference could be the first of a series of efforts for the people who are involved - the players both in the environmental area and in the production area - to sit down together. I know of no time that this has happened in the United States of America before, when someone has really tried to get all of the players together for a dialogue.

I would issue a couple of general rules. First, I hope that all of the speakers will be available for questions, so that we might have some dialogues set

up - and not just a speaking and listening situation in this room - as the two or three days go forward. The other thing I hope is that people who are involved will listen to the other side if they have a position, because we have found, particularly in our coastal management effort, that that is also important.

For the first time, we are looking not only at environmental concerns of the past, but we are looking at new areas, not just what happens in the area of oil and gas production in the ocean, but what happens as far as the impact on society on the beach. I think Sarah Chasis is going to talk about the Long Island experience and the Baltimore Canyon area, where the determination was made that they might have looked pretty well at the ocean environment, but they really didn't look at the social impact of what happens to communities that are going to bear some of this burden.

I will close by saying that frequently I hear people say that government is bad; it is too big; there is too much of it; it doesn't function very well. My first observation, being in government, is that you are lucky to be able to say it. You can read in the paper where somebody is saying government is bad and turn the page and see where somebody has been literally ejected from a country because he reported that somebody in that country might be saying that government might have some deficiencies or limitations. But I would say that irresponsible government is bad, that dictatorial government is bad, and that uninformed government is bad. These are things that we need to do something about; things those of us who are in government and make these decisions need to change. I hope that this kind of a conference will maybe show the other side of that: that a government that is responsive and closer to the people is good; that a government with public participation by those that are governed and that reaches out to them is good; and that enlightened and intelligent government is good.

Somebody has to make decisions. Somebody in a corporation at the board of director's level, or at the president's level, has to make the decisions. Somebody in government has to make the decisions. What I hope is that this conference can be a tool for those of us in

government to listen and a forum for you to talk. Maybe we can get some of the hard problems ironed out here rather than in the courtroom; then we can move forward in an orderly way with this business of handling our problems.

William P. Hobby, Jr.

Lieutenant Governor of the State of Texas

Let me share with you a few thoughts about the problems concerned with the development of our offshore supplies of oil and gas. I would like to talk about the lesson that all coastal states can learn from the coastal states that are currently producing states, both from their successes and their mistakes. I would also like to talk a little bit about those things that the coastal states that are not now producing states should insist upon as prerequisites to offshore development. And third I would like to talk about the place of offshore development in our overall national energy policy.

We have all, of course, had the opportunity to study and examine President Carter's national energy policy. It places great emphasis, as it should and must, upon conservation of energy. Certainly, every one in this room who is aware that our hydrocarbons are a finite resource will agree that the 20th century will go down in history as a sort of Golden Age of cheap energy. We have found virtually all the oil and gas that has been found in the 20th century. We are going to burn up most of it by the time this century is over. So clearly some of the aims of a rational energy policy must be to conserve those oil and gas resources that remain; to encourage the development of those that we know are there but for various reasons, mostly economic, we have not been able to develop; and finally, to assist in the transition to other energy sources, some of those now regarded as exotic sources. But with all the emphasis that President Carter's plan places on conservation, a less noticed aspect of it, and an equally

important, equally vital aspect of it, is the fact that it calls for a rate of exploration, a rate of production, and a rate of finding of new reserves equal to that of any time in our history.

The height of drilling activity - of exploring activity - of course, was in the 1960s, when over 90 million feet of wells were being drilled per year. And incidentally, it is a fascinating statistic to me that over the last couple of decades the rate of finding has been very, very stable - for every foot that has been drilled, roughly 16 to 17 barrels of oil have been added to our reserves.

Sixteen to seventeen barrels per foot drilled, at a drilling rate of over 90 million feet a year, translates into millions of barrels of oil per day, which is the unit which will be used in discussing these projections. That translates into about a 4.7 or, call it five, million barrels a day addition to proven reserves.

We are now using somewhere on the order of 10 or 11 million barrels a day from domestic sources. The drilling rates are now down into the high 40 million range, so that shows we are adding probably less than two million barrels a day now, when we are using 11 to 12 million barrels a day, just to give you the rate, even with renewed drilling activity, at which our reserves are being depleted.

There is no question that the demand for oil and gas is going to continue to grow. The question then, and really this question is the subject of the conference, is how is that demand going to be satisfied?

In meeting this demand, we need a sound national policy, and not a series of regional policies. President Carter has begun the attempt to formulate one with his energy plan. But the most important way in which he can use the power and prestige of his office is to confront the American people and their representatives with the inescapable trade-offs which the energy question presents in the short run, and to keep the attention of the people and the Congress focused there until these trade-offs have been made. Policies concerning the development of federal outer continen-

tal shelf oil and gas reserves are at the center of many of these trade-off questions, and this is particularly true in the areas that are not currently producing areas.

The development of our offshore reserves raises the question of the degree to which our demands for energy in the short run are to be met from domestic production or from importation. Since 1973, our reliance on foreign oil has increased from 35 percent to 40 percent. The money paid out to foreign governments and their petroleum ministries siphons off at least part of the capital that the American economy needs to equip its growing industries with the technology to control air and water pollution and to pay the cost of government services. If we want to slow this drain of resources, we have to develop our own reserves. Offshore oil and gas constitutes a major part of the remaining undeveloped domestic reserves of this country. Thus, in deciding when and how quickly to develop these resources, both foreign policy and foreign trade considerations have to be kept in mind.

Another major issue which arises in relation to energy production of any sort is environmental concern. Almost all forms of energy production present at least the risk of some harm to the natural environment; even so, society demands an energy supply. The critical environmental question is the relative risk of environmental harm posed by the alternative sources of energy production. This comparative approach is particularly important in a discussion of outer continental shelf development. There is a great fear among many people that outer continental shelf development will result in catastrophic oil spills and onshore impacts, which will endanger not only the ecosystem, but the fishing and recreation interests as well. This is a legitimate concern, but it obscures the real point. What are the alternative sources of energy to these regions, and what are the comparative risks?

At present, most of the petrochemical fuel supply for the Northeast and Atlantic states arrives by tanker, either from foreign ports or from the Gulf of Mexico. And this transportation of petrochemicals poses very real risks. Some comparison of these risks is possible. The United States Coast Guard reports that of the 15

million barrels of oil and petrochemicals spilled last year, 35 percent came from tankers and barges, while about one-half of one per cent came from offshore operations.

The second point of comparison is the substance actually spilled into the ocean. Offshore oil development, when it does result in spills, results in spills of crude oil. Crude oil is an organic chemical which tends to break up and to be degraded by microorganisms, sunlight, and aeration. On the other hand, refined petroleum products, carried in tankers and barges, are extremely toxic and tend to result in long-run harm to the environment. It is clear that, more and more, our imported energy will be in the form of refined products. So, there is a trade-off between the possibility of crude oil spills from OCS platforms and the possibility of crude and refined product spills from tankers.

An entirely different situation is presented in the question of natural gas supplies. Much of the United States' offshore reserves may be in the form of natural gas. The production of natural gas offshore would appear to pose relatively few environmental risks. An alternative source of natural gas, which is increasing in prominence, is the transportation of liquified natural gas from Algeria and from other sources. Liquified natural gas, as you all know, presents substantial risks because of its potential for disastrous explosions. The location of liquified natural gas plants in currently nonproducing areas is a direct trade-off with the increased production of natural gas offshore from those same areas.

And, finally, there is another trade-off raised by the question of outer continental shelf development. That is the question of regional versus national interests in an energy policy. There are strong feelings among the people of the Gulf Coast that those on the Atlantic and Pacific coasts seem to want a free ride. One of the costs of failure to develop the federal offshore reserves in the Atlantic and the Pacific is an increasing strain on relations between various regions of the country. These feelings may create obstructions to other portions of an overall national energy policy. Thus it may be desirable to relieve these pressures by at least limited develop-

ment of Atlantic and Pacific reserves as a means to defuse the political issue.

I have talked so far about a series of trade-offs which offshore development poses to the environment, to the national energy policy, and to the politics of energy. I would like now to turn to some issues where I don't believe that trade-offs are necessary or desirable. These are the terms upon which outer continental shelf development should take place, and these terms should apply to offshore Texas, offshore Alaska, offshore Massachussetts, offshore anywhere. I think that the terms are reasonable, and as long as they are predictably and consistently applied, they can be adhered to without great burden on the producing companies. There are three terms which should be emphasized in federal policy and enforcement activity.

The first is to require the best available technology be used in all offshore and onshore operations to protect the environment and the activities which depend on renewable coastal resources. This will, to some extent, increase the cost of production, but this increased cost is a reasonable price to pay for increased protection of the renewable resource base.

The second term that I think we should insist upon is a scheme of compensation by all offshore operators for damages to the environment and to fishing and recreation interests. Progress has been made in this area regarding oil spills and damage to fishing equipment by offshore operations. However, there is still plenty of room for improvement.

The third term that we ought to insist upon is full compensation to the states and localities for the adverse effects of outer continental shelf development. Our analysis of the impacts of OCS development in Texas indicates that there will be a continuing fiscal drain on local government from this activity. Because the oil and gas is beyond the taxing jurisdiction of the community, the net effect can be a negative one, even in areas with no existing production. Federal government has, in the past, made its compensation payments in the form of grants, shared royalties, and through other means of direct assistance. Now is no time to

change this policy. Full compensation will require further thinking and amendment of the Coastal Energy Impact Program to better reflect the actual fiscal characteristics of offshore development.

And now, I would like to discuss the final topic with you. A great deal has been made of the idea that experience with drilling off Texas and Louisiana cannot be transferred in total to the Atlantic and Pacific coasts. The differences in climate and the differences in ocean bottom conditions make part of this point obvious. However, it should not be overlooked that there do appear to be several important lessons that frontier areas can learn from the experience of the currently producing states.

I am aware that the courting of oil companies by the New England and Middle Atlantic states has already begun. I think that while good relationships between business and government are important, one should be careful not to give away advantages that really won't affect decisions by businesses. Outer continental shelf development is going to follow the geology of where the oil and gas is actually located and the market forces that determine the most efficient way to carry out development of those resources.

Marginal tax incentives or other such inducements will have no great effect on the ultimate location of the support facilities. It is also important for localities not to be intimidated by the very impressive sophistication of the existing offshore service companies. Many, if not most, of these companies began as adaptations of other businesses involved in onshore oil and gas operation. It is important for state and local governments to help their local firms in adapting to OCS service needs. This is a way to use OCS activity to build a local economic base that won't go away after the development period is over. It is a way to increase the percentages of profits which are kept in the community and to build the community for the benefit of all of its citizens. It is also one of the best ways to control a potential influx of transients into a developing area.

State and local governments should also promote and, to the degree they can, insist on the hiring of local

people for offshore jobs. Now, this is obviously important for several reasons. First, it will limit the influx of new population into an area and decrease some of the adverse social and economic impacts of any rapid development. Second, it will result in an upgrading of the labor force, which will increase the attractiveness of the area to other industry and other economic activities, as well as OCS development.

Now, perhaps the major problem posed by the buildup of personnel in support for outer continental shelf development is the local shortages that can be created in housing and other physical facilities onshore. Of these, housing is perhaps the most critical. A shortage of housing pushes rents up and penalizes people on fixed incomes. It can result in an unplanned growth of residential areas, which brings higher taxes to existing residents to supply public services. The provision of housing and related infrastructure is a matter which should be negotiated by state and local governments prior to agreeing to the siting of facilities in their area. It is a reasonable request, and one that is well within the power of major oil companies to fulfill.

Finally, I would like to say something about the question of energy facility siting in the coastal zone. States and localities should impose performance standards on energy facilities, just as they would impose them on any other industrial activity. If a facility can meet noise, air, water, and visual performance standards, then the fact that it is or is not engaged in energy production is really rather irrelevant.

I have discussed a variety of issues this afternoon. I have not provided you with any answers, and I can't. These are answers that are going to have to be worked out and resolved in each of the affected states, in each of the affected communities. But I hope that in working these compromises out, the decisions will be made on the basis of facts rather than on the basis of ill-informed emotionalism.

J. R. Jackson
Exxon Company, USA

It is a pleasure to participate in this offshore development conference. The title "Dialogues Toward Understanding" is particularly intriguing. It can be defined as a series of conversations between people toward mutual comprehension of each other's meanings. Hopefully, out of this conference, greater understanding will result.

Quite contrary to what Bob Armstrong told you a little while ago, the oil industry has participated in numerous such programs over the last few years. It has come to realize the ever-enlarging interest by members of citizen groups in public and petroleum activities and the need for more enlightenment. As this awareness has increased, the industry responded by participating in programs and discussions designed to communicate and help educate the participants in complex, technical, scientific subject matter. This has been a substantial program, with most of the effort carried out in the petroleum frontier areas of the East and West coasts and Alaska. Many of the people who participated in these activities are in the audience today.

We are happy to have a good representation from the oil industry. I apologize for their having to listen to me again, since they have done it on too many occasions. And, finally, we believed prior to the announcement of this conference that states such as Texas and California, the producing states, were knowledgeable of our industry, and such a conference wouldn't be necessary here. But we've apparently overlooked an opportunity, and we are happy to try to fill this by a number of industry participants.

A number of factors indicate these efforts may be enjoying some success. President Carter and his new administration have enlarged the awareness of the general public about the energy situation and have reinforced some positions the industry has been taking for years.

The Roper Poll, which researches belief in the reality of an energy shortage, has shown a dramatic change since September 1976. It indicates that believers in the existence of a severe energy crisis now outnumber disbelievers by 55 percent to 39 percent, an almost complete reversal. In April 1977, a Harris Poll indicated that 86 percent of the people now believe the energy situation is serious. Numerous other polls confirm a decided change in the opinions of the American public about the energy situation.

Other significant straws in the wind are two articles in the June issue of the *Florida Naturalist*, the house organ of the Florida Audubon Society. One article is by Nat Reed, former Assistant Secretary of the Interior for Fish and Wildlife, and the other is by Hal Scott, President of the Florida Audubon Society. Both articles indicate awareness of the seriousness of the energy situation and both, in effect, reinforce positions previously stated by the petroleum industry. There appear to be continuing indications of the growing awareness by the American consumer of the seriousness of the energy problem and of how it will have impacts financially and on the quality of life.

Of all the statements and comments that have been made concerning the energy crisis, one of the most severe recently appeared in a report by the Office of Technology Assessment distributed to all members of Congress by Representative Tom Ashley, Chairman of the House Ad Hoc Energy Committee. This report stated, "the energy crisis is so serious that it contains the seeds of depression, revolution, and even world war." The petroleum and energy industries may not believe the situation is quite this serious, but there is unanimity that steps must be taken in a very timely manner to solve the problem. It can be solved, but there are a limited number of options available for a solution. Time is very important and delays will be destructive to the national interest.

Today, let's discuss briefly some of the available options and try to put the energy problem into better focus before addressing the subject of "Onshore Concerns with Offshore Development." In addition to an overview look at the energy situation and problems of

onshore concerns with offshore development, Jean Krausse, conference coordinator, has posed some questions germane to this conference. Hopefully, time will be available for questions and discussions to have a "Dialogue Toward Understanding."

One of the greatest problems facing the petroleum and energy industries is delay in the development of energy resources. This problem is being exacerbated by legislation in the Congress; rules, regulations, and red tape in the agencies; and confusing signals from the administration. These delays are being supported by opposition from citizen organizations using the courts and other tactics to prevent development of domestic resources, usually under the guise of an inadequate environmental impact statement. Every layer of government adds to the problem, and unneeded regulations, reports, etc., increase the time it will take to solve the nation's energy problem and increase costs of all items to the consumer. Meanwhile, imports of foreign crude continue to increase while domestic production continues to decline. The OCS Lands Act Amendments Bill is a prime example.

Dr. Jerome Wiesner, President of MIT, addressing this year's graduates at commencement stated, "at the moment there is opposition to all types of nuclear power plants, strip mining and burning of coal, offshore drilling, oil tankers, construction of pipelines, construction of liquified natural gas facilities, and mining of tar sands and oil shale." He did not mention that there is also opposition to hydroelectric projects, pumped storage facilities, offshore nuclear plants, tanker transport, deepwater ports, offshore processing facilities, geothermal development, and every type of onshore and offshore facility and activity needed for energy development.

On the other hand, there is support only for those energy sources that will contribute very little in the next 20 to 30 years or whose contribution will be limited by various factors. Solar energy is one example, as well as many of the exotic sources such as windmills, ocean thermal gradients, tidal flows, use of garbage and manure, biomass, etc. None of these has a great potential for solving today's energy problem. Most will

provide only supplemental energy to the major energy sources. Yet each can contribute some energy, and all sources will be needed. The petroleum industry supports the development of all available energy sources. We also support research and development of those clean inexhaustible sources of the future (solar-fusion) and a strong program for conservation and elimination of wasteful uses of energy. However, we believe people must look at these in proper perspective and not place faith in miracles which cannot and will not take place overnight.

(slide presentation – summary)

Exxon annually prepares energy outlooks for corporate purposes and publishes these for use by interested parties. Let's briefly look at a few key points from the latest study.

Oil, natural gas, and coal are the dominant energy forms now and are expected to be at least until 1990, and probably for much longer. These three sources, with the addition of nuclear energy, will supply 97 percent of our energy in 1990. All remaining energy sources - hydroelectric, geothermal, solar, and any new developing technologies - are expected to supply only about three percent by 1990. This clearly demonstrates why we must use oil, gas, coal, and nuclear sources for many years to come and as a bridge to future energy sources.

Concerning the historical and projected natural gas supply over the period 1960-1990, two points are important - domestic production of natural gas peaked in 1972, and it continues to decline. Most of the expected new discoveries will be from frontier areas such as Alaska and the outer continental shelf. If delays occur in bringing these areas into production, the projections will fall short of projected production, worsening our problem. Gas imports are projected to increase to about one trillion cubic feet per year through 1980, and then climb to 2.6 trillion feet by 1990.

Future discoveries of oil amount to about 50 percent of the domestic oil production in 1990. Most of

these discoveries will also have to come from frontier areas of Alaska and the outer continental shelf. Frontier areas have long leadtimes, and any additional delays over and above those normal and necessary operations will only exacerbate the situation and cause the domestic oil and energy picture to worsen. The disturbing part of this is, of course, the great growth in imports, which is projected to amount to 48 percent of our oil supply in 1990. In 1976 we imported 42 percent of our liquid petroleum needs, and in the first three months of 1977 we imported 46 percent, or 8,862,000 barrels/day.

Oil is the swing fuel for the U.S., as it is for the world. It is called upon to satisfy energy requirements not met by other fuels. With U.S. oil production at capacity, oil imports are the swing source of oil. Those rising import requirements can be met by only a diminishing number of foreign countries. In 1960 U.S. oil imports were under two million barrels per day and were overwhelmingly from Western Hemisphere sources. By 1973 our imports had tripled. The Eastern Hemisphere was a major supply source. Nonetheless, relatively secure Western Hemisphere sources were still our major suppliers. That was the year the embargo came.

By 1976, U.S. imports exceeded seven million barrels per day: Western Hemisphere sources declined sharply, and the Middle East and other Eastern Hemisphere nations such as Nigeria, Libya, and Algeria were supplying 70 percent of our imports.

Now, let's turn to the subject of onshore impacts and concerns.

It is difficult to identify impacts that might occur onshore because of offshore operations since the basic knowledge - amount, type, and location of resources present - is unknown. Many wells producing over a long period of time are necessary to obtain accurate quantification of hydrocarbon resources. Decisions as to the commercial nature of potential deposits depend not only on the amount of resources, but many other factors. These factors include characteristics and quality of the reservoir; geology; distribution of produc-

tion vertically and horizontally; producing depth; drive mechanism; economics of developing, producing and transporting; objectives and requirements of lessee; geographic location; degree of economic development; population density; and environmental considerations.

Location of operations bases will eventually be decided by successful bidders using guidelines applicable to that particular company. Decisions as to the type of transportation, location of pipeline corridors and landfalls, volume of production, and final destinations of the product are important factors best decided by those with economic interests operating under minimum reasonable and realistic rules and regulations.

In the absence of definitive knowledge concerning these matters, it is impossible to make accurate predictions of impacts, particularly since the most likely prediction would be the absence of commercial production and minimal impact. However, it is possible to make judgmental estimates of a range of potential resources and to develop ball park scenario predictions as to number of platforms, rates of production, number of people, onshore acreage required, etc. A range of estimates may bracket the eventual correct scenario, which may not be known for many years. It must be understood that these predictions are hypothetical, and the large number of variables will probably cause them to bear little resemblance to the eventual real world. For example, exact numbers for these types of questions are not known for the Gulf of Mexico after 30 years, and they will always be a moving target.

Many studies have been made of the possible onshore impact of offshore operations. Near here, on Pelican Island, you have the opportunity to see modern facilities in operation and to judge for yourselves the extent of impact, positive and negative, on the onshore area. Every type of human activity has some impact, and with that caveat I believe you will determine these operations are neither damaging or unattractive. Like most things, the impact varies in the eye of the beholder, and since each of us has built-in biases, we see things differently. To me a mobile rig or production platform is a creation of engineering beauty; to others it may be an aesthetic eyesore.

Objective studies not designed to elicit federal funds will determine that offshore operations are positive, create a favorable economic balance, and do not create unacceptable environmental problems. Studies designed to obtain maximum financial largess from federal fathers will take a different view.

Bearing these thoughts in mind, let me illustrate some of the types of services and supply facilities used onshore in support of offshore operations.

Transportation is a major problem - supplies are moved by boat, personnel by helicopter or boat, and oil and gas can be brought to shore by a number of methods. The preferred method is by pipeline when it is economically and environmenatlly possible.

Another method of bringing oil ashore is by producing and storing it offshore and then loading it into small tankers for transport to shore. We do not have harbors that will accommodate large tankers.

However, as mentioned, transport by pipeline is the preferred method. Environmentally, only a small and temporary disturbance is created. However, much concern is expressed about pipeline effects.

An example of minimal effects of pipeline placement is at Cruden Bay where a 36-inch pipeline was installed by British Petroleum. The area where the pipeline crossed the beach has been completely restored and the pipeline is invisible except for markers.

In the Gulf of Mexico's northeast area - Mississippi, Alabama and Florida - some 17 wildcat wells were drilled exploring the lease sale held there in 1973. A study of the impacts of that exploration effort reveals that only about 15 acres of land were used, some 44 people were transferred in, 39 were employed locally, and industry expended about 3.4 million dollars in the local areas - a minor impact indeed.

Drilling operations for the Atlantic cost wells were conducted from this facility. Exploratory operations for many companies will be conducted from Davisville, Rhode Island, utilizing the old Seabee Base

and Naval Air Station, if and when the costly and destructive lawsuit is completed. During the drilling of the two cost wells, 54 persons were used for onshore support and 72 percent were local employees who were paid over $1 million in wages. Total local expenditures amounted to about $1.8 million.

Davisville offers excellent docks, ample space, and a warm welcome to the oil industry. This consideration resulted in some 40 industry operating and support activities locating at this Rhode Island base. The oil industry, like most business enterprises, likes to operate where the business and political climate is hospitable.

In general, if exploration is successful, permanent operating platforms will be installed offshore. The platforms in many areas are far at sea and not visible from shore.

This type of platform would be constructed at a facility similar to McDermott's Black Bay construction facility. A new facility of this type will possibly not be constructed until industry is certain enough construction will take place to warrant the large investments. Facilities of this type exist in Texas and Louisiana and on the West Coast. Additional yards are not expected to be constructed until much greater need develops. Another example of an operation base is the Exxon facility at Intracoastal City, Louisiana, which has about the same types of facilities as the McDermott operation.

From a permanent platform we have the ability to drill wells in all directions, thus reducing the number of platforms needed and the amount of space used offshore. This type of platform uses about 1/100 of a lease block or about the same relative space as a postage stamp in a 10-foot by 10-foot room.

In connection with offshore development, various types of companies will require land area for supplies and services; for example, pipe coating companies and storage areas, supply companies which sell oil and field supplies, machinery service companies, and food supply and catering firms. Supply companies provide the many

different items required offshore. Generally these companies supply the highly specialized types of oil field equipment that is used worldwide.

If gas is found offshore, it will be necessary to have a gas processing plant to remove the liquids. Such a plant would not have to built on or near the beaches, but it could be built some distance back from shore and would not have a negative impact on recreational areas.

If oil is discovered, it is probable that a pumping station would be required to increase the pressure to move the oil to an existing refinery.

One of the earliest and most comprehensive studies to determine possible onshore impacts of offshore development was conducted by Woodward-Clyde Associates of Clifton, New Jersey. This study indicates that impacts will be minor, and when viewed for the Mid-Atlantic area in the context of the highly developed and industrialized East, they would hardly create a ripple.

Let me summarize offshore activities: 29 years, over 21,000 wells, large amounts of oil and gas produced, and only one spill that caused damage to the beaches and shores. That was temporary and the area has recovered well.

Our domestic oil supply is in clear and present danger. Alternate energy sources to replace oil and gas are far in the future and will probably not be an important part of our energy mix until after the turn of the century. The offshore area offers the best potential for relief from dependence on foreign sources, and numerous polls support offshore drilling as one of the principal methods to help solve the energy problem. A federal-state regulatory role is required, but it should be minimal to avoid costly delays and excessive red tape which increase costs to the consumer and to the nation.

Next, I would like to try to answer the questions Jean Krausse posed in her invitational letter.

Q: First, why do you feel so much attention has been focused on the environmental risk of offshore development relative to other forms of energy production and transmission?

A: The Santa Barbara oil spill of 1969 created a great deal of emotion. It generated a lot of press coverage and it marked the beginning of the environmental movement. The combination of this spill along with two spectacular fires that occurred soon after focused a great deal of attention on the offshore. We feel the environmental risk of offshore development is minor. It has been badly overstated because of misinformation and emotional overreaction.

Q: Second, what is industry's responsibility to aid communities in dealing with onshore impacts of development?

A: Petroleum companies install facilities that add to the tax base, bring in well educated and well paid employees who add economic and social benefits to the communities, and provide the growth and stability of a progressive industry. These activities provide a strong economic boost to a community, with very little negative impact. I believe it is also industry's responsibility to work with community leaders to inform them of activities which will affect the community. This is normal in the petroleum industry and it works toward obtaining community approval of its activities. The industry is a responsible corporate citizen and is an asset to any community.

Q: Third, should this burden be greater than that borne by other industrial activities?

A: I see no reason why one industry should be burdened more heavily than another. Each should be responsible for its own actions and activities and each must obtain necessary permits and meet established performance standards. As long as these are met, one should not be arbitrarily penalized.

Q: Fourth, what control can the lease holders exercise over the impacts caused by their subcontractors?

A: The industry can exercise almost complete control as a matter of economics. If contractors do not properly perform or if they do things that are environmentally destructive, the industry can exercise control by refusing to contract or by canceling contracts.

Q: Fifth, what do we feel are the key issues raised in the recent suit concerning development of federal reserves of Long Island?

A: We do not know if reserves exist in the Mid-Atlantic. We hope there are resources that can be developed. The only way we will ever know if these are present or their value and volume is through the drilling of, not one or a few, but many wells. In my judgment the issues involved in the suit were based on a lack of knowledge and understanding of the petroleum industry by the groups that filed the lawsuit. The suit involves a few narrow legal questions that have no real bearing on what, or how, or if there is oil and gas present offshore and whether any environmental damage will be created. It is only being used for delay. The delays are not in the national interest and will harm each and every consumer in the country. Delays exacerbate the energy situation, particularly offshore where the leadtimes are so great. Delay is the deadliest form of denial, and its practitioners are hurting every individual.

Sarah Chasis

Natural Resources Defense Council

I would like to begin with just a brief word about the Natural Resources Defense Council (NRDC), which many of you have probably never heard about. It is a national environmental organization, dedicated primarily to enforcing the federal environmental laws. There has been an ongoing interest in monitoring of the federal accelerated offshore leasing program by the NRDC - by its lawyers, its land use planners, and other technicians. We have participated extensively by commenting on the environmental impact statements which have come out and, while we have not litigated each lease sale, we have taken the government to court on one of these.

I would like to speak this afternoon about issues of concern to many Americans who want to see the nation's energy resources developed, but without shortsighted exploitation at all cost to the environment. We do believe that the oil and gas resources of the outer continental shelf can be developed in a way that is consistent in the long run with the preservation of the environment and our renewable resources. The accomplishment of this goal, however, requires adequate advance planning and the imposition of full environmental safeguards by every level of government and by industry. The federal government must engage such advance planning in its development of a leasing schedule and in its gathering of data to permit proper assessment of the benefits and costs associated with allowing OCS development to proceed. The federal government must also impose full environmental safeguards in leasing operations, such as the requirement for utilization of best available and safest technology.

State and local governments have a very important responsibility, too. They must undertake advance planning to prepare for the onshore support facilities which may locate within their jurisdictions, and they must ensure that in the construction and operation of these facilities, valuable coastal areas are not destroyed. We believe that the same kind of investment of money and time and the same type of technical

ingenuity should be applied to the planning and implementation of environmental protection as is presently applied to OCS development. If this is done, then OCS production and development can proceed without leading to wholesale environmental destruction.

The question has been asked why so much concern has developed about the offshore oil drilling as compared with other energy programs. I believe the origin of concern can be traced to at least four factors.

First, the federal government announced in 1974 its intent to lease 10 million acres of the outer continental shelf - as much as had been leased in the previous 20-year period. While this goal has been scaled down, OCS leasing is still planned for at a much increased pace.

Second, this accelerated leasing is in frontier areas, where there has been no prior experience with similar climatic, geographical, and seismic conditions elsewhere in the United States.

Third, the method of making leasing decisions has placed the federal government in direct conflict with adjoining states and localities. The federal government has made decisions about OCS development which can adversely affect the coastal states, without including them in the decision-making process in a significant way.

Finally, the leasing has been, and continues to be, conducted pursuant to the requirements of the Outer Continental Shelf Lands Act of 1953, an act that we believe fails to reflect the awareness that now exists of the environmental ramifications of OCS development. The magnitude of concern about oil and gas development on the outer continental shelf is reflected in the fact that each lease sale in a frontier area has been challenged in a lawsuit. The Southern California lease sale was challenged by the state of California and the Southern California Association of Governments. The Gulf of Alaska lease sale was challenged by the state of Alaska. Baltimore Canyon in the Mid-Atlantic was challenged, not only by the Natural Resources Defense Council but by the state of New York, originally, and by

many counties and towns on Long Island. Each of these lawsuits challenged the adequacy of the federal government's analysis of the likely impacts resulting from OCS development and the government's failure to consider alternatives which could mitigate these impacts.

Of special concern were: the inadequate analyses of onshore impacts which would result in failure to adequately assess the likelihood and consequences of a major oil spill; the inadequate information on the fishery resources of the area, and the effects of chronic pollution on aquatic life; the failure to consider separating the exploratory phase from the development and production phases; and the failure to consider including a cancellation provision in the leases, in the event that serious environmental hazards should be encountered. Challenges also were made to the anticompetitive nature of the lease sales and the bidding processes, which tends to encourage concentration of leases in the hands of the major oil companies.

Perhaps the vehemence of the objections made at the time of the lease sales could be best understood if one considers the present leasing system. Under this system, critical choices are made by the government at the time of leasing, which may not subsequently be altered: the tracts to be leased; the lease terms which will govern operation; and the granting of the rights not only to explore areas, but to develop and produce oil and gas, for perhaps the next 20 to 30 years, or as long as there are commercially producible amounts of oil and gas in the areas leased. The critical decisions are now made at a time when the federal government, as Mr. Jackson pointed out, has little knowledge of the extent, nature, or location of the oil and gas resources, or the biological resources which will be affected. When that information is subsequently obtained, it is often too late to affect leasing operations, since the lessees by then have obtained vested rights.

The series of lawsuits to which I have referred have for the most part been unsuccessful. Judges have been reluctant to intervene in deference to national energy policy goals. This has not uniformly been the case. In the lawsuit that we have been involved in, challenging the first lease sale in the Atlantic, the

federal district judge declared the lease sale invalid, and I would like to reiterate the reasons that he based his decision on and also say that this is not a decision which precludes development of OCS resources in the Mid-Atlantic. It is a question of making sure that prior to the undertaking of exploration, development, and production, the proper advance planning occurs.

First, the Secretary of Interior, in making the decision to hold the lease sale, ignored existing state and local laws, and the effects the exercise of such laws could have on leasing operations, including whether tankers or pipelines are used to transport oil ashore. This is an issue of critical importance to coastal states.

Two, the Secretary failed to project or consider the impacts of probable pipeline routes from the OCS to shore, despite the fact that the information was available to the Secretary, and that such projections were made by the industry.

Three, the Secretary greatly overstated peak oil and gas production, and understated the cost of such production, with the effect that there was an overestimate of the net value of the entire project.

Four, the Secretary failed to consider the impact of particular tract selection choices on the feasibility and location of pipelines and related onshore impacts.

Five, the Secretary failed to consider the alternative of separating exploration from production leasing.

The judge concluded, and I think this conclusion is something that NRDC certainly agrees with, that "adequate consideration of these factors might have led to modification in the sale 40 leasing program, resulting in greater environmental protection, without impairing reasonable exploitation of offshore hydrocarbon resources."

The cumulative effect of the litigation over the leasing program has been to force the federal government to reconsider its leasing policies. The Secretary of the Interior has recently revised the leasing schedule

to take into account some of the concerns raised by states, localities, and environmental groups.

Of paramount concern to environmental groups have been the onshore impacts related to offshore development. The oil and gas have to be brought ashore, processed, refined, and distributed somewhere. In addition, prior to the time oil and gas are brought ashore, steel production platforms must be fabricated and pipelines assembled and coated. All these activities depend on the construction and operation of onshore facilities, which require substantial amounts of land, air, and water resources, as well as extensive infrastructure support.

The Council on Environmental Quality concluded in its report to the President, entitled "OCS Oil and Gas: An Environmental Assessment," (dated April 1974): "Outer continental shelf oil and gas production will result in onshore development of huge refineries, petrochemical complexes, gas processing facilities, construction industries, and other service operations. This development will create jobs, increase income, shift populations, change residential and commercial development and land use extensively and degrade the environment."

It has been projected that the onshore development related to the Mid-Atlantic lease sale alone, will require utilization of 12,000 acres of land, and I would like to say there has been substantial criticism of the Woodward Clyde report because of its failure to account for certain types of facilities which may well be engendered by the sales in the Mid-Atlantic - for example, expanded refinery capacity, the land associated with onshore pipelines, and other facilities. The question is whether this massive industrial development will take place in a frantic, unplanned fashion, which can obliterate valuable recreational areas, wetlands, shoreline communities, and fisheries; or whether it will occur in a rational manner, following comprehensive social, economic, and environmental planning.

Anyone who has seen the New Jersey meadowlands knows the consequences of the former. In Louisiana, over the last 20 years, there has been lost to

the coastline a strip of area which has been developed along the coast averaging a mile in depth. Forty percent of the damage has been from the oil, gas, and sulphur industries. The land use and socioeconomic disruption resulting from the magnitude and often compressed timing of onshore impacts has been highly visible in Scotland.

I'd like to now quote from some studies that were conducted, one by the National Ocean Policy Study for Congress, another by Pamela Baldwin, "The Onshore Impacts of Offshore Oil: Lessons from Scotland":

> Direct employment in oil support activities in northeast Scotland grew from 2,265 to 11,275, during the short period between December, 1973 and March, 1974. Local efforts to plan for this explosive growth have not always been successful. For instance, one platform fabrication plant, estimated in advance to employ 600 persons, actually employs 3,000 in peak periods. Shortages of housing, skilled labor, berths in harbors and equipment have had an adverse impact on some of the older, established industries. The city of Aberdeen, now sometimes called the Houston of the North, has experienced rapid growth because of oil. One consequence of this growth has been a skyrocketing price for land. During the last four years the price of industrial land, with water and sewer service, in the Aberdeen area, rose from $7,200 to as much as $96,000 per acre. The most notable impacts in Scotland have been the result of support industries, such as oil production platform fabrication, rather than the oil industries own operation. Employment and activity levels in these support activities peak even before oil production begins. Construction of any sort is a labor intensive activity, and massive construction activities involving platforms, pipelines, tanker terminals, and refineries, not to mention schools, houses, offices, roads, and other public facilities, bring thousands of workers into areas experiencing oil development. When this boom is over, an early bust may follow. Shrinkage of population and job opportunities require planning and management.

These matters raise serious concern to environmentalists and local and state communities. Other matters of serious concern, besides the onshore effects, relate to the matter of transport of oil ashore. Are tankers, which have become increasingly notorious for massive spills, to be used - or pipelines? That is of great importance. The North Atlantic lease sale environmental impact statement and the South Atlantic lease sale environmental impact statement indicate that tankers are likely to be used to bring the oil ashore. That is true as well in the Gulf of Alaska; so we are likely to be faced with a situation where we have increased tanker traffic due to OCS operations in frontier areas. This may contrast with the experience in the Gulf, where most of the oil has been brought ashore by pipeline. Another serious concern is whether adequate measures for containment and cleanup of oil spills exist. The experience this year with the Argo Merchant spill off Nantucket points out the inefficacy of existing cleanup technology in weather conditions of the North Atlantic.

Finally, with respect to the offshore operations at the drilling rig or production platform, there is a deep concern about the possibility of blowouts, such as those which occurred in Santa Barbara in 1969, and this past spring in the North Sea off Norway. According the Red Adair in his testimony before the House Ad Hoc Select Committee on the Outer Continental Shelf - and I am sure you know he is credited with stopping this spring's blowout in Norway - offshore operations will always be accompanied by blowouts resulting from natural forces and human error. It is simply an inevitability.

So much for the horrors that the current course could lead to. Let us look at some of the alternatives which are still available. These alternatives include the following: adoption by the Secretary of Interior of a leasing schedule, which ensures time to plan for OCS development; collection and analysis of data on both the biological resources and oil and gas resources before leases are issued and lease terms governing development and production set; and (I stress this, perhaps as much as any other course) development and implementation by coastal states of strong coastal zone management programs, which reflect the concerns of those

people most affected by OCS development and production. The Federal Coastal Zone Management Act encourages coastal states to develop and implement coastal zone management programs, by the provision of federal grants.

In order to qualify for federal funds, a state must undertake the following tasks with respect to its coastal areas. First, inventory its coastal resources and existing land and water uses in coastal areas. Second, designate a boundary for its coastal zone so as to ensure that land and water uses having a direct and significant impact on coastal waters are covered. Three, determine permissible uses and priority of uses for coastal areas. Four, designate geographical areas of particular concern, including areas for preservation and restoration, as well as areas for development. Five, ensure that there is a planning process in effect for the siting of energy facilities and the control and mitigation of impacts from those facilities. Six, adequately consider the national interest in the siting of facilities of more than local concern. Finally, the state must have in place the authorities and organization necessary to implement that program.

If coastal states carry out these tasks in a meaningful fashion, then they will have a tremendous effect in directing growth, including OCS-related development, to appropriate areas and away from others which should be protected and preserved. Two concerns arise in connection with the coastal zone program today. First, there are only two states which have approved coastal zone programs. Those are Washington and Oregon. Second, and I speak from my experience on the Atlantic Coast where as yet there are no approved programs, many states are relying on existing authorities to implement their coastal zone programs, and unfortunately, in many states, these preexisting programs have already been shown not to be sufficiently effective in controlling development in coastal areas. We hope that rather than rely on these existing authorities, states will begin to develop new and imaginative strategies for controlling coastal development.

Returning to this set of alternatives which, in my opinion, will greatly assist in dealing with the onshore

impacts and offshore impacts of OCS development, it is necessary to ensure that all phases of OCS operations, including the leasing, are fully consistent with state coastal zone management programs. The federal Coastal Zone Management Act requires that federally conducted or supported activities affecting coastal areas be consistent to the maximum extent practicable with state programs which have been approved by the federal government. In addition, licenses and permits, which are issued by federal agencies for activities affecting the coastal zone, may not be issued unless the state finds that the activity will be consistent with their program. Finally, last summer Congress adopted a provision relating specifically to OCS development and calling for state review of exploration, development, and production plans prior to the Secretary of Interior's approval of these plans.

At present, the regulations implementing these federal consistency requirements are meeting with a tremendous amount of resistance from agencies within the federal government, and they have not yet been adopted. But, I think if we are really to see effective state coastal zone programs, the federal consistency provisions of that Coastal Zone Management Act are going to have to be fully implemented.

Finally, I refer to the legislation which is presently in Congress. I think it is important to point out how this bill (amendments to the Outer Continental Shelf Lands Act of 1953) would substantially reform the OCS leasing process. The bill is supported by the present administration, but strongly opposed by the major oil companies. It sets out new regulatory requirements that will have a major impact on exploration and development on the outer continental shelf. It sets out rules for the Secretary of Interior to follow in managing the leasing program. It directs the Secretary to prepare comprehensive five-year leasing plans indicating the size, timing, and location of exploration activity. The bill gives a larger voice to the states in federal planning for OCS development. It also includes new environmental and safety requirements, and it mandates that oil companies disclose exploratory data to the government. Finally, it makes an offshore oil driller liable for cleanup of spills and damages resulting from spills.

There is much which can be done at every level of government, in both the executive and legislative branches to ensure that exploration, development, and production of oil and gas resources is carried out with adequate planning and full environmental safeguards. We need not be misled, as is the case in so many debates, into viewing the issue as one of energy development and jobs vs. preservation of the environment. Here, as elsewhere, we believe this is a false choice. We can develop our oil and gas resources rationally, but always with attention to the protection of those resources, such as our fisheries, which are renewable, and which if properly protected, can sustain us for generations.

David Kinsey

Department of Environmental Protection, New Jersey

You have asked me, as well as our colleagues from Texas, Florida, California, Alaska, and Massachussets, to share some of our experiences, and also some of our insights about outer continental shelf impact assessment. Let me try to further this national dialogue by discussing the onshore planning in New Jersey for offshore oil and gas. At the outset, I should say that I am a state bureaucrat, and I have two hats - a planning hat and a regulatory hat. I think that those two different perspectives on coastal management matters in general, and also OCS matters, encourages a cross-fertilization, so that one keeps one foot on the ground as a planner, and, as a regulator, one is aware of broader pictures. We are hopeful that this combined planning-regulatory approach will make for a better management program and a better management system.

I would like to make six major points, the first indicating our concept of coastal management, basically a philosophy for what we are doing. This concept of coastal zone management also provides a philosophical framework for OCS planning. Second, I would briefly like to describe New Jersey and its coast. I guess one reason this is important was brought home to me by a Texan I met here, who said, "Do you have oil rigs in

New Jersey?" We don't, but they're about to come offshore at some point, so I think it is important to say what New Jersey is. Third, I would like to outline the institutional structure of coastal management decision-making in New Jersey. It is important to know who decides - who is responsible for the various decisions - particularly concerning OCS matters. Fourth, I would like to present the onshore planning efforts that have been undertaken in New Jersey. Fifth, I would like to give some kind of a sneak preview of the kinds of onshore siting policies that I think might be appropriate as part of New Jersey's coastal management program. Finally, I want to give you a concrete example of applying these policies and these procedures in making coastal management decisions with regard to OCS matters.

In terms of our concept of coastal zone management, I believe firmly that coastal zone management involves making hard decisions and trade-offs. It may be a trite statement, but I think it gets to the essence of coastal decision-making.

There are so many actors and the process is so complex, someone has got to take the bull by the horns, and say, "Here is the framework, here is how the decisions should be made," and spell out written guidelines or written laws. I think that is the purpose of coastal zone management. I think it is growth management. I think it is a method of directing development in appropriate areas, and the converse also in directing development away from sensitive areas. It is channeling; it is directing growth; and it is also recognizing, at a state level and also as part of a national system, that many of the decisions that have been made up to this time at a very local level, or largely at a municipal or township level, have greater than local implications. This coastal management process is the context for making those decisions.

Trade-off is an important phrase. It sometimes confuses people as to which side we are on. The fondest moment of the past several months for me was when I made a presentation before a really blue-ribbon, elite group that was charged by our governor with helping to design Liberty State Park, a spectacular urban park

being built just in back of the Statue of Liberty, in Jersey City. This commission has some high-powered people - the Chairman of the Board of Allied Chemical Corporation and the vice-president of one of the nation's biggest insurance companies. After my presentation, they said, "We are not sure which side you are on - whether you are a friend or a foe," and I took that as a compliment meaning that coastal management in New Jersey is some kind of a balanced approach, where we are willing to make decisions either way. As I sometimes say facetiously, if we are doing our job correctly, very few people will be happy with what we are doing; but we can't please everybody all the time. I think that gets to the essence of making the hard decisions, which is the responsibility of government. And, particularly, I think it is the responsibility of government to make the decisions in terms of the long-term decisions that simply have not been made with that longer perspective, for both the built-in national environment and this and succeeding generations. My major point here is that coastal zone management is incredibly complex; it is awesome; it is an interdisciplinary challenge. But the challenge is there, and I think we, at least in New Jersey, are trying to rise to it to establish both an institutional structure for making decisions, as well as a policy framework for how to make those decisions.

Let me now quickly describe New Jersey. New Jersey has 7.5 million people, and it is the most densely populated state. Its population density is greater than that of the nation of Holland - more than a thousand people per square mile - and yet with that population density, there are some beautiful stretches of shoreline that are undeveloped. There is a really pristine, 11-mile long - which is long for us - state park of undeveloped barrier beach and dune complex. The Atlantic Ocean shoreline from Sandy Hook to Cape May is 126 miles of splendid beaches, and that is the mainstay of the state's resort economy. Calculations depend upon one's choice of a multiplier, but one commonly agreed estimate is that the value of goods and services of the tourism industry amounts to $3 billion a year. That makes it the second biggest industry after the first, which is the petrochemical industry. This sets the stage very nicely for some of

the kinds of conflicts that are involved in onshore planning for offshore oil and gas.

We have wetlands; parts of our wetlands look much like Louisiana. It is certainly not as vast, but there are lots of wetlands. The filling, destruction, and desecration have been halted by a wetlands law of 1970, which sets up a permit procedure. We also have in the middle of the state an important natural resource called the pine-barrens. Here, the northern reach of southern vegetation and the southern reach of various kinds of northern vegetation create a fantastic, unique ecosystem for which the state is working toward a more protective policy. This vast stretch of land also lies on top of an incredible aquifer.

New pressures are also facing our coast. When offshore oil and gas drilling started to become part of the public consciousness in New Jersey a couple of years ago, that was the big issue along the coast, particularly in places such as Atlantic City. When the hearings of the Department of Interior on the draft and final impact statement were held, the big issue was jobs. One of the big issues was: "Let's have the jobs as a result of offshore oil." Well, 10 months later, the voters of the state of New Jersey passed a referendum authorizing casino gambling in Atlantic City, and that changed the ball game in some ways, at least in Atlantic City. Whereas the local town fathers and boosters of Atlantic City in early 1976 were very gung-ho for offshore oil and gas, they now have changed their perspective a little bit, and they are more gung-ho for large hotels with casinos. The picture does change, and that is a new pressure that no one anticipated would have to be addressed. This, too, is attracting national attention. Just yesterday's *Wall Street Journal* had an article about various people seeking major economic development opportunities in Atlantic City and the citizens of Atlantic City getting the short end of the stick in many cases. The point here is New Jersey is very diverse and a single-minded strategy or approach for coastal planning, particularly for offshore, is not appropriate.

New Jersey has refineries - five operating. I figure our capacity is about 700,000 barrels per day,

which is one-third of the East Coast refining capacity. We also have lots of gas pipelines that crisscross the state. Our coast is different. It is not Louisiana; it is not the North Sea; it is not Scotland. There are attributes of all. One of the biggest distinctions that we have to make is that we have a large tourism industry that depends upon our coast, and that, to my knowledge, is not the case in Louisiana and not the case in the North Sea.

Let me turn to the institutional structure - Who decides coastal matters, particularly in the onshore facility locations in New Jersey? I think this is particularly important because it was the nub of Judge Weinstein's decision of voiding the Lease Sale 40 on the Baltimore Canyon. It is important to think of two different concepts of decision-making. One might be called authority. The other might be called influence. These are really two component parts of power. Authority is somebody who has the responsibility for saying yes or no, and that is it. Influence is someone who has an opportunity to help the person who has the authority to make that decision; and this is useful in thinking about the institutional and organizational structure in New Jersey.

Basically, the Department of Environmental Protection has the authority for major coastal decision-making. This department administers a major coastal construction permit program, known by its acronym of CAFRA, which stands for the Coastal Area Facility Review Act. This sets up a permit procedure in 17 percent of the state's land area so that anyone proposing to build a pipeline, a marine terminal, large residential projects such as a hotel with a casino, must obtain a construction permit from the Department of Environmental Protection. The department also administers a wetlands permit program, which covers a large hunk of the state, including some portions outside of the CAFRA portion of the state. This department also administers the state's submerged lands. Ours are not as extensive as those under Texas' jurisdiction; we only go out to the three-mile limit, and even there it is not clear who has the responsibility for actually selling the ocean bottom. But the tidelands that are now flooded by the tide as well as those formerly flooded by tide,

under New Jersey court interpretations, belong to the people of the state of New Jersey. It is the Department of Environmental Protection that administers those lands: selling them, conveying them by lease or license or grant, and regulating construction activities. Those three laws form the cornerstone of coastal land use and land-water use decision-making in New Jersey, all administered by the same department, all administered by the same division in that department. In addition, the Department of Environmental Protection is the water and air resource agency for the state, as well as being the parks agency and a number of other agencies.

Local planning in New Jersey also has authority. All of New Jersey is divided into 567 municipalities; each has zoning responsibilities, each has planning responsibilities. Each municipality can say yes or no, by its zoning mechanisms, to any development proposal. Counties - there are 21 in New Jersey - have an influence relationship in terms of planning. They tend to have a greater capacity - the institutional capacity of a professional staff - for making planning decisions, but their responsibility is relegated to simply advising the municipalities in terms of land use matters, unless a project involves a county road or drainage system. The state is clearly the agency whose approvals are necessary to build any onshore facilities required for offshore oil and gas exploration, as are municipal approvals. This was one of the hearts of the Weinstein decision. The argument that the judge found persuasive was that the Department of Interior had not adequately considered likely decision-making by the municipalities or likely decision-making by the state in carrying out its coastal responsibilities.

Let me turn now to the process of onshore planning, OCS impact assessment that we have been doing, and the steps that we have taken. First, I have to talk about the general coastal planning efforts that have been underway. Last year at this time we issued a document called "Interim Land-Use and Density Guidelines for the Coastal Area" that set out broad policy to guide interim decision-making between last year and the legislative requirement for submission of a coastal management strategy this fall. This document classifies the geography of New Jersey into preservation,

conservation, and development categories, and then for nonenergy facilities it laid out a further classification of policies on land uses. This was an initial step, again a form of "biting the bullet," at least initially, that has then been used in carrying out the permanent processes in New Jersey. We also have several advisory groups. one is an environmental advisory group that meets every third Tuesday in my office. That is an essential part of the process. Unlike Texas, consensus is not our goal. We think the role of a state agency is to make the decisions, and we recognize some things are probably irreconcilable between municipalities, their prerogatives, their traditions of home rule, and carrying out state responsibilities, although we would like to narrow those differences.

Another interim task has been to establish regulatory procedures that work, so that there is a staff in place that can respond to decision-making opportunities. These are some of the essential and unglamorous activities that have to be taken. It is no fun working with the state civil service system to get the right kinds of people in place to carry out the job, but it is essential, and it takes a lot of time. It is an integral part of coastal management. Also, we have, like most states, spent an awful lot of time on public involvement efforts. Our motto is that one can't do coastal zone management sitting in an office in Trenton, New Jersey. We try to spend a lot of time on the coast and have lots of activities there.

The biggest activity that is part of our general coastal planning is our system of land and water policies and how they are evolved. It is a systematic process, classifying lands by the constraints various land and water types offer to development, and then going to the other side and classifying uses by the various opportunities they offer: access to roads, access to highways, access to schools, access to sewers, and putting all those kinds of things in overlays, so that one can see the places that are most appropriate and least appropriate for various kinds of development. It is arduous because we are trying to be rigorous, and we are trying to get the framework in place.

In terms of OCS specifically, one of the first things we have done is to try to get some information. About two years ago the department issued a so-called "call for information," bidding upon the Department of Interior's practice of having a call for nomination of tracts. Basically, we have asked the energy industry, oil and gas industry, as well as the state's electric utilities, to tell us what they know; what kinds of sites seem appropriate or suitable or necessary. What are the siting criteria that we, as state planners, should be using so that our policies are based on facts and industry practice, and not just on ivory tower planning by state bureaucrats? The results were mixed. The state's utilities were quite responsive; the oil and gas industry was less responsive, stating that it was simply impossible to provide the kind of information we as a state were asking for.

To then remedy that part of the information gap, what we have been doing with the oil and gas industry is to have a series of workshops, five or six to date. With the strong cooperation and help of the industry, and particularly of O.J. Shirley out of the Atlantic Coastal Zone Management team, we sit down, and we talk: here's what laying a pipeline involves, and here is the kind of pipeline scenario analysis that was done by Shell, and here is what it all means. We have these sessions, and it is not just the state coastal planners that sit down in the room - it is also county planners and the environmentalists of the state - so we can all learn. There is a lot of learning, which I think is a prerequisite to onshore planning in New Jersey. We visited Louisiana and several of us had opportunities of going onshore and offshore. Some have been to Scotland. All this is part of a buttonhole approach to coastal planning: find somebody who knows something, buttonhole them and ask them what is going on - pepper them with questions. We get different answers, and we keep asking, and hopefully we get some more understanding. That is the big theme.

One of the innovative things we have done - we didn't think it was innovative when we were doing it - was to make available some $15,000 of the $180,000 of our federal coastal planning money to 12 coastal counties, so that they can help shape the coastal energy

facility element of our coastal management strategy. Fifteen thousand dollars is a modest amount of money, but for each county that means there is a staff person who can think more or less full time on broadly defined OCS matters and energy facilities.

And that has helped. In New Jersey this is one of the first times that a state agency carrying out its responsibilities has really sought the active involvement of local levels of government. We did not seek, on a contractual basis or on a funding basis, the involvement of municipalities; there are too many of them to deal with in a form. We rather prefer to work with this middle tier in New Jersey's governmental system - the counties.

Then, we have also undertaken two specific studies on the first stage of onshore planning - that of support bases. We are staging areas for first exploration, then development and production. One study has been conducted largely by the Port Authority of New York and New Jersey, looking at its district, which is basically a circle of 25-mile radius around the Statue of Liberty. The study was done primarily for our counterparts in New York and the New York State Department of Conservation, but New Jersey has been involved throughout in that process.

Second, we have undertaken a study of the remainder of New Jersey's coastal zone, using a research team at Rutgers to do a hypothetical analysis of the kinds of sites that might be appropriate for staging areas and to play out the implications of what would happen *if* a staging area were sited in one of these places, so they can understand politically, economically, socially, and environmentally what it is all going to mean if this kind of a base is located in these places. And based on this information, we can presumably come up with more responsive and responsible siting policies on staging areas.

I guess my point throughout all of our planning efforts for OCS activities is that we feel we are doing contingency planning for OCS to get a framework in place for OCS planning, within the larger framework of a coastal zone management strategy. Also, very

mindful that we can't come up with a perfect plan that will answer all the problems at one fell swoop, the key is to get a framework in place.

Let me now turn to some of the onshore siting policies that are evolving in New Jersey - the kinds of policies that may well find their way into the management strategy to be submitted to the governor, the legislature, and to the broad community interested in these kinds of policies. I think a major premise is that onshore facilities ought to be concentrated and not dispersed throughout the entire state. That has important implications for preserving the resort character of much of the state and preserving the natural character of much of the state, while allowing development to take place where it probably is more appropriate and more financially attractive anyway. That is a major premise: concentrate, don't disperse.

Second, in terms of staging areas, I mentioned the two studies underway about to be completed, the Port Authority study and the Rutgers study. We have looked at various siting criteria: proximity to the lease tracts, water access, available land, available water, highway access, railway access, access to repair and maintenance facilities, access to air transportation systems, and utilities. Then I gather standard siting criteria. Based on all of this, we are leaning toward saying that various parts of southern New Jersey simply aren't that appropriate for a staging base, either for exploration or for production. That includes the Port of Camden, which is probably too far from various places along the Delaware Bay and simply not appropriate in terms of the siting criteria. Cape May was ruled out, and so was Atlantic City. They seem to be attractive, they are close, but the siting criteria seem to suggest that they are not the places to have a staging base in New Jersey. The Port Authority has found, in a politically astute way as a bi-state agency, eight sites - four in New Jersey, and four in New York. The sites in New York and in New Jersey make sense from these siting criteria, and it is fascinating to me that the Rutgers group looked mostly at South Jersey, but also worked its way up to North Jersey, where there are refineries, and where it is heavily built up. They are working toward the conclusion that this is the best place of the areas

that they looked at for a staging base. And the Port Authority has also come to the same kinds of conclusions that these are some of the best kinds of places. So I think what we are working toward is an urban, built-up siting strategy for staging bases.

A second type of facility that may be called for is platform construction. From what I have heard, and from what I see happening in Virginia, particularly at the Brown and Root facility, it does not seem likely that that is the kind of project that will even be looking for sites in New Jersey. If, however, one is proposed, there are places in Canada where there are large areas that are used to build lots of big things - I mean ships and stuff like that - that could well be approached for that kind of facility.

In terms of pipelines, we value very highly the pine-barrens and would suggest that the pine-barrens are not the place to put a pipeline. Also, I think common sense would suggest that, too, given the concentrations of refineries both in North Jersey and South Jersey, that the pine-barrens are simply not the most direct route toward those refinery complexes. There is a strip in between the central pine-barrens and the southern pine-barrens called the Atlantic City expressway that may well provide a kind of corridor where pipelines ought to go. So, I think the siting policy should probably be something like: "Let's have one corridor, let's work together - both the federal agencies working offshore and industry and state agencies working onshore. Let's have a corridor; let's do a detailed corridor study."

But I think the strategy - the framework - is have a corridor, probably toward the Camden-Philadelphia area, for a pipeline with the caveat that it meet the various performance standards articulated in state law already under the coastal area facility review act; that it meet the various environmental suitabilities that have been done as part of the overall coastal work, in terms of the sensitivity of beaches and wetlands complexes in particular. Yesterday there were some comments made about wetlands and barrier island destruction in Louisiana. My impression of Louisiana is only formed by one flight, and I was surprised and not

very happy by the sight of some of the pipeline corridors that seemed to be visible. I understand that that may have been from industry practice a number of years ago, but nevertheless, it is scary when one flies over New Jersey wetlands and extrapolates what could be in New Jersey.

In terms of the pipeline service bases and coating yards, there are some places in New Jersey where there is some pipe-coating done, and again an urban strategy would seem to make sense. There are places with rail access, for example in Atlantic City, that perhaps could be a support base for just that activity. Again, an urban strategy seems appropriate, given the location of the infrastructure.

In terms of the facilities associated with pipelines, particularly gas processing plants and oil storage, we are learning more and more about the industry's siting requirements. One thing that we have been told, and I think it forms the basis for a good policy, is that these kinds of facilities need not be on the beaches and the barrier islands, and they need not be on the wetlands. In fact, they can be and should be - in terms of state policy - well inland. Well inland means 10 to 15 miles due west of the barrier islands.

The kind of siting policy that makes sense for New Jersey is that the gas processing plants, the oil storage, everything that is tied into a pipeline should be considered as part of that pipeline so when it comes time for processing of a permit application, the whole thing should be looked at as a whole, not incrementally. Standard buffering requirements are essential for these kinds of facilities, particularly in the resort and pine-barrens environments. The governor has made very strong statements about refinery location. Some would call it a Churchillian statement: "We will not have refineries on the beaches." Suffice it to say again that New Jersey has five refineries, which is a lot. One of the refineries recently doubled its capacity solely within the confines of its plant limit. That, perhaps, seems to be a good way of going. I personally do not see, given those facts, need for new refineries, particularly when industry tells us that all the oil that may be found will be replacement oil for foreign imports.

The secondary impacts of onshore facilities is another area of concern. From the literature on onshore planning, particularly on Scotland and parts Louisiana, New Jersey's situation is likely to be different. We are a heavily built-up state. There are lots of places where people can live and do live already. My crystal ball, which has gotten sharper over the past two years as I have learned more about this industry, suggests lots of new growth, need for new hospitals, new roads, new housing, and other kinds of facilities, so that the secondary impacts seem, at this stage, to be minor. So much for the kinds of siting policies that we are thinking about.

Let me now turn to one specific example of applying these policies and the work that we have done to date. This is the first OCS facility that has begun to work its way through the process, and that is for an onshore staging base in Atlantic City. One of our standard procedures is to have something we call a preapplication conference. This is an opportunity for a prospective developer to sit down with the regulators well before he has committed lots of time and money; hopefully, before buying a site. To commit the money to actually buy it and do the planning and go through an entire process, and then confront a yes-no or a long yes, I gather, is sometimes worse than a quick no. Bob Armstrong made the same point yesterday: that the purpose of coastal management, one of the purposes of coastal management, ought to be to get to decisions quickly, so that those who are making major capital investments know where they stand.

Well, applying this procedure, we received an inquiry from a local development group in Atlantic City, saying they had somebody in mind who wanted to build a staging base in Atlantic City - actually not within the limits of Atlantic City, but in the Atlantic City area. We said, "Great, let's talk about it," and we talked about it - people from my office, the Office of Coastal Zone Management, as well as the state's wetlands managers. The potential site was about 35 acres of land in Atlantic City. It's about 90 percent wetlands and the remaining portion is state-owned tidelands in a small low-rise resort community with no other industrial facilities, not even, I guess, one or two

small marinas. We invited a representative of the U.S. Army Corps of Engineers to attend that session. And at the session we applied the policies we have - the interim land use and density guidelines - which classify land and water features. We explained the rules. We explained the wetlands law and what that means, and we said very frankly that this kind of an application on that site is discouraged. It is not the kind of project that is likely to receive quick approval, or even any approval. It is simply discouraged. And then we confirmed that in writing because we think it is good business to write down on paper what we say candidly. The process, we thought, was left at that. The Corps of Engineers person also pointed out that given the site, this might even be a major action under NEPA, requiring a full environmental impact statement, given the extent of wetlands involvement in proposed dredging and filling.

But, lo and behold, the applicant intends to continue and files a riparion grant application to actually buy the land. Our answer was, "Great." We look forward to all the applications, and we will run it through the processes as expeditiously as possible; but at least there is full knowledge on everyone's behalf right now that this is not the kind of project that is favored. I think one lesson from that particular experience is that industry should continue to deal directly with the state. The state regulators are there to act as responsively as they can in carrying out these mandates and applying these policies. The major lesson that I have learned is that it is important to get a framework in place. It is damned hard to get a framework in place, but one of the ways of doing it is to talk a lot to lots of people, to write things down in draft form and get people to react to them, and then hopefully come up with a better scheme. And I think I will just leave it at that.

Frank J. Sturzl
RPC, Inc.

A former professor of mine at The University of Texas likes to say that all policy develops through six phases. I thought it might be interesting to share those phases with you, because I think that if we relate them to energy policy and OCS policy, we can recognize those stages.

The first phase is indifference. Everyone reads or hears about a problem, but doesn't seem to care too much. The second phase is exactly the opposite - panic. Everyone suddenly cares quite a lot. The third stage is a search for the guilty, in which everyone attempts to find out who caused the problem. The fourth stage is the persecution of the innocent. The fifth stage is decoration of all who took no part, and the final stage is problem-solving. I would sincerely hope that, in the area of OCS policy, we are in problem-solving; certainly this conference is addressed to the notion. I for one would be disappointed, I think, to learn that all of us are back in the search for the guilty.

As Commissioner Armstrong pointed out, Research and Planning Consultants, Inc., under contract to the General Land Office, completed an impact study for the state of Texas. That study is complete and has been released. Clearly, in the time that I have, I could not effectively summarize the entire study. Rather, it is probably most valuable for me to spend my time on a limited number of points. There are, therefore, really only three items on my agenda today.

The first is a film, about which I will say more later. The second is the subject of acceleration of OCS leasing - nationwide, in the Gulf of Mexico, and particularly in the Texas portion of the Gulf. The third thing I would like to talk about is the notion that, surprisingly, the Texas coast is in many ways an OCS frontier area.

First, in turning to the whole question of acceleration of leasing, I think it is important, as I mentioned, to look at it in three ways. First of all, nationwide in

all OCS lands, it is probably most revealing to break down the history of the leasing program into two periods. As you know, it began in 1954. If we look at the period from 1954 to 1969 - a 16-year period - we find that the Department of Interior held 20 oil or gas lease sales and awarded over 1,500 oil or gas leases. In the period since then, 1970 to the end of 1976 - a period of seven years - 19 sales were held, and nearly 1,200 oil or gas leases were awarded. So we have seen almost the same amount of activity in the last seven years as we saw in the previous 16 years. Now the proposed leasing schedule which was issued in January and which admittedly has been revised, proposed 23 sales in a four-year period from 1977 to 1980. That schedule was revised in May, and it shows eight sales over the next two years. In August we should know more about the 1979-1980 period. But I think the point is that no matter how you analyze it, one can fairly well document acceleration of leasing nationwide.

The second way that I think we should look at acceleration is in the Gulf of Mexico. In the history of the leasing program from 1954 to the end of 1976, 39 lease sales had been held. Thirty-two of them involved Gulf of Mexico subsurface. Admittedly, most of that was in Louisiana. I will be talking more about Texas particularly in a moment, but most of the land that was involved in those 32 sales was Louisiana subsurface. According to the leasing schedule changes which were announced in May, and which I have already referred to, four more Gulf of Mexico sales are scheduled in the next two years.

Well, let's turn our attention then to the acceleration of leasing in the Texas portion of the Gulf by itself. Again, I think a breakdown is useful. Between 1954 and 1969 - a 16-year period - 214 tracts were leased in the Texas federal OCS. Between 1970 and 1976 - a seven-year period - 368 tracts were leased. In the last seven years, then, half again as many leases were awarded as in the previous 16 years. Again, I think no matter how we look at it, we find an acceleration of interest and an acceleration of activity in the Texas portion of the Gulf of Mexico. If we look at individual sales over the last five years, we find that an increasing percentage of offered Gulf tracts are Texas OCS tracts. Perhaps

another kind of breakdown is useful. If we look at the last nine years as opposed to the previous 14, we find that the number of federal lease sales doubled, the number of tracts offered went up over seven times, the number of tracts leased went up well over four times, the number of tracts explored quadrupled, and the number of tracts developed also quadrupled. So we find, in the last five years especially, an increasing interest, an increasing level of activity in the Texas portion of the Gulf.

Well, whatever reasons there are for that acceleration - and there are undoubtedly many - and without any judgment as to whether acceleration in general, or acceleration in specific areas, is or is not optimal, the mere fact that it is taking place raises at least two very important questions.

The first question, it seems to me, is this: Is there necessarily a link between increasing acceleration and increasing development? I would suggest that, yes, indeed there is, and part of the reason for that - perhaps the major reason - is that the law specifies, as you know, that leases last for five years unless paying quantities are found or unless activities which the Secretary of Interior deems to be sufficient cause for extension are taking place. Now I would suggest that an oil and gas development company is not likely to pay five or six million dollars for a tract, and then simply let it revert after five years. That gives us cause to believe, therefore, that there is indeed a link between acceleration and natural exploratory or development activities on a tract.

For Texas, that five-year limit has particular significance, because of the recent growing interest in Texas tracts which I have already described. In the last five years, 368 tracts have been leased in the Texas federal OCS. Now we can add to those a reasonable percentage of tracts which are known to be offered in future sales. And again, I believe, no matter how you calculate it, Texas has at least 400 newly leased tracts which are now undergoing exploration or development or will before the end of 1982. I am suggesting to you that this is probably a more concentrated development of the Texas OCS than we have experienced to date.

The second significant question raised by accelerated leasing is: What are the onshore effects? The Texas study, of course, and many others - by nearly every other coastal state that is affected - have addressed that question. Indeed, this conference, in part, intends to address that question. Much could be said about specific results of our study concerning the state of Texas' projected economic, environmental, and social effects, both beneficial and adverse; increasing capital investment; personal income; and so on. The volumes of the report, however, as I have told you, have been released, and I would rather not bore you with a recital of what you can read at your leisure. Instead, I would like to turn our attention for just a moment to the notion that I described earlier - that Texas is in many ways an OCS frontier area.

We concluded in our study, and I think justifiably so, that the state of Texas, while rightly considered in many quarters to be an OCS producing state, is sufficiently large and diverse to defy such general description. There are, of course, parts of the Texas Gulf coast which have had long and extensive experience with onshore activities associated with outer continental shelf development. There are, on the other hand, those parts of the Texas coast which have had little or no experience with OCS oil and gas activities. And the relative lack of experience in those areas make them look remarkably more like frontier areas than traditional developing areas. David Kinsey stressed the diversity of the New Jersey coast. I have no doubt that the coast of New Jersey is extremely diverse; the reason I don't doubt that is because the experience with the Texas Gulf has shown us the same thing. It is a very diverse coast. I guess it is enough to say that it would be inaccurate to consider the entire Texas coast as one established area, which singularly has progressed beyond a time of frontend costs of dealing with onshore impacts. That kind of conclusion simply cannot be applied to the entire Texas coast.

Well, I think it would be of most value, having given that kind of introduction, and having said something about the diversity of our coast, not only within itself, but in contrast to other states, to turn to the film. I think the film graphically illustrates what I

mean by the possibility of Texas looking very much like a frontier area in some cases. I would like to give just a short introduction to the film, although it really explains itself. The film is essentially in two parts. We went to Morgan City, Louisiana, and we talked to people there who had watched offshore development and the associated onshore effects over many years. The mayor, for example, has been mayor for the last 17-20 years. We let those people pretty much speak for themselves. Some saw problems, some didn't, and some saw benefits. For the last part of film, we went to Port O'Connor, Texas, a small shrimping and tourist village, which only very recently began to feel effects of offshore development, and again we let people speak for themselves. The film attempts not to be conclusionary; it attempts, as I said, to let people speak for themselves. I believe every one of you who watches it will probably come away with some different interpretation of what it actually said.

It is appropriate to discuss several of the specific conclusions reached in our study. First, because Texas has an existing network of onshore processing facilities which have built up over many years of onshore oil and gas extraction, it can reasonably be expected that no refinery construction or expansion, nor gas processing plant construction, nor tank farm construction, nor any other extensive onshore construction will be required by production from the Texas federal OCS in and of itself. Now that is not to say that such construction will not take place along the Texas coast in the future, but it is to say that OCS production alone is probably not enough to cause it. We have every indication, as David Kinsey pointed out, that OCS production may in fact serve as a substitute for - rather than an addition to - imports. We also find that construction of those onshore facilities is much more a function of demand for final products than of availability of raw supply.

Given that first conclusion, the most pronounced effect of OCS development on the state of Texas is likely to be fiscal deficits for affected communities. The whole phenomenon of fiscal deficits has been verified in other places and at other times, and basically is associated with the problem of physical capital goods, which are taxable, being geographically

located outside of anyone's taxing jurisdiction. Yet the people who construct and work on those platforms and rigs live onshore, just as they would if the equipment was onshore. That is the basis of a fiscal drain, and we have found that to be true for local communities in Texas. Certainly that fiscal drain is not of monumental proportions; it is of relatively modest size. The important point is not its size, but its duration. That is, in the state of Texas the fiscal drain is not likely to be a short-term cash flow problem from which communities will recover after three or four years. It is much more likely to be an ongoing fiscal deficit. This all relates back to the first conclusion: that there is not going to be sufficient onshore construction associated with this unique activity to cover the governments' service costs.

Other studies in other states have indicated that this fiscal deficit is likely to be short-lived and ultimately reversed. But Texas is unique among coastal states in that it has had such extensive onshore development of oil and gas that it now has a large existing net of processing facilities, pipeline rights-of-ways, and so on, which can be used for OCS production as well. Other states may simply have to build those facilities, and if that is the case, they will have extensive onshore taxable goods, which Texas will probably not have to build simply to accommodate OCS production.

Third, we concluded that the environmental effects of OCS development on the state of Texas, in the absence of extensive onshore development associated with that activity, are likely to be minimal. Those environmental effects are likely to be limited to marginal increases in air and water pollutants; intensification of commercial, industrial, and residential land development; and short-term effects of pipeline laying.

All of the effects, whether they are sociocultural, socioeconomic, or other types, are likely to be minimal in populous, economically diverse areas which have had extensive experience with this kind of onshore development. To the extent that an impact area is less populous, has a simpler economy, or has a limited legal-institutional framework with which to handle growth,

those impacts are likely to be much more pronounced. We found during an intensive study of one such small impacted community that the residents tend to be more strongly opposed to an increase in temporary population than an increase in permanent population. For whom a newcomer works is not a major factor in their minds, whether it's a shrimp boat or a crew boat, or offshore on a rig. What is a major factor in their minds is what I would call a "sense of geographical loyalty." Is the newcomer going to stay in the community and thus feel responsible to it and plan to make it home, or is the newcomer really living in Houston and only working in this small commmunity for a short while, and therefore less concerned about the long-term welfare of the community? That's really the crucial variable in their minds.

There are obvious needs, I believe, for more extensive information. One of the things that the film graphically portrays is that there is a good deal of disagreement between long-time residents of Port O'Connor and industry people as to how much activity is likely to take place there. I think there is a great need for dissemination of more information to local decision makers in terms of upcoming lease sales, where the tracts to be leased are likely to be located, and certainly environmental impact statements that isolate problems relevant to local decision makers.

With that, I believe the final thought that I will accentuate is that the differentiation of the Texas coast into its component parts - those that have been developed and have great experience with OCS production and those which have not - is very, very important not only to us involved in the process of calculating impacts, but certainly in the process of formulating federal policy addressed to ameliorating those impacts.

Allen Pearman
Florida State University

I will begin with some general comments on the role that a group of us played in the university community in a study of potential impacts of offshore oil and gas development. Florida, at the time of the sale, suffered from a perceived information gap that has been highlighted in other presentations. Somewhat uniquely, the state legislature in its wisdom, and with the recommendation of the Board of Regents, had set aside state funds for the purpose of research related to areas of specific concern to state agencies. And, therefore, the particular project that we engaged in was a state-sponsored project that involved the university community (in fact, two universities in Florida: Florida State University and the University of South Florida).

What I want to try to do in the time allotted is briefly review the primary results of that study and, hopefully, sketch the basic approach that we utilized in developing estimates of onshore impacts. Before I do that, however, I want to stress that at the time we were doing this study we were engaged in two processes. First, exploration was already going on, and in effect we were monitoring or examining what impacts were associated with the exploration activity. And second, we were assigned the task of trying to examine what the potential impacts might be were there commercial discoveries of offshore oil and natural gas. So there is a mixture here of describing what actually did occur and what was projected to perhaps occur. In looking at the projected impacts, my comments will focus primarily on looking at the primary and secondary economic (I should say socioeconomic) impacts of offshore development, and secondly on examining the area of fiscal impacts of offshore development.

As I mentioned, the Florida coastal policy study represented an effort to develop an information base applicable to areas in Florida potentially impacted by offshore oil and gas development. This is viewed as an essential prerequisite for the development and implementation of any effective state policies regulating or guiding such development.

In trying to obtain a handle on what the potential impacts might be for Florida, several key variables immediately became apparent. And these, I think, have been highlighted in presentations yesterday, and touched upon again today. With respect to Florida, perhaps the most important variables are the locations of potential reserves. This first map indicates areas of potential leasing sites. These include all of the eastern Gulf of Mexico, the southeast Georgian embayment, and the Blake Plateau. The attempt to project the timing and pattern of onshore developments both in the future and at the time the study was done must be based on what limited information was available. At the time of this study, the information available related first of all to the MAFLA sale. This was a sale in the eastern Gulf of Mexico that I will touch more upon later. This sale was held in December 1973. In this sale, the industry bid a total of one billion dollars for tracts off the coast of Florida in the Gulf of Mexico. Second, and this has certainly been mentioned, the industry engaged in an exploratory effort in which 12 exploratory wells were drilled, and no commercial shows of oil or natural gas were discovered. Related to this is the fact that results were so discouraging for some firms that 16 of the leases were surrendered - the leases were turned back to the federal government.

Now, the potential timing and location of impacts under the existing set of rules obviously depends on the federal leasing decisions. With respect to this, after the December 1973 MAFLA sale, another sale was held in February 1976 that included tracts off of Florida. Sixty tracts were potentially included in this sale that were off Florida; only four of these tracts drew bids, and the total bids were one million dollars. So there was marked reduction in the interest shown in the eastern Gulf by the oil companies. Recently, however, there has been, if my information is correct, an exploratory effort undertaken in the eastern Gulf off of Tampa by Mobil oil, in the lease areas that I was just referring to. Finally, Florida is faced with the potential impacts that might be generated from future lease sales. Under the revised schedule, there are lease sales scheduled in the south Atlantic for January of 1978, and in the eastern Gulf of Mexico for August 1978. This schedule of future lease sales is a key variable, in the

sense that this is the planning horizon. It is one set of planning information that is available to Florida and indicates that Florida potentially may be faced with the issues raised by offshore development, at least for the next several years.

Now another key variable is the size of potential offshore reserves. The impacts that we are examining are dependent upon the location of any discovery and the size of that discovery. These were the revised USGS estimates that were available at the time that the study was done, and as far as I know are the latest estimates available from the federal government.

The estimates that we utilized obviously indicate a wide range. For example, in the eastern Gulf of Mexico, the range for crude oil is from a low of 0 to a high of 2.7 billion barrels. This generalized information is of relatively little assistance, obviously, in trying to determine what specific impacts might occur to specific communities in Florida.

The conclusion that we reached in the study is that the specific information that is required will only be acquired after exploratory efforts have been undertaken. Under the existing leasing system, that information would be available only after private companies have bid on offshore tracts and drilled exploratory wells.

Now, in other sessions we have generally reviewed the process of offshore oil and gas exploration and development. This is a process that we specifically considered in developing our estimates of potential impacts. Briefly, the phases of offshore activity included geophysical exploration, which I think by general agreement, would have minimal impact or, I would argue, it would be very difficult to see any discernible impact upon coastal communities. Second, with respect to exploratory drilling (and I'll give you more specific figures with respect to Florida communities), our general conclusion was that, again, this phase of activity has relatively minimal impact - a minimal but positive impact upon coastal areas. The key problem that exists in the analysis and policy formulation process is that while the impact of exploratory

activities may be minimal, there is concern that decisions that are made during the exploratory phase may, in fact, influence decisions with respect to later siting of onshore facilities if commercial discoveries are found. There is some evidence, for example, with respect to the Florida experience, that sites or areas that were utilized for exploratory base support were also being considered for larger support bases, should commercial discoveries be found.

There are also two other major development stages that people have touched on: the installation and operation of specialized production equipment (this includes the production platforms that have been highlighted in films that I'm sure have been presented in the conference); and the question of transportation, which gets us back to the question of pipeline routing or the use of tankers for the shipment of offshore production. Each phase of the offshore process requires the establishment and maintenance of specific onshore support facilities. The specific facilities required will vary with the phase of the activity and will also vary with the size of any reserves. The other major factor is that the discovery and production of offshore reserves *may* also provide the stimulus for the construction and operation of optional onshore processing facilities, such as refineries and petrochemical plants. But I cannot stress too strongly that, based on our research efforts, there is not a one-to-one correspondence between offshore discoveries and the construction of such facilities. In the case of Florida, especially in the Gulf, the basic argument was that, in all likelihood, any production that might be forthcoming from this area would be shipped to existing refineries along the Gulf coast.

Florida can be classified as a frontier area primarily because of the lack of any offshore production. However, there has been a history of offshore activity. Most of the exploration prior to the 1973 MAFLA sale had taken place on water bottoms under state jurisdiction. None of these exploratory wells was successful. In fact, depending upon your definition of an offshore well, you could argue that Florida's history of offshore activity could be traced back to 1947. If you employ a stricter definition of what constitutes an

offshore rig, the first offshore well in Florida was drilled in 1955. So Florida has some experience with offshore activity, but that activity is limited to exploratory drilling.

Ten areas between Port Manatee and Pensacola were explored as a result of the MAFLA sale in 1973. There is a concentration in the so-called Destin Dome area between Pensacola and Panama City. This was the area of highest industry interest, and it was the site of the single tract which drew a 212 million dollar bonus bid. This was a bid by Exxon, and I believe it is the tract on which three exploratory wells were drilled. Three basic port areas were utilized as support sites for the offshore activities: Pensacola, Panama City, and Port Manatee.

Some reference has been made to the industry studies - that is, industry's efforts to survey the impact of exploratory activity on Florida coastal areas. At the same time we were making an independent effort to try to make a similar estimate. Our results were basically consistent with industry's findings. Generally Florida communities benefited in terms of onshore expenditures, totaling somewhere in the neighborhood of 3.4 million dollars. If you look at the cost of the wells (and these are estimated costs), the total cost for the 12 wells that were drilled equalled approximately 30 million dollars. Roughly, then, approximately 10 percent of the cost of the wells was spent in adjacent Florida coastal communities. I bring this figure up because it is somewhat lower than that cited in studies for the East Coast, which generally had indicated an expenditure in the neighborhood of 20 percent of the cost of an exploratory rig. There are also marked variations in the amount of onshore expenditures from area to area. The smallest percentage, which was four percent, occurred in Pensacola. Pensacola is obviously in the extreme western portion of the state, and the reason for this low expenditure may be that a lot of the supplies and so forth were shipped directly from ports outside of the state. The highest percentage occurred in the Tampa-St. Petersburg area, which was 19 percent. Our conclusion was that the basic reason for these generally lower expenditure figures was the lack

of existing facilities in the state that could supply items needed directly by the offshore operators.

At the Port Manatee site, the area that was utilized by oil companies for the support base during the exploratory phase totals somewhere in the neighborhood of 7 to 11 acres. The site selected was an existing port operation and, in this particular case, did not place any particular strain upon the operation. In fact, the Manatee Port Authority desires additional usage of the facilities that are available. Some stress was placed on other ports in the area, for example, Pensacola. There is some indication that if the level of activity were to increase at that port, additional facilities would have to be provided, in terms of dockage space, and this would imply the need for additional dredging and related activity.

Given the locations of ongoing operations and limitation of budget, we were forced to select a single area for closer examination. The site selected was the area off of Tampa-St. Petersburg - the area that was being serviced out of the Port Manatee facility. In part, this selection took place because of the failure of earlier efforts in the Destin Dome area to show any positive results in the time we had to make this decision as to a specific study area. The drilling in the area selected was still going on with no announced results.

There were other reasons for the selection of this particular site. The Port Manatee area had also been considered as a potential site for a refinery. The particular refinery was an independent proposal by the Belcher Oil Company, which would utilize the port facility to bring in oil by tanker. The proposal, in fact, was independent of the activity that was going on offshore, but we felt that we wanted to select an area that at least could be legitimately considered as a potential site for refinery construction.

Finally, I mentioned the future sale that occurred in February of 1976, which included tracts off of this same area of Florida. Of these tracts only four ended up drawing bids.

In looking at and trying to estimate the potential impact of offshore activity, a number of specific variables had to be examined. The first was the location of oil and gas resources. This, as I have said, we narrowed down by examining those tracts that were currently under lease or potentially could be under lease off this area.

The second variable examined was the expected size and nature of offshore reserves, including estimates of peak production. Based on other work that had been done by the Bureau of Land Management, we adopted their estimates which projected a possible peak production from this area of 136,000 barrels per day. Now this is a relatively small discovery, if such a discovery in fact were made.

Third, we had to have a projected time frame of OCS developments. One of the key factors emphasized by the North Sea experience is that the timing of various phases of activities is a key variable in terms of what impacts will occur on adjacent coastal communities.

The fourth variable is what facilities are, in fact, likely to be located in the adjacent coastal communities. Here we made a differentiation between those facilities that we felt would have to be in place in order to support offshore production, and those which we would view as optional. The optional facility that was considered was the construction and operation of a refinery.

And finally, there is the obvious additional factor with respect to those facilities: How large do they have to be?

The time frame for development was based on the existing leasing schedule so that no activity or discovery was projected before February of 1976. In fact there was a six or nine month period after February of 1976 built into this projection for additional exploratory efforts. In addition, there were a number of other factors that had to considered in development of the set of estimates. These included the number of exploratory wells to be drilled, the number of production platforms

to be put in place, the number of development wells to be drilled, and the average time to drill wells, both exploratory and development.

Additional assumptions were also required as far as the timing of the appearance of suppliers for offshore operations, and, if anyone is interested, I can supply those at a later date. But what I am attempting to do is highlight that the large number of very critical assumptions that are built into any scenario (while some people don't like the use of that word, that's basically what this is) must be examined in light of information that would be available at a future date.

Once we had this information, we then examined the particular employment requirements of each of the facilities that would be required for OCS activity. The information we gathered included an examination of estimates of construction employment and estimates of permanent employment at each of the facilities. The conclusions we reached with respect to a development did not include the construction of a refinery. It indicated that during peak production years approximately 1,500 additional employees would be required to support the level of offshore activity that we had projected. If you include the development of a major refinery (in this case, the assumption was a refinery of 200,000 barrels per day), the estimated distribution of employment over time would look like the graph I have depicted now, and peak production would increase to approximately 2,100 individuals.

This represented merely the first phase of trying to develop specific estimates of onshore socioeconomic impacts. These are the direct employment requirements that would be associated with the assumed level of offshore activity. Translation of this level of employment into total impacts required an examination of what are usually labeled secondary impacts of any employment change. In doing this, we basically used what is labeled an economic base model, which assumes that there is a relationship between changes in basic activity (activity which generally is associated with production and sales of goods outside of a community) and the amount of employment that is necessary to

support an existing resident population. This nonbasic service employment could include retail and wholesale trade - the whole gambit of population-supporting activities. A number of other studies have employed a similar technique. Generally a multiplier is employed which relates changes in the basic sector to changes either in the nonbasic sector or to changes in total employment. A key factor is the size of that multiplier. Total employment multipliers have ranged as low as roughly 2 in some studies to as high as 6, 8, or even 10. I can describe this in another way: for every job that is directly associated with OCS activity (with a total multiplier of 2) there would be another job created in the service sector. Obviously with higher mulipliers, the argument is that for every direct job, you have correspondingly more jobs created in the so-called service sector. Given projected changes in employment, it is possible on the basis of existing information to develop what appear to be reasonable estimates as to total population size (given the relationship between employment and total population).

Given these estimates, we are ready to proceed to the next area that we spent a major portion of the project on - the examination of fiscal impacts. A number of studies have utilized different approaches for estimating the fiscal impacts of OCS activity. The key consideration from the point of view of states and localities is the existence of a large group of capital facilities outside of the taxing jurisdiction of affected communities. Communities will have to supply public services to the population coming to work on both offshore and onshore facilities. The question is: Given the existing tax structure, and the likely level of expenditures required by communities, will those communities be faced with a fiscal deficit or a fiscal surplus, or will things just balance out? The early approaches to estimating fiscal impacts (including those employed in Texas and Louisiana) generally looked at aggregate situations; that is, the impact on aggregate state and local revenues and expenditures. These approaches utilized basically an average or per capita approach. By this I mean the approach either explicitly or implicitly incorporated assumptions about the per capita amount of taxes payed as a result of increases in industrial activity and assumptions about the per capita

expenditures that would be required by local governments. The example that probably is most familiar relates to additional educational expenditures that would be required per student. In fact, some, or probably most, states have formulas which relate these expenditures on a per pupil basis.

The approach that we employed (and I am not necessarily recommending it as an approach that should be applied in all states at this phase of knowledge) was more site-specific. That is, it looked at the specific area under study, and at a specific pattern of development - Manatee County, for example, which is the location for Port Manatee. We assumed that all onshore facilities associated with offshore development would be placed in Port Manatee or in the area immediately surrounding Port Manatee. Also given our projected levels of population change, we made judgments in consultation with the local officials and local planners as to where likely population growth in terms of additional residential units was likely to take place. Both residential and industrial development are shown on this map. The reason for specific siting of developments is that we employed a particular set of models that had been developed in our department by another one of the project participants to estimate the impacts of offshore development. These models looked at specific systems which exist in a locality (e.g., the existing sewer system in Manatee County) to determine: (1) whether the system has surplus capacity; (2) if it has surplus capacity, whether that capacity is sufficient to accommodate additional development; and (3) if not, what additional construction would have to take place in order to accommodate the projected population change. Those changes (if additional construction was required) are costed out in these models on a system-by-system basis; that is, education is examined separately, sewer systems are examined separately, etc. The approach utilized also included an examination of the specific revenue sources that would exist in that particular locality, ranging all the way from the local property tax to the existing state revenue sharing formulas, so there was an examination of the revenues and expenditures that would be projected from offshore development for the assumed level of activity.

The general results of this analysis tended to confirm the Texas findings. That is, in the absence of the construction of a major products refinery (a 200,000 barrel per day refinery), the fiscal impacts of the projected level of development were likely to be negative as far as local governments were concerned. However, with the introduction of a 200,000 barrel per day refinery (even though this implied additional population growth, it also basically added more to the property tax base because it is a capital intensity activity), the fiscal impact of the assumed level of activity would be positive.

The approach did not examine (and this is an area that I feel is open to question, at least given the approach we employed) the impacts on state revenues and state expenditures. If the approach were extended, there would be a similar examination of the additional demands that would be made on state government as far as provision of services is concerned. Obviously the state also receives additional tax revenue from this level of activity. In our study this particular question was not addressed.

What did we basically conclude from our efforts? First, that there is a need for the timely acquisition of information concerning the changes or level of activity that is likely to take place offshore and the implications this might have for the level of onshore support activity. The issues involved here include the most effective way of obtaining that information and how much lead time is needed to obtain it. Under the existing system (and this is a personal conclusion and not necessarily a conclusion of the state of Florida), there are mechanisms built into the process for leasing offshore tracts and of permitting production platforms that permit the states to obtain the information required. These procedures require information submissions to state governments during various phases of OCS activity. It is my conclusion that these provisions are basically adequate for providing states the opportunity for gaining access to the information that they need.

Second, and I will conclude with this remark, in some ways the state of Florida went through an

interesting metamorphosis during the MAFLA period. There was initially great concern that in a tourist state if you had offshore activity you would have oil spills which would drive tourists away, and, given the importance of the tourist industry to the state, perhaps this was a thing that we shouldn't be involved in. After exposure to the level of exploratory activities that did take place, a number of local officials directly affected by the OCS activity developed basically positive attitudes toward the activity. The governor, in a related matter of refinery construction, shifted his position to at least a stated policy of being more receptive to proposals for the construction of refineries in Florida, an issue on which previously he had at least given some indication that he would take a very negative position. I am not trying to relate this to the impact of our particular study, but rather to indicate that these changes did take place. What is a little discouraging, however, is that after the recently announced change in the leasing schedule, in which additional land in an area lying off Tampa-St. Petersburg would be included in a future OCS sale, I noticed in a major Florida paper that we may have gone back another step in that some of the local officials again have taken a negative position: "No way, we don't want the lease sales in OCS because of the potential impact on tourist activity." So, I am not sure exactly where we are currently in Florida with respect to the development of consensus or policies concerning OCS activity.

Suzanne Reed

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I'm delighted to be able to come and tell you about California's experiences with outer continental shelf issues and planning to meet the challenge of ensuring orderly development. We feel that we've made a great deal of progress over the last several years, and I'd like to relate a little bit about the approach we've taken and some of the successes we feel we've had in dealing with this issue.

I can't tell you the number of times I've talked with oil industry officials and presented testimony before congressional committees discussing the subject or, in many cases, arguing it, when people have said, "Come to the Gulf Coast. You've got to see the Gulf, where there is blissful coexistence between the oil industry and the coastal states." This has been my first chance to do that. However, one thing I don't think is very well understood is that California is no stranger to offshore oil development. We have had a long history of it, which certainly hasn't resulted in production of the amount of oil and gas that has been produced in the Gulf. But our experience dates back to 1896, when the very first offshore production in the United States began off the coast of Santa Barbara County. While I understand the arguments about coexistence and the philosophy that if you see the example here in the Gulf, you will see that a state can learn to live with offshore development and even grow to like it, in California that hasn't been the case.

California's recent past experiences with oil and gas development can be characterized as vivid, memorable, and most unpleasant, beginning with the Santa Barbara Channel oil platform blowout in 1969. The immediate effects of the oil spill were disastrous and extremely alarming. This incident resulted in a moratorium on development in the Santa Barbara Channel, and was also the driving force behind much of the organization and planning in response to further OCS lease sales that have taken place in California.

In December 1975, Southern California Lease Sale 35 was the first major lease sale held after President Nixon's announcement of the accelerated leasing program. California considered itself the first victim of the unrealistic goals of the energy independence program, and our problems mounted when, six months after Lease Sale 35 was held, Lease Sale 48 was announced. We had barely begun to comprehend and interpret exactly what Lease Sale 35 was going to mean to California when, once again, we were faced with a major lease sale. This time the sale area included not only the Southern California area of Lease Sale 35, but also the Santa Barbara Channel, where there continues to be much concern over OCS development impacts.

California's ability to participate constructively in the OCS leasing and development process has improved over the years, and I'd like to tell you exactly how our response has evolved. In 1972, California citizens voted for the Coastal Proposition, Proposition 20, and began a concerted effort to organize a consistent approach toward managing our coastal resources. Three years later the Coastal Plan was produced, setting forth a program to manage all types of the development along the California coast. The Coastal Plan policies are very general in relation to OCS development, but provide guidelines for further definition of state and local policy toward offshore activities. One position expressed in the plan is that California does not oppose oil and gas development, per se. The oil industry will say, "Well, you say you're not against it, but if you read between the lines, . . ." The "but" is that we'd like to see OCS development occur in a way that will enable California and the nation to meet basic energy goals without sacrificing environmental values. For example, a guideline policy in the Coastal Plan that California hopes will reduce the adverse impacts of offshore oil and gas development urges the consolidation of facilities onshore. Because we have a long history of oil and gas development, onshore as well as offshore, California has an infrastructure of oil processing, storage, and treatment facilities and pipelines that we'd like to see utilized, and we would like to see consolidation of any new facilities within those at sites that are already in use. This policy is encouraged through our permitting processes, except in cases where consolidation of

facilities could actually create a greater problem than the one we are trying to solve. For example, consolidation may cause "hot spotting" where you have a concentration of air emissions and a more adverse impact than if you allowed facilities to be located separately along the coast. I will discuss an example of a major Southern California consolidation issue later in my talk.

California OCS planning activities began in earnest when Lease Sale 35 was announced. In 1975 we received funds from the Federal Energy Administration to examine the economic and environmental impacts that Lease Sale 35 would have in Southern California. Our report, published in early 1976, had two major conclusions: (1) that we didn't know enough to determine with any degree of accuracy what the impacts would be; and (2) which was a rather surprising conclusion, that economic benefits of oil and gas development on the California coast were not going to be what the Bureau of Land Management and oil industry predicted in terms of employment and secondary growth. Again, because of the existing infrastructure, the oil industry has a labor pool from which to draw and facilities which are now experiencing declining use because of declining onshore production through which new production could be passed. So, in terms of attracting local community or state support for OCS development with new revenues and new employment, the carrot isn't there.

We found also, not surprisingly, that the federal process did not allow for developing the type of information necessary to enable state and local government to participate in the leasing and development process or to predict and plan adequately to mitigate adverse impacts. Driven again by the accelerated leasing program, the Lease Sale 35 process afforded little opportunity for state and local government views to be adequately considered.

Fifty-six leases were sold in Lease Sale 35, some of which are in locations where orderly development *can* proceed without much environmental risk. However, we unsuccessfully opposed the sale of tracts located in the San Pedro Bay, an area currently heavily trafficked and deemed to be, in the future, even more

heavily trafficked, by oil tankers. The existence of leases in the shipping and navigation lanes in the Catalina Gulf and San Pedro Bay, where exploration and development activity would be taking place in areas of heavy ship traffic, continues to be a matter of considerable concern.

The third year of our studies, conducted in 1976, was an effort to acquire more detailed knowledge and capability to assess and plan for the offshore and onshore impacts of OCS development. Instead of producing generalized numbers about impacts on a regional scale, we focused on those local areas where onshore development is most likely to occur based on available sites, pipeline corridors, and existing infrastructure. We then established a dialogue with industry to foster joint planning in an attempt to minimize negative development impacts. Our 1975 study resulted in the "target area approach." This planning method uses offshore oil and gas resource estimates and identification of the existing infrastructure onshore and pipeline landfalls to predict where the pressures for development are likely to occur. We can then focus available planning resources on those target areas and work with local government and industry to determine the best means of bringing offshore resources onshore for processing and distribution. This approach, however, is only as good as the data and information on which it is based. California's 1975 OCS Project identified the shortcomings in available data and information; the 1976/1977 OCS Project was designed primarily to fill those gaps.

But these planning efforts are only half the battle. California has adopted a dual approach: we are dedicated to improving our technical and planning abilities and knowledge, and equally dedicated to pursuing our goals in all available political forums. This effort includes constant communication with regional, as well as national, officials in the Department of the Interior, presentation of testimony before senate and congressional committees, and participation in the National OCS Advisory Board. This dual approach is self-reinforcing. Our effectiveness on political fronts has been increasingly enhanced by our ability to support our proposals with substantive technical expertise.

California's earliest response to federal OCS development activities was to dig in our heels. We felt something was happening over which we had very little control and about which we had very little knowledge. We were determined to resist the onslaught. However, as we have become more confident in our own ability to understand what is occurring and what is likely to occur from offshore oil and gas development, there has been an increasing sophistication in response, at both the local and state government levels, to OCS leasing and development activities. We have become involved in dialogues with the industry to try to find a viable solution to their problem, which is to produce and bring ashore the oil and gas in which they have invested a huge financial interest, in the most economical fashion possible. Our interest in preserving environmental quality at the same time often seems conflicting, but I think that, through a higher level of confidence in our own ability to understand what is possible in the way of impact mitigation, we have been placed in a better position to accommodate the industry's desires without sacrificing our own.

The California environment is unique in several respects. Of course, everyone thinks that his state is unique and special, and we in California aren't any exception. The Santa Barbara Channel islands constitute an irreplaceable environment, filled with marine mammals and bird life, pinniped rookeries, whales, and a variety of endangered species. There are many programs, both federal and state, designed to preserve these unique and sensitive resources. At the same time, this area is one of the most attractive areas for oil and gas development off the Southern California coast. The oil industry finds it difficult to identify with California's desire to preserve the recreational assets, tourism, the agricultural base, and the unique quality of our environment in the face of increasing state and national demand for offshore oil and gas resources. Yet, we truly believe that when our oil and gas provinces have been depleted we cannot afford to find that our renewable living resources have been depleted as well. Southern California, more than any other geographic region, must continually deal with the problems of preventing further degradation in air quality. There is currently a tremendous failure in federal law where

explicit authority to regulate air quality emissions from outer continental shelf development is lacking. And yet, studies performed over the last year indicate that OCS development activities do in fact have a great potential for increasing oxidant formation and particulate levels in California's air basins. We have proposed amendments to the Outer Continental Shelf Lands Act and to the Clean Air Act, in order to clarify jurisdiction over the air quality impacts of OCS development activities off our coast.

California's approach to seeking orderly OCS development without sacrificing our environmental goals and objectives is exemplified by the current controversy over development of Exxon's Santa Ynez Unit in the Santa Barbara Channel. Exxon has held leases for the last nine years and is nearing a point of production now that the mammoth platform Hondo is in place. Exxon originally planned to process its oil onshore but to ship it to market by tanker.

Concern over air quality and oil spill impacts from these operations and a desire to promote comprehensively planned development of Santa Barbara Channel leases lead the California Coastal Commission to set conditions on Exxon's marine terminal and onshore facility that required the company to examine the feasibility of constructing a land pipeline onshore, running from the Santa Barbara Channel to the Los Angeles Basin. If such a pipeline was determined to be feasible after a five year period, Exxon would be required to construct it for use by all channel operators. Thus, oil could be produced and transported from the channel in the least environmentally harmful manner. Exxon felt that California's conditions were unreasonable, and left them too much at the mercy of a variety of state and local government interests. The company rejected the state permit to construct a processing facility onshore, and in March 1976, the Department of the Interior approved Exxon's alternative development plan to establish an offshore processing facility and marine terminal in federal waters about 3.2 miles from shore.

The state of California is heartened by the efforts of the new administration to help us resolve the Exxon

controversy. Secretary Andrus has taken an enormous interest in this case. Although he is constrained, in some respects, by the decision made by the previous administration, he has taken every opportunity to engage in a dialogue with all parties to the controversy - the company, California state agencies, and Santa Barbara County - and has personally visited the Santa Barbara Channel to view our unique resources and offshore operations firsthand.

California state and local agencies are also involved in a comprehensive planning group to further determine the feasibility of an onshore pipeline from the Santa Barbara Channel. The Santa Barbara Channel "pipeline working group" consists of representatives from Santa Barbara and Ventura Counties which border the channel, federal government and state agencies, and the Governor's Office of Planning and Research. I would like to comment here, as a representative of a state office, that sometimes California state government leads, and sometimes we follow. The pipeline working group was originated and has been successfully managed by a local government, Santa Barbara County. State and federal agencies have enthusiastically supported this ambitious initiative. Through economic engineering and environmental investigations, the group is seeking to identify a feasible onshore pipeline route to transport Santa Barbara Channel crude to market. By working jointly with the industry and with the government entities that will be involved in pipeline siting, design, permitting, construction, and operation, we hope to resolve the Santa Barbara Channel crude oil transportation problem in everyone's best interest. The success of this undertaking depends on the cooperation of each of the parties involved and, thus far, the working relationships have been extremely productive. I believe this joint planning approach can serve as a model for achieving comprehensive OCS planning and management goals.

I have discussed California's learning experience and OCS planning activities and some of the unique environmental features that influence our attitudes and approach to OCS leasing and development. I would be remiss, however, if I didn't discuss OCS development in the larger context of California's resource management

goals. California's problems in dealing with OCS issues differ from those of some other states in that we are not a frontier area, such as much of the East Coast or Alaska, where what I call "the boom town phenomenon" of OCS development occurs. Because our oil industry-related infrastructure existed previously, we are not confronted with an entirely new set of facilities and operations that generate the sudden growth which occurs in frontier areas. This makes it very difficult to distinguish the impacts of OCS development from the impacts of other types of energy development that are occurring in California. There are a great number of major energy projects proposed in California.

For one, we are the chosen location from the industry's point of view for the terminus of Alaskan oil. The proposed route would bring over 400 tankers down the channel and into the Long Beach harbor, passing again on return trips through the Gulf of Catalina and the channel, areas with considerable OCS activity. We are also the proposed location for three liquified gas terminals, bringing liquified natural gas from Alaska in two cases and from Indonesia in a third, in the near term, and eventually from Iran, Algeria, or wherever else it can be purchased. A third proposal deals with Elk Hills Naval Petroleum Reserves which are under a mandate to be produced at 350,000 barrels per day; again the tankers that would distribute that oil are scheduled for Port Hueneme, another area near the Santa Barbara Channel and very near the rest of the port proposals.

Distinguishing the potential impacts of those projects from those of OCS development, and trying to prepare scenarios to predict what the overall impact of the projects combined would be, or those of one project without another, or any two of the three, is often confounding. The analytical tools available to us from the federal government in this regard are sorely lacking. Each agency responsible for planning for the various projects tends to be, or in the past has been, narrowly confined to examining the impacts of the one project only.

However, I'm happy to say that, through our dialogues with federal officials who are preparing the

environmental impact statements and are the proponents for the various projects, there is a greater appreciation for California's specialized problems in dealing with the cumulative impacts of the numerous projects. These federal agencies are attempting to help us develop tools that will predict and develop mitigation strategies for the cumulative air quality and economic impacts associated with the various projects. Creativity is required to use a federal program like the Coastal Energy Impact Program, which is geared toward assisting in dispelling or mitigating against the impacts of a particular activity, to deal with the combined impacts of, for example, OCS development *and* major port operations. The Office of Coastal Zone Management has been cooperative in drafting regulations and providing for administration of the Coastal Energy Impact Program in order to allow flexible use of planning and impact mitigation funds to meet California's needs. Nevertheless, the emphasis of that program is to enable local governments to fund public facilities projects that meet "boom town" impacts, rather than supporting the type of advance planning and impact prediction activities that we feel can eliminate the need for some type of relief from, or compensation for, the impacts of energy development.

In conclusion I would say, although we have learned much, we've got a way to go. There are five key recommendations that I would make to all states, to the federal government, and to the industry, to keep us on the track and ensure success in achieving our mutual goals.

First, in California, we've learned that we require a point of coordination. Our state government falls under the same attack from local governments and industry that we tend to launch at the federal government. There is no clear-cut organization at the state level, in terms of responsibiltiy for overseeing OCS development or OCS impact planning activities. Since a number of California's state agencies are involved in various aspects of these issues, it's difficult to know to whom to talk. We have spent a lot of time with industry people who have, for example, a proposed development plan. They ask me, "Who do I give this to? Who's going to give me a permit? Who do I talk to?

Who do I offend by not talking to them?" Over the last year, the Office of Planning and Research has been able to offer some direction and provide state agency coordination, but I think we also need some state legislation to establish a centralized OCS authority in state government. Exclusive authority should not be vested in one agency, but there does need to be a permanent responsibility in state government to provide referral for OCS development projects and serve as a point of information for local governments and other interested parties who want to know about OCS development: where information is available to them, how to use this information, what the process involves, what their opportunities to participate in the process are, and how best to cast that participation. In addition to having a place where people can come for information, we need to continue our outreach involvement in public information and education to stimulate conferences and dialogues, such as we have here, to promote greater understanding, from the ground up, of what OCS development means in the broad concept, what it means to a particular community, and how to plan for it.

Second, states need to continue their involvement with federal government, both at the regional and national level, to continually express an interest in understanding their goals and their projects, to coordinate planning efforts and data accumulation, and to increase the focus on various "nitty gritty programs," such as the baseline studies, pipeline corridor studies, and environmental impact assessment, so that those programs produce the type of information that we, at the state and local government level, feel is required in order to make rational decisions on OCS development.

Third, while I'm urging better state coordination, I would also like to see better coordination at the federal level among the various agencies that are responsible for, or influence OCS planning and development activities in one way or another. There must be better communication among them, better understanding of who is responsible for what, what information they have, and what they can do for us. We are frustrated by reactions to requests being a game of "pass the buck." We call the Bureau of Land Management and they say, "Well, we can't answer that question, you'll have to call

the USGS," and we call the USGS and they refer you to someone else. I think a centralized information clearinghouse system would be extremely helpful in terms of efficiency, of dissemination of information, and, again, of just lowering the frustration level. Coordination of environmental grants and technical assistance to the state and local governments would greatly assist people who are out looking for a way to plan, but are frustrated by the lack of information or the lack of funds to enable them to launch planning efforts. I am happy to say that, under the leadership of the new administration, this improved federal coordination and information dissemination system appears to be forthcoming. The Department of the Interior is establishing an OCS Clearinghouse office, and I urge all of you to submit your recommendations to the department to assist them in making this new office work.

As my fourth recommendation, I would like to encourage continued and greater exchange of information among states. We in California have enjoyed our participation in the National OCS Advisory Board. Although it is sometimes an unwieldy organization, meeting twice a year with representatives from all the coastal states, the industry, and of all the federal agencies, it is still a tremendous forum for the exchange of information: finding out what other states have learned, what federal agencies are doing and learning, and what programs are proposed for the future. I very strongly urge continuation of the National OCS Advisory Board and active participation by the states in bringing their message to each other and to federal representatives on the board.

Finally, I would say let's continue to have dialogues like these, to provide forums in which all parties can get together and exchange their views and their goals and seek common resolution. As I said previously, California initially dug in its heels, and I think the industry still perceives us as obstructionists. To be honest, in some respects, this has been true. But, as we have gained new knowledge and a higher level of confidence in our ability to make energy development compatible with our environmental, economic, and social goals, our reaction has been most positive. We are trying to develop an approach that will define what

can be done and how it can be done and, to quote an old phrase, to try to be "a partner in the solution, not the problem." I believe our prospects for realizing these goals are good, and the new administration has certainly given us a shot in the arm.

The President's support for the Outer Continental Shelf Lands Act Amendments and concern with instituting a comprehensive national energy program is a relief. Not that California agrees with everything in it, but it is refreshing to have something with which we can work and to which we can respond. The President's environmental message shows that many of our concerns will be met and our goals realized, since it is also the goal of the administration to provide a more centralized form of federal information and federal regulation; to consolidate grant programs; to streamline and implement a more responsive environmental impact assessment process through the National Environmental Policy Act; and to seek a balance between meeting energy needs and preserving the environment.

All of these policies are encouraging to us. While we can't take credit for the fact that we used to be sitting next to Barbara Heller and Guy Martin, pressing our point and presenting our case to federal officials, and now we sit across from them and tell them our views, we have achieved some success in terms of the political goals that we've been pursuing over the years. Other goals are being realized as well, and I think its due, not only to the new administration, but to a new cooperative attitude on the part of industry and the state governments.

Our hardest task is still ahead. It seems that, in the past, the abuses of state and local government interests were so egregious that it was easy to stand up in outrage and call for sweeping policy reforms. Well, it looks like the sweeping policy reforms are here. Now it's up to us, the states, the people who have been calling for it, to roll up our sleeves and get down to the day-by-day detailed planning that will make OCS development work for us, not against us. I pledge a contribution to this effort on California's behalf, and I am personally delighted to participate.

Martin Zeller

Office of State Planning, Massachusetts

At first blush, I suppose as a representative of a state that has seen no oil development, I should probably be doing all of the listening and none of the talking. You might agree with that even more when I am finished. The fact is that all of us in the Northeast have had to play a lot of catch-up ball in terms of understanding the complexity of offshore oil development. I myself have been actively engaged in the issue for a little less than a year. In spite of this, because we have started with fresh insights as well as the benefit of evaluating the experiences in currently producing areas, our approach may serve as an example of an evolving trend toward sensitive advance planning. Massachusetts and the rest of the coastal New England states are a frontier region in terms of oil development. Except for a few test holes, there has been no offshore drilling in this region. The area has been criticized at times for being overly protective of its spectacular coastal resources and traditional fishing industries and, at the same time, consequently not bearing its fair share of refineries and other facilities. At the same time, we continue to be over 80 percent dependent on petroleum to satisfy our energy needs.

In truth, most of the proposals for oil-related facilities have died for economic reasons, not so much as a result of a hostile attitude. We continue to pay the price for being at the end of the energy supply lines, and our overdependence on oil has meant, for example, that Massachusetts pays 50 percent more for its electricity than the national average.

The prospect of offshore oil development off the coast of Massachusetts has often conjured up emotional, and at times exaggerated, visions of the future. The facts that offshore oil companies represent a new, aggressive, and relatively unknown industry in New England; that the region is extremely protective of its traditional heritage and unique environmental resources; and that there is a great deal of complexity and uncertainty surrounding the oil issue have often

tended to aggravate the tensions which many Massachusetts communities are feeling. On one hand, oil development is seen as inevitably leading toward environmental disasters, destroying beaches and valuable fishing grounds and undermining the fabric of traditional New England towns. At the other extreme, offshore oil development is seen as an economic panacea for New England, providing large numbers of jobs and revenues to a region suffering from chronic unemployment and economic ill-health. In reality, neither of these two views is likely to dominate. Rather, New England's association with the oil industry probably will create neither adverse environmental effects nor large economic benefits. Our approach has been to find a more balanced and objective view of the problems and opportunities associated with oil development and to design strategies to deal with them.

In Massachusetts, the approach of the Dukakis administration toward offshore oil development has been characterized by an open-minded evaluation, which consists of critically weighing the costs and benefits of offshore development. Massachusetts' commitment to offshore development is attested to by the contingents of local officials which have travelled to Houston accompanied by the governor and lieutenant governor to attend the Offshore Technology Conference over the past two years. In addition, the Commonwealth is one frontier state which has not attempted to delay its lease sale. While the Dukakis administration strongly supports the exploration and development of offshore oil and gas, this position is predicated on the belief that we must have in place mechanisms which will ensure that exploration and development will be carefully and sensitively undertaken in order not to undermine our environmental and social assets - assets which are crucial to our fishing and tourism industries, as well as to the overall quality of life in Massachusetts.

With the extension of the economic and fishing jurisdictions for 200 miles and the likelihood of a significant revival of the fishing industry in Massachusetts, these precautions are especially critical. It is expected that the increased level of fishing activity will

reach its peak around 1985, the same time that there would be the greatest amount of oil development activity if a commercial petroleum find is made on Georges Bank. This situation indicates that there is a significant potential for competition for limited port space and services which need to be shared by both industries, as well as for operation conflicts at sea, unless these two relatively unfamiliar industries cooperate.

The Argo Merchant disaster which occurred on Nantucket shoals off Massachusetts provided ample evidence for the need for stringent oil-spill liability laws and tanker safety standards, as well as for improved federal contingency standards for prompt cleanup of oil spills. Even without offshore oil development, it is imperative that legislation proposed in Congress to rectify these problems be enacted as soon as possible. The basic tenets of the Massachusetts approach toward evaluating the impact of offshore oil development add up to what might be termed a contingency planning approach. At the state level, we have been working to ensure greater involvement of the state in decisions which the federal government makes in an effort to protect and advance the state's interest. At the local level, where most of the location decisions will be made, the state is providing a variety of technical assistance and has designed a number of model processes which communities can activate at the appropriate time in order to effectively deal with the impacts of a proposed activity.

Before I get into a description of these activities, I would like to briefly describe the area which is being considered for exploration, as well as some of the events leading up to the current situation. The area which has been proposed for exploration in the North Atlantic is Georges Bank. Georges Bank is approximately 50 miles wide, beginning about 60 miles southeast of the island of Nantucket and extending eastward about 125 miles. The center of the bank is approximately 100 miles off Cape Cod. It covers an area of about 15 million acres, of which slightly under one million are under consideration for oil exploration. Water depth in the area ranges from approximately 50 to 650 feet, and, as is generally known, Georges Bank is

one of the richest and most diverse fishing grounds in the world.

Speculation that oil and gas might be present on Georges Bank is due to the presence of sedimentary formations two to five miles thick throughout the area, as well as the fact that there are a number of moderately sized traps dispersed throughout the bank. The oil companies over the past 10 years have conducted thousands of miles of seismic data gathering from boats over Georges Bank. Based on favorable seismic data, the Department of Interior placed Georges Bank on a tentative leasing schedule in November 1974. In June 1975, the area was made available for nomination, in response to which 18 oil companies nominated 10.9 million acres. Most of this is concentrated primarily in the southeastern section of the bank, about 90 miles off Cape Cod. Of this total, the Department of Interior selected 206 tracts covering 1.2 million acres and requested comments from the neighboring states with regard to the selection. After review of these tracts, Massachusetts submitted negative nominations recommending the withdrawal of 26 of the 206 tracts. These tracts are considered to contain prime fishing grounds, which have potential for oil spills washing ashore and/or the possibility of oil spills near spawning areas. The Department of Interior withdrew another 28 tracts since the title to these tracts is disputed by both Canada and the United States.

In October of last year, the draft for the environmental impact statement (EIS) for Lease Sale 42 on Georges Bank was issued. Public hearings were held at the beginning of December, just about a week before the Argo Merchant disaster occurred. For a variety of reasons, the issuance of the final environmental impact statement and the date of the lease sale, which had been originally scheduled for this month, are currently planned for next November. But if past experience is any indication, the date will probably be pushed back again.

The experiences in coastal towns with the offshore oil industry in other producing regions will, to some extent, be relevant to the situation to be faced by a number of coastal communities in Massachusetts.

However, while it is tempting to portray these already developed areas and the recent development in the North Sea as examples of the kinds of development impacts that we might reasonably expect, there are enough differences to indicate the uniqueness of our situation and the need for discriminating and sensitive evaluation.

First, it is unlikely that a find on Georges Bank will equal the magnitude of those in other large producing areas. Although the estimates prepared by the USGS are only informed guesses, they do provide a range of likelihood. According to these estimates, there is only one chance in 20 that recoverable resources of oil in the entire North Atlantic will exceed 2.4 billion barrels. By comparison, resources in the North Sea and Alaska are estimated to be over 30 billion barrels. If the estimates are reasonably accurate, it is likely that the development of Georges Bank will not have the tremendous regional impacts that have often occurred in other areas. However, there may be significant impact on those communities where offshore oil facilities are constructed.

Second, unlike the Gulf and other areas, New England has no working experience with either the onshore or the offshore oil industry. The transition into an association with the oil companies will not be gradual, especially if a commercial find is made.

Third, although Georges Bank is well offshore, the extreme weather conditions that exist in the North Atlantic pose a severe threat in the event of an oil spill. As was dramatically illustrated by the Argo Merchant spill, the technology to clean up spills under extreme weather conditions does not exist. The Massachusetts coastline was saved by favorable wind and current conditions, which at other times might not have been so advantageous. An uncontrollable spill would pose a severe threat to the region's valuable fisheries and recreational resources.

Finally, the character of Massachusetts communities varies greatly from the small communities, for example, in both Scotland and Alaska. The impact on small towns in those areas has been tremendous in

terms of the kinds of new community services and housing required to meet the influx of workers. Massachusetts, on the other hand, is not remote or isolated and has a number of relatively large coastal port communities, most of which have high levels of existing services, a large skilled labor force, and a well-established housing and construction industry. In addition, unemployment in a number of ports is running over 10 percent, and these communities would benefit from the infusion of new jobs and employment.

Massachusetts, like other coastal states, has developed a coastal zone management plan, and this planning process is similar to that which has been described for other states. This plan sets forth the policy and regulatory framework within which OCS activities are being planned for and reviewed. Because of the overlapping nature of this process with that of other states which have been described, I will not go into detail. I might just say that the state's Energy Facilities Siting Council has primary jurisdiction over the siting of energy facilities and will utilize the policies developed by the CZM program for its decisions. The Massachusetts plan has been submitted to NOAA and, hopefully, we will be the first East Coast state to receive acceptance.

In response to the imminence of offshore oil development, as well as to the tremendous uncertainties which surround just about every aspect of the oil development process, Massachusetts has embarked upon a process which can best be characterized as contingency planning. Since oil exploration is likely to occur, the state sought to establish, prior to the lease sale, those measures which are felt necessary to protect the state's fishing, recreational, community, and environmental interests, while maximizing the potential economic benefits. Since the offshore leasing process is controlled by the federal government, this has meant primarily negotiating with the Department of Interior to promulgate lease stipulations and administrative changes which will give the state greater and more valuable information and involvement in decisions subsequent to the lease sale. This process will minimize

the potential for adverse impacts on both the environment and on coastal communities. The other major effort of state government has been the provision of technical assistance to coastal communities on basic aspects and implications of offshore development. In addition, state government has worked with those port communities which desire the location of oil industry activities in evaluating the suitability of existing port facilities and infrastructures for the oil industry.

This approach might, in part, be described as preventive medicine at both the state and local levels. It is Massachusetts' aim to have in place, by the time the lease sale occurs, those mechanisms which will guarantee state involvement in those federal decisions which affect the state. It is also our desire to improve the information flow to states and communities so that they will have the appropriate information to effectively evaluate their impact and respond in a timely fashion. Although the state has submitted voluminous comments on the draft environmental impact statement, we believe that this is an unwieldy and ineffective instrument for guaranteeing that the state's position will be respected on many issues. The EIS for the North Atlantic was modeled after the Mid-Atlantic sale EIS and illustrates many of the same inadequacies which have already been alluded to here.

In an effort to establish a more effective and continuing partnership with the federal government, Massachusetts has embarked upon a process of negotiating directly with the Department of Interior for administrative changes. It is reassuring to note that the Carter administration and Secretary Andrus have been extremely responsive to our concerns. Many of the administrative reforms which Massachusetts seeks are contained in S9, the OCS bill currently before Congress. However, since this legislation may not pass before the lease sale occurs, it is essential to the state's interest that these changes become operative prior to the lease sale.

The following are three of the principal measures which Massachusetts is seeking in order to more effectively anticipate and manage the impact of OCS exploration and development.

The first concerns oil and gas exploration and development plans. The major purpose of this proposed regulation is the separation of the exploration phase from the development phase of the OCS program with institutionalized state involvement in the review of the plans. In addition, it would provide for an EIS to be triggered at some point in the development stage. The argument for separation of exploration and development is basically that the dramatically increased level in kinds of activities which occur at the development stage are impossible to predict or plan for when exploration is just commencing and a discovery may be as much as five years away. Currently, all of the really significant decisions surrounding leasing programs are made before the government knows the extent of the resources or the environmental impact of its development. The draft EIS for the North Atlantic acknowledges that prediction of environmental impact prior to exploration is largely speculative. For example, only after information is available on the number of platforms that will be operating will it be possible to adequately assess the extent of interference with fishing and navigation and the amount, location, and type of onshore development to be expected. Moreover, an environmental impact statement at the development stage could effectively compare alternative locations for onshore and offshore facilities and evaluate the alternatives with regard to consistency to the state's coastal zone management plan.

The second reform which the state seeks is an oil and gas information program. In the interest of protecting resources, baseline studies establish a standard by which to measure future impact, provide information needed to decide which tracts to lease in the future, and identify environmentally sensitive areas and special hazards. Like the other provisions, this one is designed to ensure that the decisions connected with the leasing program are informed and that environmental and resource evaluation studies do not take place in a vacuum too late to affect policy. The procedure being followed for the North Atlantic sale is illustrative of the problems with the current process. Actual baseline studies in the field for the lease sale have just begun, and this information was unavailable for input into the

environmental impact statement. The timing is indicative of the uncoordinated nature with which the leasing program is currently being conducted.

The foregoing indicates the kind of responsible attitude that Massachusetts has taken to guarantee greater involvement in federal decisions and to ensure that the necessary information will be provided to the state in a timely fashion in order to anticipate impacts.

The second major tenet of the state's efforts to evaluate impacts of offshore oil development is its technical assistance programs to communities. It is important to realize that in Massachusetts the tradition of community home rule is extremely strong. Most of the major decisions affecting the location of OCS facilities are made by local communities. The home rule sentiment was powerfully stated by almost 300 of the 351 communities in Massachusetts in local growth policy statements, which most communities throughout the state completed last year. This is part of a process to produce a comprehensive growth policy for the state from a bottom-up approach of maximum community involvement. The sentiment clearly articulated was that the local governments wished to preserve their local prerogative and avoid state interference. They want help, not mandates, from state government.

Another important factor to keep in mind is that county or regional government is very weak in Massachusetts as compared to the rest of the country. Crucial decisions are made at either the local or state level. In addition, Massachusetts communities express the desire to preserve their community character and quality of life and encourage a moderate and controlled rate of growth which allows time for adjustment to change.

The reality of the situation faced by local government is that there is an extremely high degree of uncertainty associated with the oil issue. Such basic questions as whether there is oil and gas on Georges Bank and if so, when and where it will be found, in what quantities, how and where it will be transported, and how long production might be expected to last will remain unanswered for some time. Uncertainty is basic

to all planning situations, and it is particularly endemic to oil development. Until some of these basic questions are resolved, it is unrealistic and impractical to expect most communities to plan for events in detail which may or may not take place. An immediate response based on such limited information could be negative or misleading. On the other hand, it is equally important that the community be aware of the possible impacts of offshore drilling and preserve options for desirable events or opportunities and be in a position to respond quickly and effectively if and when oil development takes place on Georges Bank. While Massachusetts communities have virtually no control over events which will transpire offshore, the ultimate responsibility for most land use decisions rests with local governments.

For the past few days, we have heard a litany of the types of impacts which offshore oil development poses to communities - both opportunities and problems. The real need is not only to effectively evaluate impacts, but to translate that evaluation into effective action. For a variety of reasons, many communities are limited in their ability to respond to or completely control the impacts and location of OCS onshore activities. In Massachusetts, communities are constrained by the uncertainty of the future, inexperience with oil development and growth management tools in general, a lack of adequate resources, and the fact that most local officials are part-time volunteers. Often there is little time to adequately prepare for or consider the consequences of an action, and a town ends up responding ineffectually to a series of crises. The realities and problems inherent in effective local land management can cause a good deal of community frustration. Most of the areas which have had positive associations with energy development have experienced a moderate rate of growth followed by stable and permanent populations. Growth in these areas did not occur so fast as to outstrip the communities' ability to provide services and to meet new demands. In addition, stable jobs were created within those communities. The level and rate of population growth and the speed with which OCS development and production occurs may be the key to local attitudes and ability to control that growth. Since the offshore oil industry is a new

activity for Massachusetts communities, there is a need for development to occur at a pace consistent with the communities' ability to absorb that new growth. Rapid new growth associated with OCS development which outstrips a community's regulatory and service capabilities will tend to antagonize a community, in turn leading to actions which may jeopardize long-range economic benefits. Phased development which stimulates a moderate, stable rate of growth tends to minimize the undesirable impacts which would more likely be generated by rapid but temporary growth.

In light of these realities, Massachusetts' state government has taken the position of providing basic information on the oil exploration and development process to localities as well as identifying a number of strategies to evaluate impacts and deal with the problems and opportunities which are proposed. The basic premise of these efforts is to provide the necessary information and resources to localities so they can make informed decisions and improve their capability to respond effectively. The principal product that we have prepared for communities is a manual entitled *Offshore Oil Development: Implications for Massachusetts Communities.*

The manual is designed to inform public officials and interested citizens who have little knowledge of the subject. It provides basic information on the oil development process which is relevant regardless of the size of the find. The manual covers a broad range of possible OCS-related facilities, their impacts, and options for local control or management. It is designed to provide basic information on the siting requirements of various facilities so that communities can determine whether there is a match between siting requirements and the services offered by that community. The generic impacts of these facilities in terms of population and employment growth, housing, community services, fiscal impacts, and changes in the quality of life are also presented.

Perhaps the section of greatest interest is the one which describes a variety of strategies to deal with issues raised by oil development in light of the realities

of the local capacity. Before describing some of the strategies that we have suggested for communities, it might be useful to look at those aspects of OCS development which make it different from other large-scale development. These differences necessitate a less conventional or less traditional planning or impact review approach.

First, the number one difference is the tremendous uncertainty which pervades all aspects of OCS development. Second, the impacts on small towns are likely to be much greater than on large towns and cities. Oil development will have much greater impact on a small, rural town than it might have in a larger urbanized or industrialized community. Most small towns have limited resources, services, or experience with large industrial development. The start-up cost for new services in small towns is much greater on a per capita basis than the costs of expanding services in larger towns. In addition, new population growth can generally be much more easily assimilated in larger towns.

The third difference is in the development cycle. The degree and kinds of impacts vary widely in relationship to the type of activity and the speed with which it occurs during a particular stage of petroleum activity: exploration, development, production, or shutdown. A moderate level of activity during exploration is replaced during development by a period of rapid, intense activity and change. It is during this period that there is the greatest likelihood of the community bearing greater fiscal burdens for new or expanded services before revenues are produced. During production - the next stage of development cycle - activities and employment decline to a steadier but longer-term level. Field shutdown at the end of 20 to 35 years signals the termination of all or most oil-related activities.

To deal with the particular circumstances posed by offshore oil development, the following planning strategies have been proposed to communities as frameworks for evaluating oil development. The four strategies are contingency planning, impact review, a comprehensive community planning process, and a ports and harbors management strategy.

Contingency Planning

Contingency planning is essentially a means of preserving options for probable events and not foreclosing opportunities for the potential benefit to the community. In many cases, communities which have been faced with major development decisions have done a good job without the benefit of a formally adopted plan or planning process. Contingency planning is generally undertaken when there is a likelihood of a specific activity occurring which may substantially influence the town. For example, contingency planning for those areas likely to be considered candidates for exploratory service bases in Massachusetts is desirable. On the other hand, due to the present uncertainty surrounding the presence of oil and gas, contingency planning for other OCS activities would probably not be useful until the question of the presence of oil and gas moves from the realm of the possible to that of the probable or proven.

While there is no set methodology for contingency planning, the following illustrates the kind of approach generally taken. The first step in a contingency planning process might include an assessment of how the community measures up in terms of location and service requirements of the activity under consideration. Information presented in the offshore manual as well as in the report by the New England River Basins Commission called the *Fact Book* - otherwise referred to as the *Fat Book* because it is about five inches thick - can be useful for this purpose.

Based on an analysis of: one, the kind of match between the siting requirements of the facility and the available services in the community and two, the timing and likelihood of its occurrence, a decision can be made as to whether the issue is worth further exploring. If the potential of the OCS activity merits further consideration, a number of possible or contingent futures could be projected and analyzed. These scenarios or alternative futures might include the implications to the town if nothing happens, if the activity located in several different locations at several different scales of operation, if it located in the next town, if the activity left the town in five, 10, or 15 years, or if another likely activity came in.

Once the contingent futures have been identified and their implications have been examined, the community would be in a position to determine which ones were desirable, which were not. On the basis of the contingent futures identified, the town could put into motion a strategy which:

(1) Ensures that no local action will inadvertently foreclose a desired alternative future. For example, the disposition of public lands or changes in zoning or permitted uses would occur only in a manner consistent with the desired futures in an effort to preserve those options.

(2) Finds ways of precluding those futures which are not wanted. Local communities can exercise a variety of legitimate powers and actions to impede undesirable activity.

(3) Identifies community actions which can be initiated to benefit all desired contingencies. For example, if service base activity were considered desirable, the community might want to place all uses in key harbor areas in a special permit category in order to limit the encroachment of potentially conflicting uses. Capital investment decisions can be structured so that facilities such as water and sewer services and pier renovations, which are required even without OCS activity, are timed as if the desired onshore facilities were going to happen. In addition, siting strategies can be developed to encourage activities to occur in particular areas.

The key to successful contingency planning is to preserve options and to undertake as much preparation as possible to accommodate desired actions without irrevocably committing the town or its resources to an activity before it is actually proposed. Given the uncertainties in Massachusetts, this approach seems to make the most sense for communities.

Impact Review

When a specific development proposal is made to the community, more rigorous review of its impacts and implications may be desired. Since there is often little time to gear up after a development proposal has been submitted, impact review may require an unusual and concerted effort on the part of most community residents. However, it is probably the only way a town can begin to understand the full implications of large-scale development, identify options, and chart a strategy. Such a review should not be designed to unnecessarily delay a project, but rather to allow the community a reasonable opportunity to examine and discuss the project.

The following are suggestions for elements to be included in an impact review process which we have recommended for communities:

(1) If feasible, develop an impact checklist to review development proposals. An impact checklist is an efficient tool for reviewing a range of impacts, and examples have been developed for communities and are discussed in the manual.

(2) Determine exactly what is going to happen and when. Identify the information necessary for evaluation of impacts and obtain the developer's cooperation in putting together necessary data.

(3) Quantify the magnitude of impacts where possible. If this is not possible, obtain rough estimates or qualitative evaluations.

(4) Define the scope of citizen participation in the review process, whether it be through holding hearings or setting up special advisory committees.

(5) Focus on important issues - outcomes, timing, significant impacts, costs, who is most affected, possible changes in the town.

(6) Define options available to the town. The town might wish to develop several alternative futures as an aid to decision-making.

(7) Obtain expert legal advice when necessary.

(8) Coordinate response with other towns which might be impacted.

(9) Negotiate for a more significant local share of employment if possible.

If the impact review is successful, it will bring to light sufficient issues and information which the town will utilize to make effective and competent decisions. Analysis will provide the basis for the town to carry out such actions as:

(1) Negotiate with the developer for contributions to cover the cost of services and for modification of design if necessary.

(2) Insist on guarantees that proposed improvements to be provided by the developer will actually get built. For example, a performance bond might be required to ensure that roads in the development area are built to the town's specifications.

(3) Set conditions for public approval of the proposal.

(4) Initiate planning for public improvements which would be required to accommodate the new development.

(5) Negotiate for a phasing of construction activities so the impact will not be felt all at once; so the benefits will be spread over a longer period of time; and in order to give the community adequate time to provide whatever services will be required.

(6) Require the developer obtain contracts for proposed activities before the site is cleared

and built upon. For some types of oil facilities, such as platform fabrication areas and pipe coating yards, it may be wise for the community to require actual contracts for the use of the yard to be demonstrated prior to site preparation. This may be advisable in order to avoid clearing and preparing a large site which may never be used if contracts are not obtained. This procedure is now common in Scotland.

(7) Insist upon a plan for site reclamation after activities are terminated. The community may require that money be placed in escrow for such purposes.

A Comprehensive Community Planning Process

Most Massachusetts communities have already embarked upon a comprehensive community planning process. While in some cases these efforts have produced competent plans and management tools, they are often too generalized to be useful, are not backed by land use controls, or are inadequately enforced. Much of the problem stems from the lack of ongoing planning assistance and the fact that part-time unpaid officials cannot realistically or adequately handle the multitude of issues facing them. Improvement of existing planning and regulatory processes and the provision of funds for implementation and enforcement will go a long way toward preparing a community to respond effectively, consistently, and quickly to development issues, as well as providing some assurance that development takes place according to community desires.

A comprehensive land use planning program serves two important functions. First, it provides policy guidance for local decisions, and second, it establishes a process and framework within which development proposals can be evaluated. Community planning provides a valuable measure against which development proposals will be evaluated for compatibility with long-range objectives. The land use planning process is most effective when it is ongoing and implemented through

zoning, subdivision, and possibly more innovative controls such as planned unit development and tax and performance incentives. If such a planning and regulatory process is not in place at the time of the development proposal, the town is in a more difficult position, both legally and operationally, to exert a major influence over the development. Once development has begun, it will be impossible to completely control events. Since land may be optioned or sold prior to involvement of local officials, it is especially important that controls be in place, not only for the purpose of regulating land use, but as an instrument to guide and inform potential developers of those areas that are capable of supporting development and for which industrial uses are encouraged or discouraged. Since many communities are continuously or periodically updating local plans and ordinances, we have suggested that they evaluate the opportunities and problems of OCS development. This examination might include evaluating the likelihood that the town might be considered as a site for OCS activities, the kinds of services and facilities that might be required, and the adequacy of existing policies and controls to handle possible development.

Ports and Harbors Management

There are a number of Massachusetts ports which are actively pursuing the location of oil-related facilities. Some of these ports have undertaken extensive evaluations of the harbor facilities and are developing siting strategies to anticipate and encourage OCS activities. These studies establish a basic framework within which oil and service company requirements can be measured and possible improvements can be discussed. The elements of this assessment include:

(1) An evaluation of available vacant land, warehouse space on the waterfront, and the depth of water at piers

(2) A detailed description of current activities and uses of the harbor area and identification of possible conflicts - for example, between the oil and fishing industries

(3) A description of navigable areas in the harbor, the channel width and depth, maneuvering area, traffic patterns and volume, navigation aids, and obstructions

(4) Port policy for distributing berth space

(5) Proximity of the waterfront to rail and truck access

(6) Repair and maintenance facilities available to supply boats

(7) Availability and capacity of water and sewer service

In addition to these measures, which are in part designed to identify and mitigate potential conflicts between the oil and fishing industries, it might be interesting to note that the fishermen and oil companies have been formally communicating with each other for several years. As a result of negotiations between the New England fishermen and nine oil companies, the first pilot fishing compensation fund to be established in this country was recently created. The $50,000 fishing compensation fund is designed to reimburse fishermen for loss of fishing gear which cannot be attributed to a specific oil company. This development is indicative of the constructive dialogue which is beginning to develop between the two industries.

The foregoing has hopefully helped to identify some of the kinds of sensitive advance planning approaches which Massachussetts has initiated. I think that while other areas of the country which have experienced petroleum development have not had the time to adequately plan for new growth and development, Massachussetts is attempting to take advantage of a unique opportunity to prepare for these events in a reasonable manner.

Kevin Waring
Department of Community Affairs, Alaska

I really appreciate the chance to address an audience like this, particularly one with so many representatives from firms in the oil industry who are probably looking forward to operating in Alaska and offshore Alaska. I appreciate the chance, too, to talk to and hear from representatives from other states and environmental groups and trade ideas on how they're approaching offshore oil planning.

Let me begin with a story about a little town in the Gulf of Alaska that was the scene of our opening salvo in offshore oil planning. The town is Yacutat, an Indian community of about 400 residents. The residents there still have a pretty strong attachment to their culture and to the natural environment. They don't want to see Yacutat become a boom town. They don't want to lose the political and economic control they have over their community. Commercial fishing is the economic mainstay of the community. Yacutat has an excellent harbor and airport. It's the nearest community to the northeast Gulf of Alaska lease area.

In 1974, two years before the Gulf of Alaska lease sale was held, a consortium of three oil companies, Shell, Arco, and Mobil (we call them SAM for short), purchased - through an agent - an unused 15-acre waterfront cannery property. The town found out that the oil industry was in its midst when the bulldozers arrived to clear the property and to begin developing it as a service base for the Gulf of Alaska lease area. The operators couldn't have made a worse beginning in Yacutat. Bulls-eye. Right in the middle of town. The prime waterfront area. Soon after that, other companies arrived looking to pick up other speculative industrial sites.

Next, the oil service firms began to seek leases on tracts at the airport, and the storage of materials and supplies raised to local residents the picture of trucks barreling back and forth along the highway from the

airport to the facility right in the middle of town there, past the schoolchildren.

The city quickly began to assess what steps it could take to control the pending development. They discovered, fortunately from the city's point of view, that the company land man who had purchased the cannery site had overlooked one very important snag: the city owned the tidelands. Therefore, no docks or port improvements could be installed without the city's agreement. Further research uncovered the fact that virtually all the waterfront land in the vicinity of Yacutat was owned by the state, by the city, or by an institution that's unique to Alaska – the local native corporation, which under the Alaskan Native Claims Settlement Act received ownership of a large amount of land in the vicinity of Yacutat.

At that point, the city announced its opposition to oil-related development of the cannery site. For the first time, it adopted zoning regulations restricting the canning property to traditional uses; that is, uses in connection with commercial fisheries. It also joined with the state and the native land-owning corporation to do a planning study of the best alternative site for a marine service base in Yacutat. Together, we identified a 75-acre undeveloped tract at the outskirts of town. Ownership of the uplands of that tract was split between the state and the native corporation. Therefore, we worked out a land trade. We arranged to give ownership of the entire tract to the local corporation with the city also holding interest in the property. Then, the SAM consortium was offered the option of developing the new site in a cooperative venture with the local people if it would drop its development plans for the cannery site. There was a long period of extended negotiations over a year, but eventually a business agreement was reached which gave ownership of the cannery to the city and set up Shell and Arco as the developers and operators of the service base, under a joint management agreement with the local corporation.

The business agreement provides for local hiring, higher environmental standards, eventual transfer of all improvements to local ownership, and numerous other

features favorable to the local community. The city has also made it a policy that this is the only service base it will allow but that the base will be open to all comers and is adequate in size to take care of all comers. Throughout the entire course of these extended negotiations, the state supported the city by refusing to grant leases for industrial sites or tidelands or water appropriations that did not fit the plan we had worked out with the city. Agreement between the local representatives and Shell and Arco was not actually reached until after the semi-submersible rig had already arrived on site in the Gulf of Alaska to begin drilling the first exploratory well. To the very end of these negotiations, the local representatives refused to yield on their essential terms, always pointing out that the operators could go to the nearest alternative port if they wished, which happened to be 300 miles away.

The end result of this David and Goliath confrontation between 400 Indians and the combined forces of Shell, Mobil, and Arco was a solution built on careful planning and painstaking negotiations that accommodated the needs of both parties. The state of Alaska committed itself fully to finding the solution at Yacutat that was favorable to state and local interests while still accommodating the legitimate needs of the industry. We believed that a well publicized success at the outset of offshore development would help set a standard - would help set the tone - for offshore development and for other communities to strive for. Yacutat, in the course of all of this, has essentially become the Shetland Islands of Alaska, and that's what we intended it to be - a good example and a good model.

Over a period of time, and after members of the Yacutat City Council went to the Shetlands and to Norway to observe the type of industry operations that were occurring there, ideas were developed into a realistic set of what assets they did have to offer the industry. We also, I think, through this opening salvo, helped establish that our small communities needn't roll over dead before big oil. The fact that there are not a great many harbor opportunities in the Gulf of Alaska or in the coastal areas of Alaska may make them a very likely target for development, but it also gives them a

tremendous bargaining position for making sure that their interests are served as well as those of the oil industry.

Now, with an example in mind, let me move on in describing how, generally, we have developed our impact planning program and management program to reach the ends of the solutions I just described at Yacutat. I might as well admit at the outset that I am here, in part, to speak to you under false pretenses. The theme of our conference is OCS Impact Assessment but the thrust of my remarks will be that the methodology of OCS impact assessment, especially as reflected in the official environmental impact statements prepared for the OCS lease sales, is a fallacious and misleading approach to most of the public development decisions that states and local governments have to make about offshore oil and gas. That's at least the conclusion we came to quite a while ago in Alaska in our own state and local OCS planning programs.

First, the environmental impact statements we have seen have been grossly inadequate in ways that industry and environmentalists alike can appreciate. For example, we have seen environmental assessments concluded before environmental baseline data collection programs are even begun. For example, we see an environmental impact statement of single developments of areas presented. Admittedly, it's a one-chance-out-of-twenty scenario; that is, it's a very improbable one. But then, it's adopted as the basis for projecting and assessing what onshore impacts will be. We see grossly erroneous technical and economic assumptions about the industry in the environmental impact statements. Again, for example, I'd like to ask if there are any industry representatives here in the house who would agree with an environmental impact statement that an offshore deepwater production platform can be installed in the Gulf of Alaska for $40 million. If there's anyone who wants to deliver one for $40 million, the state of Alaska would probably buy it. Again, is there anyone who thinks that a single find of 100 million barrels will prove commercially producible in the Gulf of Alaska? We doubt it. But those are deficiencies, just technical and informational deficiencies, in the environmental impact statements.

A second reason that we have de-emphasized the official environmental impact statement process that is usually practiced has to do with the very nature of the offshore oil industry itself. From leasing through exploration, development, production, transportation and processing, to field shutdown, the offshore enterprise is fraught with uncertainty and surprises. An offshore lease sale is simply not comparable to a dam or a pipeline or a harbor improvement where we can pretty well describe at the outset what is proposed. To even try to fit the unpredictable impact of an OCS lease sale into the straitjacket of an environmental impact statement distorts the real issues and the problems of offshore development.

In turn, this false picture created by the impact assessment often puts the state and local governments on the wrong track for planning to deal with impacts. Whatever use the impact statement process may have before the lease decision, in short, we don't find it a useful document for planning to manage post-lease developments. In a phrase, the EISs tend to try to tell the future when the real problem facing the state and local governments is how to guide and control the future. For a while, we spent a great deal of time reacting to and flogging the Bureau of Land Management. After a while, fatigue set in along with the realization that we weren't solving any problems, and that's when the state decided it had better develop its own impact assessment and management program and made development of an OCS program one of its top priorities. It was clear that energy development was going to be a major economic event in Alaska in the coming decades.

A little background, by the way, on oil in Alaska: In the New World Energy Order that began taking effect in 1973, after the OPEC nations posted major price increases and imposed an embargo to make those increases stick, Alaska acquired new strategic importance for the nation. Alaska's coastline border has approximately two-thirds of the country's entire outer continental shelf. The Alaskan OCS includes nine unexplored offshore petroleum provinces. Reserve estimates - these are of course speculative and elastic - for the Alaska OCS frontier regions range in the

neighborhood of 50 billion barrels. That's the state's own estimate of recoverable crude oil reserves. The U.S. Geological Survey estimates are on the same order. There are variations, of course. Some industry sources hope and predict that Alaska has the potential to become the leading offshore oil producing state in a decade or so. All of this potential in the wake of the energy crunch made Alaska very attractive to the federal government and to the oil industry. Thus, when the accelerated OCS lease schedule was announced in the fall of 1974, it included sales in nine frontier basins in Alaska to be leased over a three-and-a-half-year period. Half of the proposed sales on the entire accelerated schedule were offshore Alaska. This proposed leasing schedule, as you might imagine, alarmed state and local governments. Especially, when they began to put together the picture of what such a headlong lease schedule - the stacking of one lease sale upon another in a brief period of time - might mean to the growth of the state. The state of Alaska, many of you are probably aware, has been an outspoken critic of the pace of the accelerated lease schedule to the point of filing suit against the Gulf of Alaska lease sale. However, it also recognizes that the lease program might proceed regardless of any preference of ours and that we had better do some practical planning to prepare for the eventuality.

If Alaska is the last frontier for domestic exploration, there are reasons why. Alaska's offshore fields are remote to markets, and, in fact, the markets that they are closest to on the West Coast are the very ones that seem to have a temporary glut of oil from other sources. Alaska is remote from the support industries and remote from any labor force to be used in the industry. Offshore operating conditions range from savage seas - some of the roughest seas in the world are in the Gulf of Alaska, which is also an earthquake-prone area - to the pack ice zones off the Arctic coast. These operating conditions require some new and costly technology. It results in very high exploration, development, and transportation costs. To date, there has been comparatively little offshore exploration and the quality of data for public and private calculations, in reserve estimates, is quite shaky and sketchy. In short,

at this stage it appears that offshore Alaska is going to be a high-cost, high-risk, and high-stakes area.

Alaska has, of course, already experienced significant petroleum development. Present production in the Kodiak Basin, south of Anchorage, ranks the state as the seventh highest oil producer. Natural gas production in the same region supports the largest natural gas liquefaction plant of its type in the country, and an ammonia urea plant that is the largest fertilizer complex on the West Coast. The famous Prudhoe Bay Field, up on the North Slope, which is just beginning oil production, represents - with estimated recoverable reserves of 9.6 billion barrels of oil and 26 trillion cubic feet of natural gas - the greatest find ever in North America. The trans-Alaskan oil pipeline, just completed at a cost of more than 7.7 billion dollars, is the greatest privately-financed construction project in history. As soon as it is operating at capacity, Alaska will be the third ranking oil producing state.

Now pending before the President and Congress is another proposal - the choice of a transportation system for off-slope natural gas. This project is plausibly suggested to cost in the range of 12 to 15 billion dollars, so we have another big energy project coming in Alaska. By the way, I am not at all trying to bait Texas or Louisiana pride as the nation's reigning petroleum states. In many different ways, in fact, the credit for Alaska's emergence as an oil and gas state certainly belongs to Texas and Louisiana. My point in citing all these statistics about development in Alaska - these figures and costs and scales - is that the economic threshhold for feasible petroleum development in Alaska is extraordinarily high. Similarly, the discovery of commercial reserves in Alaska's offshore provinces means that there is going to be very large-scale offshore development. Offshore oil and gas is not going to be a mom or pop shoestring business in Alaska.

All of this petroleum interest in the offshore is focused on a state that has a land mass larger than New England and the Mid-Atlantic states combined. It has a population of only about 400,000 people. Half of that is concentrated in a single metropolitan area - Anchorage.

What size of towns are going to be impacted by offshore oil? There is not a single settlement larger than 5,000 people within 150 miles of any of the nine areas that have been proposed for leasing. Most of the coastline is unpopulated, undeveloped outside any local governmental jurisdiction. But, at the same time, nearly every natural harbor has a small settlement of some sort, typically with a few hundred people who rely on commercial fishing for their survival and livelihood. Many of them are Alaskan native towns and Eskimo towns where English might be a second language among older people. What have these towns got to offer the oil industry? Well, the quality of housing and public facilities and services will be minimal. There is no capacity to absorb even minimum growth. Most important, marine and overland transportation facilities for industrial use are commercially nonexistent. There is not much capacity to host the offshore industries.

The state's economic base, apart from oil, is built on use of its renewable resources - fisheries, forest industries, and tourism. The commercial fishing industry is four times as great a part of the state's economy as it is in any other state. That includes two of the nation's most important fish landing ports. Both of these ports and their fishing grounds are central to proposed lease sale areas. You would be correct in assuming that fishermen are anxious and vocal about the hazards that they fear the offshore oil industry poses to their livelihood.

Another distinct Alaskan factor is one I mentioned in the Yacutat case. That is the role that the Alaskan native people would play in offshore development in Alaska. Alaska's Indians, Eskimos, and Aleuts - about one-fifth of the state's population - are becoming a very powerful economic and political force. They are the major private land owners in the state. They will control better than 95 percent of the privately owned land and nearly all of the nonpublicly owned coastline. On the one hand, these native corporations and their shareholders are conservative and protective of the environment and their traditional economy and lifestyle. On the other hand, though, they are corporate businessmen, and the corporate leadership is development-minded and seeks to advance the economic interests of their businesses. These native corporations,

because of their control of the potential industrial sites, are going to play a key role in Alaskan offshore oil development.

Apart from petroleum, Alaska is gaining national attention these days for other reasons. As the last wilderness frontier, Alaska has become a fishbowl, attracting the concerted attention of Congress, conservationists, and environmental interest groups, all of whom are eager to protect and to conserve Alaska's renewable resources, environmentally sensitive recreation lands, wildlife habitat, and such against degradation due to petroleum or any other kind of industrial development. Large sections of the coastline are in national public ownership, national park status, national monuments, wilderness areas, national wildlife refuges, and fish and wildlife refuges. Everyone is lining up. Thus, the state seems pretty well set for a future of protracted and bitter environmental conflicts of the sort that for years delayed construction of the trans-Alaskan oil pipeline.

Shortly after the lease program was announced, everyone began lining up to argue about offshore impacts. The only way that the state could see to prevent endless mutually frustrating impasses was to develop a strong public planning leadership at the state and local level to begin resolving some of these potential conflicts. As an impact management strategy of our own, we began with the assumption that impact management was as much a problem of conflict resolution as of planning. There was a set of principles that we could follow for successful conflict resolution and planning.

First, we had to make sure that everyone had the necessary information to deal with the issues. Second, we had to identify the motives and the needs of the different actors. Third, we had to identify what the conflicts were and what the trading stock was. What were the items that were threats to one party and what could each party give to the other? Fourth, we had to set up a process for negotiating conflicts in the way that satisfied the needs of the different actors, if that was at all possible. I would like to describe in some detail the specific impact planning and management program that we have designed and how it works.

There are three basic tools in our impact management program. The first tool in our OCS planning program is a series of what we call OCS Industrial Profiles that describe those features of the various offshore industries that are critical to public understanding. Their purpose is to inform the public about OCS developments. These industrial profiles, incidentally, are very similar in concept to the descriptions of offshore and onshore activities that were prepared by the New England River Basin Commission. Our own profiles concentrated on the particular industrial activities that were most appropriate to Alaska and on the most pertinent operating aspects of that industry in Alaska. The facilities that we did profile included, first and foremost, marine service bases. In fact, we sponsored a rather lengthy study of marine service bases. A 100-page document was built on research in the North Sea areas and how the concept of consolidated marine service bases for offshore development evolved there. It was more or less the notion of a single large shopping center for which all the various services and supplies for the industry would be provided, all concentrated in a single spot to minimize turnaround time, which was very important in areas with particular weather problems and distance problems as you will find in the Gulf of Alaska.

The second industrial profile dealt with submarine pipelines and pipelaying; the third with processing and treatment facilities for products. Fourth was marine oil terminals, and fifth, LNG plants. We paid lesser attention to such facilities as refineries and petrochemical plants and concrete platform fabrications since these activities seemed pretty speculative for Alaska, although it is conceivable that we may see some of them some day in the future. We dealt with them as much to allay people's fears about these particular facilities as to plan for them. One of the most important values, I think, of this sort of information and planning work is to put to rest ungrounded fears that people hold. It is pretty easy to convince them, once they know the facts, that it is not anything that they have to worry about. They can go back to worrying about other problems that they do have instead of imaginary problems.

Let me talk a little bit about the content of these profiles. Each of them presents, in a uniform format, pertinent data on environments and the effects of specific facilities. For example, included are such details as the physical siting criteria for the facility; location, harbor, and landing requirements; and utility needs. What are their material requirements: gravel, sand, fill to improve sites? What are the manpower schedules for construction and operation of these facilities? What are the environmental problems that typically are related to air and water quality and solid waste disposal? These details are included not to prove that there are problems, but to determine how to solve those problems wherever solutions can be found. Perhaps the most important question is, What are the transportation requirements of the different facilities? The industry will be coming to a state that has a minimal transportation system. In the preparation of these profiles, we sought and obtained the technical assistance of industry trade groups, individual oil firms and oil service and supply companies. We drew, too, upon field inspection by our staff of facilities in Alaska and the Gulf of Mexico and the North Sea. The purpose of these profiles was mainly to develop neutral, technically accurate, factual information for the anxious public that needed to deal in specific terms with the interests of offshore development. We all needed a common vocabulary and a common frame of reference. As a side benefit, we also began to engage positively and constructively with the enormous technical talent of the industry.

The second tool in our management program was a process for advanced industrial development siting. This important tool in our planning program is a process for advance identification of industrial development sites that might be used for major offshore facilities. In this process, we match the operational requirements as presented in the industrial profiles against the physical characteristics of the coastline. This screening process yields us an inventory of all those sites that are physically capable of hosting onshore industrial development. This inventory is then evaluated again against the environmental standards and public policy criteria and constraints. It yields us a set of what we have

called "candidate sites" for development. The development of this list of candidate sites has been an open process. Participating in this evaluation are state agencies that have permitting or regulatory powers over development, such as the Department of Natural Resources, the Department of Environmental Conservation, Fish and Game and Public Works, and the Transportation Department.

Local governments are also included in the evaluation, as are industry representatives whom we invite to nominate any sites that may be of interest to them. Let me make clear right away when I use this term "site" I do not mean necessarily specific acres, so much as the vicinity - perhaps even a vicinity as large as a particular harbor. Well, we have completed this screening process, of course, and in a 500-mile stretch of the Gulf of Alaska coastline we identified 17 candidate sites. For what it is worth, we found afterwards that our completions, on a technical analysis, were essentially identical to the conclusions of a couple of private site surveys that were completed for the industries. We came to the same conclusions that their land men and their engineers came to.

You might ask, What meaning does this advance screening process have for the different actors? Particularly, is it backed up by any strong state siting law, or energy facilities siting? The answer is that this planning has no particular legal muscle behind it beyond the various environmental and regulatory legislation already in force. We do not think that it necessarily needs any more. We view it as a self-imposed administrative planning process coordinating state and local governments, but it also has tremendous payoff to the individual if he chooses to participate. Certainly, the more farsighted firms see incentive to take this process seriously. They anticipate or fear that local and state land use regulations, essential state permits, state leases of public submerged lands and tidelands and upland sites, water appropriations, materials leases, and sand and gravel will be administered consistently and in conformity with the results of this site planning process.

Essentially, the inclusion of the particular site and facility in the candidate site list amounts to an environmental preclearance by the state. It is not an endorsement or a recommendation of any particular proposal, but it is a clear direction from the state to industry and other interested parties to think in terms of those site options. It is a signal from the state that the prospects for a quick and favorable review are good at that place. That is the character.

On the other hand, omission of a site signals that the state has concluded on the basis of its analysis that development there is not a compatible use. This forewarns industry that the state has found problems with the site, and that any development proposal faces an uphill road against the specific objections with certain delay and a high possibility of ultimate rejection compared to pursuing one of the prepared candidate sites. The reaction of industry so far to this process has, by and large, been promising. At first, the companies tend to be reluctant to disclose any information or their intentions, but that has been true all along at first. There was an understandable reluctance to close off any siting options. However, we made it clear that it was exactly our purpose to limit development options to the candidate sites most suitable in terms of our perception of the public interest. We would welcome industry expertise and advocacy, but that if it was not forthcoming in a responsible manner, we would proceed regardless, and industry would have to live with the consequences. Very shortly, those major firms who saw their interests most closely affected began to participate and have become steadily more open and cooperative as they have built up a working relationship. I should mention, too, that industry is not the only target, and certainly not the villain of this planning process. We think that by bringing choices into focus at a very early stage for a process like this when issues can be addressed in terms of facts and specific concerns, local governments, local commercial interests, state agencies, fishermen, environmental groups, and the general public can begin to resolve, in a relatively orderly and constructive way, the problems that will have to be resolved in any case.

Among the benefits that we see to this advanced site planning process is a better informed public. It is proving to be a tremendous anxiety reducer. As I say, it eliminates ungrounded fears on the part of many of those who react to some general thing called "oil development" without knowing too much about the particulars. It also helps us smoke out real confiets instead of talking, in general, about the dirty oil industry or ladies in tennis shoes or nonsense like that. A very important payoff, I think, for the oil industry and a strong and central one for its participation, is that site planning reduces the uncertainty and the risk that hamstrings private and public investment decisions. Take a look at the Gulf of Alaska and the Yacutat incident. In the Gulf of Alaska lease sale, the industry, collectively, had put on the table 560 million dollars. Shell and Arco, two of the biggest lease purchasers, did not even have a shore base to operate from - a tough situation to be in. Another important benefit of advance site planning is that it reduces the need for crisis management and depresses the time needed for public and private decision-making if and when discoveries are made and field development begins. Development moves at a very rapid pace, and it is a great help, particularly to local governments, if they are prepared and knowledgeable beforehand as to what to expect.

An additional important benefit from the community point of view is that this sort of advance land-lease planning tends to dampen speculation in land. Many of the major firms and oil service companies were making speculative purchases and leases of waterfront properties even in advance of the Gulf of Alaska lease sale. While the companies were just trying to anticipate their needs, the effect that they had on the local land market was sometimes spectacular in driving up land prices sometimes two and three times over within a short period of time. Even worse, the speculative purchases created a serious land use problem. Let me point out that if 10 potential bidders have purchased 10 potential sites, then nine of the bidders have second-rate or worse sites. The object of our advance land use planning is to identify and arrange to make available to all comers an optimal site with adequate capacity for all.

Our third planning tool is an employment forecasting computer program that we are in the process of acquiring from the Scottish office. This model, which is known as "Scoop," was developed by economists at the University of Aberdeen for the purpose of predicting occupational employment patterns in Scotland due to offshore development activities in the North Sea. Our selection of this particular model was governed by three factors. First, the key input variables in the model correspond to the critical private sector investment decisions. Second the Scoop model is also apparently developed, and has proved to be predictably accurate for the North Sea fields, where operating conditions closely resemble the conditions that will prevail in many of the offshore regions of Alaska. Also, the Scoop model is much simpler than the input-output models that have been developed for other regions; it is easily adaptable to Alaska's basically underdeveloped economy. Third, the Scoop model is particularly useful for testing the sensitivity of certain public development policies, such as the private sector developmental alternatives. We can pinpoint both work force and population in time with pretty reliable accuracy. And this is absolutely essential for making commitments of public investments in services. Well, that is the theory and the tools of our impact management program. The next obvious question is, How well is it working?

Well, frankly, it is too early to tell. We have only had one lease sale, one year of exploratory drilling with a force of semi-submersible rigs at work in the Gulf of Alaska so far. The preliminary signs are that this positive and constructive approach is showing some success. I have already given you the example of Yacutat. Let me give you another case study of a community where a lease sale has not yet occurred, but where we are doing advance planning. Yacutat was an exercise in crisis management. The action was under way before we really squared off to do planning. But my second example deals with this advance planning approach as we are taking it on the island of Kodiak, in cooperation with the local government there and the island-wide native corporation, which owns almost the entire island coastline. Kodiak Island is central to the western Gulf of Alaska lease area, originally scheduled for sale this November.

That sale was recently postponed to the 1978-1980 period, but we are underway in our planning. Kodiak, too, is primarily a fishing community, and the announcement of the Kodiak sale, which overlaps the prime fishing grounds, stirred up tremendous opposition from the commercial fishermen. On the other hand, some of the business interests, and especially some of the land-owning native corporation, saw improved economic opportunity deriving from the lease sale. So at first the island was strongly divided, into pro-oil and antioil camps - prodevelopment and antidevelopment. But over a time, after many public meetings and public education programs, some of the antagonism diminished, and a more realistic understanding about the problems and benefits of OCS development set in. Public discussions about possible industrial facilities and sites, as I outlined earlier, have helped to bring the issues into focus.

Most recently, the state has employed a consultant team of Woodward-Clyde and Carolyn Wright, two firms which specialize in offshore and marine engineering, to prepare an in-depth study of the operational and environmental suitability of the various Kodiak Island sites for various offshore support functions. The consultant study is funded by the state, but it is under the joint direction of the state and the local government and the native land-owning corporation. There is also a public advisory committee, with representation from the oil industry, fishing, local businesses, marine scientists, conservationists, etc. - all of those who have a stake in the outcome. While the study is being conducted, the local government has adopted interim zoning regulations against any new major oil-related industrial uses; on its part, the native corporation has agreed to refrain from any commitment of its lands to development. The planning goal that we all share is to reach a common public conclusion about which potential sites on the island first, best satisfy the environmental and various other concerns of the community, while second, still provide industry options that are operationally and economically feasible for its needs. Once we reach agreement on what is best for the public interests, we intend to negotiate with industry for a package that includes a suitable industrial site or sites (if there is more than one), the necessary tidelands and

other leases that it will need from the state, compatible local zoning, and assurance of local and state permit approvals so long as all pertinent standards are met. We believe that this sort of joint approach will greatly simplify the task of industry by defusing much of the hostility that it would have otherwise met. And, in fact, it has already had that result. We also think it will provide the best protection for the environment and the greatest economic benefits for the community. There is one common feature of the Yacutat and Kodiak approach that is absolutely critical to its success, and this perhaps is of more interest to those of you who approach it from the point of view of local government or state government. In both cases, the public bodies involved were in a position to negotiate as proprietors with the industry, rather than as exercising land use or other types of permit regulatory controls. As proprietors, the public was in a position to obtain, as a condition of contract, financial and other economic and environmental advantages that it could not achieve in any other fashion.

There is one last feature of our impact management program that I would like to mention. We have encouraged local governments with funds and technical assistance to undertake their own impact planning. We have stressed the need for contingency planning rather than premature commitment to building up public facilities and services. The local governments over the past year and a half or so have gotten themselves about as well prepared in planning as we think they can be before we begin to see the results of exploration. There remain, of course, significant fiscal problems, which we are trying to address now, in the coastal energy impact program. To summarize to date, exploration in the Gulf of Alaska has proceeded with a minimum of shoreside problems, at Yacutat or anywhere else. But this is largely the result of pretty forceful and positive action by the state and local governments, and of a period of uncertain adjustment and a pragmatic decision by industry to accommodate state and local concerns in exchange for the freedom to go about what their main business is - finding oil and gas and making profits.

Over the short run it may have cost some money and some time, but I believe this Yacutat example,

particularly, has set the basis for long-term cooperation, and it has also made clear the ground rules under which the enterprise can proceed. While it is very early to come to any conclusions, the first returns indicate at least that we are pretty well on the right track, and we are optimistic that we can follow this process at a more measured pace than the lease schedule originally proposed. In those areas where it is reasonable to issue offshore leases in Alaska, we can manage the onshore development with a minimum of environmental and other problems for our communities.

Bill Matuszeski

National Oceanic and Atmospheric Administration

I have been on eight plane flights in the last 50 hours, and I have two more to go in order to get home. You know, when you do that, you really are impressed with the mobility that we have in this country - the mobility made possible through the abundance of energy resources that we have come to depend on. At the same time, though, something happened to me yesterday on the fifth flight that brought home the need to make wise uses of energy resources. That was when, after waiting for an hour while they replaced a fuel pump on the plane, we went out to the end of the runway at National Airport to take off and very slowly wheeled around again and back toward the terminal. At that point, the pilot said, rather embarrassed, that they had forgotten to fill up with fuel when they were there. I think that points out the need to manage these resources, as well as to make sure that resources are available.

I think that, as we work toward a better understanding of how oil and gas and the other energy resources that we are dealing with come ashore and are used, the management becomes as important as the availability. I was asked to talk about emerging federal policies with respect to offshore oil and with particular emphasis on the view of the Commerce Department and

coastal zone management. In putting together my remarks on emerging federal policies, I must admit that at times I wished for a little less in the way of federal policy and a little more in the way of emergence of whatever that policy is. I think with the President's energy plan announced in April, we at long last have a basis for debate. I think that it is an interesting debate as you hear the Congress going through it, and with response from the executive branch in coming months, it will, hopefully, make some progress.

I want to take a little time to focus on the federal perspective on some of the onshore activities and how the oil and gas and other energy resources will have their effects felt; what kind of emerging sense there is about where the proper management roles are played and how. The federal government's major tool for addressing the onshore consequences of offshore development is in the Coastal Zone Management Act of 1972 and its 1976 amendments. The 1972 act was passed at the height of environmental concern and awakening. As such, it reads very strongly in terms of recognizing deteriorating conditions in our coastal areas, conflicts in uses that are occurring, the need to reserve natural areas and resources, and the need to accommodate necessary uses. The 1976 amendments reflect the subsequent energy crisis and the need to recognize that the provision of adequate energy resources and the role of developing our own energy resources have become very important. These concerns about energy need to be integrated with the other elements of coastal zone management. And, at the same time, we need to recognize the need that we are going to have to protect our coast, perhaps even more, in the face of the effects and the impacts that are going to occur.

In other words, not only do we have to make way for energy, but we also have to make sure that energy can be accommodated without defeating the very basic purposes of resource management that began to be felt in the beginning of this decade. As such, we came out with an act that I think provides a nice balance and opportunity for states to move ahead in accommodating and managing the various demands and resources. States are eligible for assistance under this program to

develop programs to manage land and water resources throughout their coastal zone. The focus is to build the capacity of the state and the capability of the state to understand those resources and to manage them, to make decisions about how they are best used, and to make decisions about what is of state concern. At the same time, there is an important part of the federal act that requires states to take into account the national interest in a variety of ways. National interests can be expressed in terms of energy self-sufficiency; in terms of preservation of wetlands as a national interest; in terms of providing adequate recreation for the people of the country; and in terms of ensuring proper management of land and water areas to prevent losses of property and life due to hazards - hazardous conditions and events which, very often, end up with the federal government paying the lion's share of costs.

At any rate, the national interest does stand out as an important feature. I would say that there are simply four salient points to make about coastal zone management, as you begin in your states to work toward implementation of programs. It is a voluntary program first. There are no sanctions if a state does not develop a coastal zone management program. The only possible sanction is that it will be harder to get energy impact funds that are available to the coastally impacted communities. But that is relatively minor to a great many federal laws that say, "If you do not do it, then we will do it." There is none of that in the Coastal Zone Management Act.

There are 34 coastal states and territories by the time you add in the Great Lakes and go all the way around our coastline. Thirty-two of them are actively participating right now. Indiana, which was suspended last year after a rather unsuccessful first-year attempt, is now in the process of reapplying for the program. We have American Samoa. Now, we cannot seem to find anybody in Samoa who is interested in this program. We sent them a letter and they wrote back and said that they did not have any problems. Since then, I have been trying to fight off travel orders. People want to go out and make sure that they do not have any problems. At any rate, if anyone knows anyone in American Samoa, we are not offering free trips, but we would be happy to

talk to you about how we might get 100 percent participation in our program.

The first point is that we are talking about voluntary programs that the states can decide whether or not they wish to pursue. Second, we are talking about a management program. The coastal zone management program that each state is developing does have a planning phase. Only Washington and Oregon at the present time are approved. They are out of the planning stage. The rest of the states are at various stages. A number of the states will be be coming in this summer for approval and two or three are now in the approval process. We do have a program that is moving very quickly toward management. We like to say that we are not in a program that is a planning program. We are in a program that is a management program that has a planning stage at the early end. It is, believe it or not, our intention to phase out the planning program in coastal zone management in two more years. Now, I know that nobody believes a federal official when he says that they are going to end a program, and we may be unique. At the same time, there are other programs that we will be happy to continue. But it is our intention to move beyond mere planning for coastal management and into the actual implementation phase.

The third point about coastal zone management is that it provides money to states to actually implement the programs. It does not just give money for studies - endless studies and more studies. It gives money to actually carry out the programs that those studies say are necessary. Certainly an ongoing effort will be needed to update data and keep informed of what is going on. The basic idea behind that program is to use the money to pay salaries for people to actually do the work that is necessary to improve the management, to improve the processing of permits, and to actually make government work better.

Finally, there is federal consistency. Federal consistency is an important concept, at least it appears to be in Washington. The Office of Management and Budget, which is called OMB, alleges that the proposed federal consistency regulations demand that once a

state program is approved, all federal activities must be consistent with it. That has raised more of a ruckus than anything since the environmental impact statement was created seven years ago. The federal agencies are beginning to feel now that they have something here that is really going to make a difference - perhaps more of a difference even than the environmental impact statement, which, to a large extent, is a procedural requirement. Federal consistency gives to the states the authority to decide whether or not any federal activity makes sense in the context of the way the state wishes to manage its coastal resources. So it becomes very important.

What are, then, the aspects of coastal zone management as each of the states is carrying it out that are directly related to offshore development? I think that there are probably five.

First, offshore development is a major issue in many states, which needs to be taken into account now in the development phase of their programs. It needs to be addressed with policies that look at coastal effects; that look at the impacts on marine resources and land resources from outer continental shelf oil and gas activity and other offshore energy-related activities. So now is the time in many states to begin to lay down substantive policies, not policies that say that sometime in the future we will be able to look at these individual cases on a one-by-one basis, but substantive policies. These policies should today begin to tell individuals - be they permit deciders at the state level, be they investors in those energy resources, or be they the people of the states themselves - with some degree of sureness, where it is most likely that activities will be permitted to occur, and where it is most likely that activities will have to be accommodated to other conflicting activities. Substantive policies are needed. Specific policies are needed. Coastal zone management is basically a game of prediction in helping people predict for themselves how their lands, how their resources, how their state government, how their corporations can best spend their money with some awareness of what is likely to happen in their state's coastal zone.

Those policies that the states develop should also be comprehensive. They should look at all the coastal resources. Planning for loading of offshore oil and gas, for example, should consider the various dredge and fill activities that would be required. They should consider the onshore effects as well. I think that many states with an understanding of this are moving toward an incorporation of OCS and other offshore-related activities into their basic program development for coastal zone management.

The second place where the offshore development issue arises with respect to coastal management in your states is with respect to the national interest requirement. That comes at the time that we, at the Department of Commerce, approve a state program and permit it to go into the implementation stage. At that time, we have to make, among various findings, one that says that the state management program gives due consideration to the national interest in, among other things, energy resource production, development, and transportation. Now, in order to do this, we have to have a pretty good idea ourselves of what the national interest is. Until recently, that has been a little difficult. It has not been very clear. I think that now, with the energy plan and with some of the actions of Congress, it will become more and more clear what the national interest is.

According to the President's energy plan, it is in the national interest to proceed with the development of the outer continental shelf oil and gas resources, consistent with national energy and environmental policies. And, also in line with that plan, there is recognition that outer continental shelf oil and gas development will really be a medium-term solution to our fuel and energy problems. In the long term, coal and conservation will provide a bigger base for operating our energy systems, and oil and gas, with their shorter proven reserves, will have to become less reliable. That makes onshore impacts even more important. It means that we are dealing, not only with a boom phenomenon, but with a potential bust phenomenon at the other end. We have to begin to think about that. If you think about that a little bit in terms of years, 1990, which sounds like a long way off, is really

only 13 years away. It is about as close as 1964 in the other direction. If we begin to add up the years of oil and gas reserves that we have, we are talking about having to rely on other sources and having this bust phenomenon occur in our coastal areas within our lifetimes, and well within grasp of our capacity to do something about it. So, we think it is important to articulate the terms of the national interest and have the program developers understand that they have to contend with the phenomena of development which will be with us for a period, and then we will probably have a phaseout, at least in some parts of the country.

The third aspect of coastal zone management that is related to offshore development is a new requirement put into the law last year that every state has to develop an energy facility planning element. What that means, essentially, is that in addition to the program development with respect to which uses are permitted, the uses that should not be permitted with respect to various resource allocation schemes should be developed in each state. Particular attention must be given to the proper planning of these abilities within each coastal area. That is an important requirement. However, Congress, recognizing that it is not an easy thing to develop overnight, gives the states until October 1, 1978 to do that. I mention that because many of your states may actually be approved by then with respect to your coastal management programs, and this energy facility planning element may or may not be part of that approval, given the fact that more time is given by Congress to meet it. So it is a somewhat separate requirement, but one that you should be aware of.

Fourth, once a state program is approved, federal consistency begins to apply. The Congress last year attempted to undertake, as part of the 1976 Amendments to the Coastal Zone Management Act, exactly how consistencies should apply to outer continental shelf oil and gas activities. And - as usual when an issue as complex as this comes up, and as usual when it is related to amendments to a very straightforward, simple act that says that these are the sorts of things that we ought to work together to do - we ended up with a new section. This new section, number one, takes up almost as much space as the rest of the act put

together; number two, it is completely incomprehensible to anybody who has read it; and number three, it is right back in front of the Congress again as part of the OCS Lands Act Amendments and is likely to be modified once more in order to come to grips with the issue of how a state will decide - at what point, with what mechanisms, and attached to what decisions of the federal government - that OCS activities are or are not consistent with their coastal management program. That is an issue that is still before the Congress and one that they will be settling in the next couple of months.

Finally, coastal zone management is related to offshore development, perhaps most directly, because of the new amendments in 1976 to establish the Coastal Energy Impact Program. This is a program which helps communities likely to be impacted by oil and gas development to receive financing in the forms of loans and grants not for planning, but for public works construction, that those communities would need in advance of the boom phenomenon but would not normally have the tax base to be able to afford.

This way, the front-end financing problem associated with large-scale growth at rapid rates is met by availability of funds from the federal government on reasonable terms. This will allow communities that will be impacted to fund the roads, the schools, the highways, the sewers that they need so that, instead of having a community surrounded by trailer parks and temporary housing, they are, in fact, permitted to develop in a more normalized, more permanent fashion. This program helps those communities to fund something that they would not otherwise be able to fund.

It does not provide money free of charge to those communities, because it was a feeling of Congress that the taxpayers of the United States really need not pay the cost to communities that eventually would have a strong tax base resulting, to a large extent, from the industrial development that would occur related to oil and gas development. What we are dealing with is a short-time phenomenon that is best met by making money available on a loan guarantee basis rather than by making money available through direct grants from the general tax revenues of the country.

So, in all those ways, I suggest that coastal zone management does relate back to the issues that we have been discussing here. As your programs are developed in each state, I think you will find these issues arising more or less in the time frame that I have laid out. I might also say that there are some other areas of federal policies of relevance to offshore development, which I think need to be mentioned at some point in the conference. I think that perhaps the most important of these are the federal policies with respect to air and water pollution. I mention this because of the implications that our present air and water quality laws have for the basic issue of concentration or dispersion of oil- and gas-related facilities.

I have now reviewed at least preliminary program documents from, I would say, two dozen states. I would say that all but one or two of those states have concluded that, from an overall environmental and resource protection and resource development perspective, it makes sense to locate new development close to or associated with existing development, that the damage is less, that the infrastructure is often already in, and that the relative impacts to a large community as opposed to a small community are the same, or even less. However, we do have to face the fact that our air and water pollution laws often work against that. They often do not permit locations in already polluted areas. In particular, our air pollution laws at the present time have prohibitions against locating new industrial facilities in areas that have not yet attained air quality standards. These so-called nonattainment areas, then, are areas where new development, from a strict reading of the law, should not be permitted unless it has a complete and thorough set of controls over all emissions. That, of course, does not make a lot of sense with respect to oil- and gas-related facilities. It does not make economic sense. From the point of view of overall coastal zone management, it does not make a lot of sense, given the fact that most states have concluded that a concentration is the way to go in order to reduce overall effects on coastal resources.

Congress is currently dealing with this problem. It is dealing with the air law first, and later this year it will take up the water law. In both cases, I think

Congress has begun to show a greater recognition and flexibility with respect to this problem. It has begun to show willingness to consider not only the nonenvironmental consequences of some of the current restrictions in the law, but also the broad environmental consequences of some of those restrictions and the fact that literal readings and applications of our existing air and water laws are oftentimes inconsistent with environmentally sound planning. For that reason, I think coastal management has a tie-in to the extent that Congress permits some flexibility and permits some development in nonattainment areas. Many of you may have heard of the so-called trade-off policy to EPA to the extent that this becomes law and that people begin to work with it. Coastal management becomes very important because it can provide the basis for making those reasonable trade-offs. If there is no basis, then every case becomes a big hassle - a big set of arguments on one side or the other. If there is a strong basis in coastal resource management, then the trade-offs and their implications become clearer early on. For that reason, I think that it is important to have a feel for the general movement in Congress with respect to the air and water laws.

I also would like to mention something about land use. Every Congress since 1969 has had a land use bill before it. I do not believe that one has been introduced this session yet, and one may not be. At any rate, there are still people who are interested in a general federal assistance program for land use mangement. To some extent, if that were to occur, it is likely that the form that it would take would not be appreciably more burdensome than is currently provided under coastal zone management. So, therefore, we probably would not see a substantive difference on the ground. But perhaps more important than that, coastal zone management was passed in 1972. Here we are, over five years later, with a marvelous record of two approved states, although there will be four by the end of the summer, and there will be probably closer to a dozen by the end of next winter. At the same time, it takes time. These programs do not, and properly so, find themselves laid on the public overnight, and the proper process for developing a program takes a number of

years. Given that, even if we were to have land use legislation enacted in this Congress, it would probably not have measurable effect in an implementation stage for another five years, if it follows the pattern coastal zone management has followed.

Finally, with respect to energy facility siting, there has been talk since about 1966 in the Congress to enact energy facility siting legislation, which would particularly focus on electric facilities, but in later years, it has been broadened to include oil and gas. That also is not moving very fast in the Congress. It is not likely to move. In part, many states have undertaken the kinds of actions that those bills that were being looked at in the early seventies and late sixties would have established. Something like 37 states now have a power plan or energy facility siting laws. So, to a large extent, the pressure on Congress to enact something has been lessened. At the same time, there is one major issue with respect to energy facility siting that makes it unlikely that a bill would readily get through the Congress. Federal agencies have traditionally wanted to have an ultimate federal override of siting decisions. In other words, most of the legislation that has been proposed, and certainly the legislation that has been supported by the electric utility industry, would have required, under at least some circumstances, that the federal government step in and push everything out of the way and approve the site. That is probably not palatable to Congress in its current state of mind, nor does it probably make good sense given what we have learned from other programs such as coastal zone management in recent years. For that reason, it is unlikely that energy facility siting is an individual issue, any more than land use planning would have a significant impact on the kinds of issues that you are discussing here today.

From the view we have of Congress and particularly from the Office of Coastal Zone Management, then, the emerging policy of the federal government in the coastal impact area with respect to offshore development is, we think, an increasingly affirmative and realistic approach. It recognizes that we cannot return to the status quo of yesteryear and that there will be resource conflicts that we have to have

mechanisms to resolve. It recognizes that we cannot expect government, on the other hand, to predesignate every site for every activity. That is an unlikely occurrence just as well. Neither of these will suffice as a solution. The solutions in the form of good management lie somewhere in between these two. We believe that the federal role that we see through coastal zone management is to help the states to establish clarity and predictability - to identify some areas and some uses where the conflicts are too serious, the trade-offs are too high, and where activity should be discouraged, and identify other areas, other uses, where there seems to be a good match for everyone concerned and where the activity should be encouraged. Finally, there should be substantial remaining discretion for the private sector to have viable choices within these clearly articulated constraints. We are working to do this at the Commerce Department through coastal management, and we are confident that the states are doing the same.

Barbara Heller

Department of Interior

I am here in a very new capacity, as many of you know. I spent the last five or six years throwing relatively well-aimed bricks at the Department of Interior, and I now spend most of my time trying to decide whether to duck them or to catch them. I had my first experience at the Interior Department the first day I arrived when I walked down to the Legislative Affairs office. As Guy Martin *(luncheon speaker)* mentioned, the last administration opposed the OCS bill, and one of the people down there took one look at me and said, "Oh, no. You used to be the enemy." That was my introduction on my first day at the Department of Interior.

This administration has made some fundamental policy assumptions that, it seems to me, are new and

very important. For the first time, we see recognition that national energy goals and environmental goals can both be achieved. Environmental objectives are compatible with a stable economy, an employed work force, and an improved standard of living, as well as with energy development. We have learned over the last few months, if we have not known it for a long time, that energy resources are a precious commodity. As I think that most of you have heard over the last few days, like it or not, there is no question about whether or not these resources are needed in modern society. The real questions revolve around the terms of production, transportation, and consumption. That is the focus of emerging federal efforts regarding the outer continental shelf.

There are two aspects, at the moment, of our evolving OCS policy. One you heard about from Guy Martin, and that is our Interior Department policy regarding the new schedule and the kinds of planning efforts we are undertaking. The other, and very closely related, is the legislative action, which he mentioned only briefly. I would like to take a minute or two to explain what the legislation really does. For a long time, there has been talk about separating the decision to explore for oil from the decision to produce. The legislation mandates a pause between exploration and production. A few years ago that was extremely controversial. Now it is hardly a subject of debate. It is something that the Interior Department has come to believe over the last year or two. It allows the coordination and the consolidation of information - geological and geophysical information, the results of the environmental studies that Guy is talking about restructuring, and the planning information that states and local communities need so badly to help them plan for the impacts of long-range development. The legislation mandates separate decisions to explore and produce.

In addition, there is new authority which provides for cancellation of leases on the outer continental shelf, although only for extraordinary (and the language is very explicit in the bill) reasons. The way the existing OCS act reads, even if somebody is out drilling on a fault and it looks as though a major accident is

inevitable, the Secretary of Interior has absolutely no authority to cancel the lease. That is provided for in the new bill. In addition, there are new mechanisms for using bidding systems other than bonus bidding and royalty bidding, which are the two systems that are authorized under the original OCS Lands Act. There are about eight different kinds of bidding systems, most of which have been used in other countries, authorized by the new bill. One of the most important things the proposed legislation does is establish a framework for working very closely with states and local communities, especially on long-term planning issues. The last few years have seen incredible conflicts between states and local governments and the federal government and the oil industry. There has been tremendous polarization on the issue of offshore development. The bill sets up a mechanism for a stable process so that conflicts can be resolved before a sale date is reached. We hope that will enable us to resolve enough problems so that we won't have litigation every time a sale date nears.

Environmental studies, which you have probably heard enough about already, have focused on the offshore, not on near-shore impacts. They have been directed toward establishing a baseline, but they have done very little to predict what might happen to the resources of the outer continental shelf if there is an accident. That is another direction of change in the OCS bill. The environmental studies question brings me to the NEPA (National Environmental Policy Act) process, which Guy mentioned at lunch. You heard Kevin Waring's comments this morning. I guess that everybody has his own favorite examples of bad environmental impact statements. The one that I like to quote came from an Interior Department impact statement, of course. It was when the department published its impact statement on the 10 million acre leasing program. Its analysis of the impact of oil spills on marine mammals consisted of one sentence: "The effects will be negligible as long as the mammals can escape the area of the spill." That was the whole analysis. What a wonderful piece of scientific work.

The environmental impact statement process has been plagued over the years by several problems. One, it has not been particularly useful to the people making

the decisions. The impact statements are often long, technical encyclopedias which may be read by a few people, but not very many. They do not help those who are making decisions. That is largely because the content of impact statements has been determined by a bunch of lawyers fearing litigation trying to determine what is and what is not legally sufficient. There is not necessarily an easy answer to this problem because there is a dichotomy between making impact statements a useful document and the real needs of the public and state and local planners for good and detailed environmental information.

It seems to me that there are a couple of possible solutions. One is, in itself, a reflection of a past problem. That is the openness of the process. In the past, at least with regard to OCS decisions (until the negative nominations process was begun recently), the impact statement hearing on the draft environmental impact statement was the only place that public input was sought with regard to the whole OCS program. What that meant was that the environmental impact statement became the target for every single criticism of OCS development. A solution to that is opening up the process from the beginning. That means not only seeking the kinds of questions that ought to be included in impact statements, but taking advantage of the good scientific information that already exists.

A good information sharing program with states and local communities and universities in the area that is being studied is essential. I cannot see how you can write an impact statement and predict the impacts of new development in frontier areas on local communities without talking to the people in the local communities. But that is what has been done in the past. Opening this process, I believe, will help not only states and local communities in opening the whole decision-making process, but it will also help the industry. The Department of Interior is now undertaking a thorough review of the whole impact statement process. The Council on Environmental Quality is doing it government-wide and reassessing the guidelines in conjunction with the President's environmental message. Any suggestions are, of course, welcome. It is not an easy problem to resolve, but one that I think will make the

process a much easier one for everybody when it is resolved.

There have been uncertainties both for industry and for state and local planners, for citizen groups, and for the federal government over regulatory problems. We are going to do our best to minimize those uncertainties, but we have got to have help from the industry as well as from everybody else. You cannot say privately, "We can live by any rules as long as we know what they are," and, while we are trying to establish rules and regulations and legislation, fight every single step of the way. It is just not credible. We need your help and cooperation so that we can set up rules and regulations that are compatible with everybody's concerns. There has to be the kind of dialogue among all the interests concerned with offshore development that this conference is all about.

We have come a long way in that process, in that dialogue. The Department of Interior and the state of Massachusetts have been negotiating for several months to work out lease stipulations and regulations before the Georges Bank lease sale. That is a first - the first time a state and the Department of Interior have worked out their problems before a scheduled sale date. In addition, the joint government/industry planning group you heard about from Suzanne Reed this morning is a first. I do not know of anything like it in any other state - where the state and industry and the local communities have gotten together and said, "This is what we are facing over the next few years. How do we resolve our differences?" That is the only way, in my opinion, that we are going to avoid both the delays that industry does not like and the real problems that can result from development.

There is a basic conflict, and I suspect there always will be, between government officials and industry over the proper role of government. States and the federal government believe that they have a right and an obligation to protect the health and welfare and quality of the life of their citizens. Industry believes it has a right to determine the effects of its own production and bargaining strategies. States and industries and the public will all be better served, however,

by sitting down the way California and its industry have; by negotiating the way the Department of Interior and the state of Massachusetts and now other states are doing to resolve problems.

Let me finish on something of a philosophical note. There has been a temptation in the past, and we still see vestiges of it, for critics of environmental protection to assume that government regulation, designed to protect the public from environmental degradation, is a temporary phenomenon - that it is really a fad which will recede in coming years like all fads. Those critics' attempts to portray environmental legislation and regulations as incompatible with jobs, with a high standard of living, and with economic prosperity assume that some great public backlash is going to lead back to the golden days of unlimited and unwatched development. That day is past. For one thing, we have become far more aware of the scarcity of resources that we face. There is no last frontier, at least not on this planet. Our margin for error is greatly reduced. We cannot afford to waste the way that we have wasted in the past.

In addition, we are learning more and more, because of the revolution in technology and electronics over the last few years, about the complexities of our natural environment, about chemical reactions and biological processes, about the effects on health and the environment of new technologies. That enables us to protect both human health and the environment better than we have in the past. Advances in those kinds of technologies - in monitoring equipment, in data acquisition and processing - is going to enable us to establish more clearly where the responsibility for environmental damage lies, and therefore, to regulate it.

As our information and monitoring techniques improve, it is going to be more difficult to maintain that there is insufficient evidence to determine either what standards should or should not apply or to determine responsibility for damages. As I said before, there is never going to be complete agreement among any of the different concerns gathered here today. In fact, I hope that there is not. If we become that homogenized, then we all have to worry. It is terribly

important for the federal government to have critics and different kinds of interest groups making their points of view known as strongly as they feel necessary. That is the way our system works and, I think, having been on at least two sides of the system, that it works pretty well. But we do need recognition by all concerned - by government, by industry, by citizens' groups - that environmental protection is here to stay and that certain energy goals are important. For both to be done right, there has to be some really honest communication.

Ronald T. Luke

Vice-President, RPC, Inc.

We knew when we decided to hold this conference that two things would happen. I think that our expectations were borne out. First, we did not believe that you have heard many ideas for the first time. I think this is good. It shows that the issues are out on the table. People have had a chance to examine these issues, deal with them, and consider the trade-offs. We have confirmed in part, that on a nationwide basis, people may be ready to move from problem definition to problem solving.

Second, we thought that people were willing to listen, but only after each made his or her two-minute statement. I think that was borne out in that only today were we really asking questions and wanting to hear the answers, rather than simply inserting comments into the record. We appreciated the comments, but they bear out the fact that you do have to spend some time together in order to achieve two-way communication. We hope this conference has increased communication. If you have made five new acquaintances who are relevant to your world on this issue, then we hope you feel the time you have invested has been justified.

I hear agreement that we are not talking about whether OCS development will occur. Rather, we are talking about how quickly; how carefully; who pays for what, and who gets what out if it. In considering the trade-offs, as Lt. Governor Hobby said on the first day, OCS oil and gas appears to be one of the major least risky energy supplies available in the next 10 to 30 years.

I do not think that it is useful to continue framing the discussion in terms of whether oil companies or environmentalists or government officials are good or bad people; protectors or despoilers of the environment. All of these parties have objectives. All have political and/or economic power to at least partially achieve their objectives. None are going to go away. Finally, we know that most decisions by these parties will have to be made with incomplete information.

The question of incomplete information is interesting. Every time someone does research, no matter how detailed, they finish with as many or more questions and needs for information as when they started. People sometimes talk as if we are going to be able to have complete information, which resolves all of our anxieties and doubts. I am persuaded by listening to our speakers, we are not. I am also persuaded that we have some ways to proceed without complete information.

The question now has to be: Is there a way for all of these interest groups to interact? Can they further their own respective interests in a way that is more productive than a pure conflict situation. I think these are questions to which the obvious answer is "yes." We will move further working together than we will if each one is trying to stymie the other. Clearly, each group has vital interests which simply cannot be compromised. There are boundary conditions at which negotiation stops and a political or economic fight begins. Yet, there is an overlap of common interests which has not been fully exhausted. We are beginning to see this in cooperative efforts such as the Santa Barbara joint planning committee, and in the efforts of Alaskan communities. We are moving away from a pure conflict situation and moving toward negotiation, a mediation, and problem solving opportunities.

The environmental impact statement served environmental interests as a delaying tactic. Procedural suits slowed what was felt to be an over-rapid exploitation of offshore resources resulting in part from the "10 million acre policy" that Guy Martin discussed. As a pure delaying tactic it was very useful. It slowed the pace and allowed questions to be asked. It provided nonindustrial interests with a lever on the policy process, which forced some questions to be answered. However, when we look at the remaining "inadequate" portions of those environmental statements, it seems that the power of the tactic is evaporating. At present, most environmental impact statements are adequate as regards biological impacts. We are now worried about the inadequacies of statements regarding social and economic impacts and the effects of state laws. There is no question that agencies and industry, given enough time and money, can address these issues. It might add two more man-years of effort to the cost, but they can do it. A pure delaying approach based on NEPA is not going to permanently stop OCS development as it did not stop the Alaska pipeline.

At some point, delay ceases to be useful. Once you have everyone's attention, it is time to state what it is that you want. The burden, now, is back on government and environmental interests to say what they want out of oil and gas development in their area. Under what conditions can they live comfortably with OCS activities? We must specify what is acceptable, not simply what is unacceptable. I hope this need has really come through in the conference.

A second, broader, issue has arisen in our discussions, which should not be ignored. The analysis of this issue begins with a question: What is so different about OCS development? Why is it different from building textile mills in New England or building electronics plants in California? What is the big deal? I think there are four factors which have made it a big deal. They are factors which could recur on other policy issues. I think, from a concern with social policy, it is important to reflect on these factors and understand what happened.

First, when development expanded from the Gulf of Mexico into the frontier areas, it went into just those areas where the environmental interests were strongest, best organized, most litigious, and had some base of public support. When the oil industry and the Department of Interior went into the frontier areas, they crossed all sorts of "trip wires." The frontier areas are not only different geologically, they are different in terms of the interest groups which must be accommodated.

Second, from 1969 on, the environmentalists had a wonderful blocking position, provided by the NEPA and the requirement of "adequate" environmental impact statements. By finding inadequacies in environmental statements, the 1973 federal policy of greatly accelerated leasing was stalled. It is much cheaper to find inadequacies in an EIS than it is to prepare an adequate EIS. Finding sufficient inadequacies to persuade a judge to enjoin a sale requires less time. Court action requires lawyers in abundance, but fewer of the geologists, biologists, and engineers required for EIS preparation. The environmental interests thus had a legal tool and an ample supply of lawyers to use it. The unpopularity of federal OCS policy was amplified by the general unpopularity of the Nixon and Ford administrations with environmentalists.

Third, OCS activities were associated with dramatic accidents which attracted the interest of the press, politicians, and the public. Local public interest groups, including environmental groups, rely on local support, at least in part, for finances and moral support. The success of environmental groups required that the general public in New Bedford and Santa Barbara be concerned with or opposed to OCS development. Without such broad public concern, there is every chance that this social movement would have progressed no further than some of the "radical" movements of the 1960s. The environmental movement made it because there was an underlying body of general public support.

Finally, OCS activities revolve around an industry which many people consider a grade A, genuine, black-hat villain. The international oil and gas producing companies were "the enemy." Against them were the

small fishermen and other underdogs who could command publicity and public sympathy.

Putting these four factors together, it is not clear whether the environmentalists or industry have the biggest guns for this fight. Industry must commit millions of dollars to OCS leases. Environmentalists need only delay development to erode the return on their investment.

OCS activity is different from other industrial activities because the decision process allows two larger social questions to be addressed in a public forum. The first question is the way in which this society measures progress. Can we exist as a steady state economy? Are we willing to address the deeper issues of personal freedom which inevitably arise whenever we discuss achieving that steady state economy? How and to what extent are we going to sustain the present level of energy consumption? The question of economic growth underlies the OCS policy discussion.

The second question regards the scope and process of social control of corporate power. There is a demand in this society by environmentalists and others for more input via the political process into the goals and operations of large corporations. This input is not without economic cost. Political considerations cannot change the dictates of the geology of offshore oil. We can talk about where we should develop oil and gas support bases and rigs. But the political planning makes sense only in the context of where the oil and gas actually is. Environmentally sound sites can be picked with full public participation. If the wells drilled are dry, that is the end of the discussion.

Opening corporations to more political input raises the question of how profitable our economic organizations should be. For the costs of every environmental control and every social goal a corporation adopts comes out of profit, or comes out of the consumer's pocket. Those seeking input should acknowledge that their demands have an impact on prices and rates of capital formation.

There is also what I consider a real but unspoken issue. We have a mature petroleum industry. People have put in 20 and 30 years achieving responsibility and positions of power. These things they have earned through diligent service, growing expertise, and perseverance. They have paid their dues. That is what it comes down to. They have paid their dues, in their eyes, for the right to make decisions about how things are going to be done. Now, environmentalists and others appear who have not paid any of those same dues. They want to say how things are going to be done. That just has to irritate industry people. The demand for input raises questions about the autonomy of the corporation and the legitimacy of the intervention. Many people in the industry view this as an illegitimate intervention in the business that has always been exclusively theirs; as some kind of student revolution that is to be discounted and squashed. But these environmentalists may be a vanguard, representing some of the broader concerns that really do exist in this society, even if unvoiced by most people on a regular basis.

Part of the issue of corporate decision-making is the proper role of government. It can be a pure regulator saying "no," and never "yes." It may set, as the Environmental Protection Agency has done, paper standards that have little scientific backing. I do not think this is the role people in government want. At least, that is not what I hear them saying. I think they are interested in playing a constructive role in shaping development, not in simply blocking it. Many officials are interested in providing information and technical assistance at the state and local levels and, hopefully, with a new and improved OCS Studies Program, at the federal level. Government can be a positive force for solving problems. I think that is terribly important. If the situation is purely win/lose with government just keeping score, that is bad. Government has to have a commitment to a solution which benefits broad interests. It should seek to maximize the degree of resolution acceptable to all parties and then decide the irreconcilable issues based on some notion of public interest.

David Kinsey made a very important point. Government officials should give a "quick no" if a project warrants it, not string out the process. Standards should be predictable and administrative process should allow input at all stages.

It is not reasonable to assemble 16 feet of documents on a shelf and then say, "You have thirty days to comment on that." It is a recipe for instant lawsuit. It takes a year to do the study. That year ought to include a year's worth of opportunities for public input by all parties - industry, environment, local government - anybody who is interested. They may not have their concerns met, but they ought never be excluded from the process. We have to arrive at a process which can include, rather than exclude. It has to be able to at least accommodate concerns and let people feel they are being heard.

I conclude from this conference, that such processes are being developed. We are beginning to make constructive decisions which solve problems rather than perpetuate them. The importance of this process development extends beyond OCS policy. I think we are going to deal with the same issues in the balance of the energy field. Hopefully, the pain and expense of the last four years does not need to be repeated to improve decision-making there.

We can already see the same issues in health care. No longer are people really willing to say, "The doctor knows best," about the administration financing the organization of the health care system. Health care people are going to come under the same pressures you have been under. Perhaps further in the future, we will see the mass media coming under the same pressures.

What I conclude from listening to this conference is that the "OCS problem" is one of process rather than substance. As such, it is a problem question which must be solved at a process level: process within the oil industry, process within government, and, yes, process within the environmental groups because they have to learn, too, that there are effective means of influence other than litigation.

4 WORKSHOPS

Sociological Effects

Panelists: George McGonigle, Pamela Baldwin, Alvin Bertrand, Dick Hickman, and Lisandro Perez

There was unanimity among the panelists in this workshop that offshore development does affect the nearby onshore communities. The workshop focused on possible solutions to the problems that generally arise, with the major solution being communication and cooperation between local residents and company representatives from the beginning.

George McGonigle outlined four steps involved in easing local impacts of offshore development: (1) establish rapport with residents from the first; (2) plan in advance; (3) work with government institutions to achieve company and governmental goals; and (4) recognize that there will be a phase of attitude adjustment - local residents must learn to cope with change.

Proper planning for offshore development could raise the level of the community by increasing job opportunities and raising the level of education locally. Stagnant communities can be rejuvenated by new people and new attitudes. However, growth must be planned for, and there will still be undesirable effects, such as changes in community traditions and a drain on community services by people who are not actually residents of the community.

One of the biggest sociological problems of offshore development was discussed by Lisandro Perez. That is the effect of the highly transient nature of offshore oil workers. Not only is there a great deal of turnover within a company, but people who do stay with the same company are only at a location for a short period of time - until the rig moves on to another location. The high degree of turnover causes tax base problems, and the incidence of crime increases with the amount of turnover.

The size of a community is an important factor in how strongly it will be affected by nearby offshore operations. Locational considerations of offshore contractors must balance two alternatives. The first is to locate in a metropolitan area that has the services to support the company and the governmental infrastructure to support the demands of new workers in the area. The second alternative is to spread out into an undeveloped area where the influence of labor unions won't be felt and industry won't be concentrated in one area. George McGonigle suggested that sometimes contractors pioneer undeveloped area to escape the influence of labor unions, which is an economic factor, but also a sociological one.

Another effect on labor is that because offshore developers are working under lease to the federal government, they have to have affirmative action programs for hiring women and racial minorities. This requirement may have strong social consequences in rural areas of Texas and Louisiana. Pamela Baldwin said that such hiring practices were used in Scotland with the effect that the hiring of women roustabouts reduced the number of men willing to work on the rigs.

Although there are federal programs to ease the onshore impacts of offshore development, George McGonigle said that too often these programs are not coordinated and local officials don't know where to turn for help: "... it is very frustrating for a person who wants to work within the system and wants to comply with all the regulations first of all to find out what they are, and second to be able to resolve the conflicts that exist among the federal institutions."

McGonigle reiterated that the greatest problem is a need for greater interaction: "... it isn't just the companies hiding behind a log hoping the feds and locals will go away. Locals can't get their act together to make a reasonable proposal to the companies." The root of problems that develop is the lack of mutuality from the beginning.

Implications for Local Economies

Panelists: Dr. C. R. Brownell, Evan Brunson, and Raymond Boileau

This workshop benefited from the practical experience of Dr. C. R. Brownell. Dr. Brownell has been mayor of Morgan City, Louisiana, for 27 years, during a period of rapid growth and myriad changes resulting from OCS development. However, Dr. Brownell said that Morgan City's biggest problems did not result directly from oil and gas activity: ". . . for generations our people have been in the marine industry - in the fishing industry. Today, our fishing industry has practically been destroyed. It was not the oil industry that did it." Morgan City's biggest problem is flooding - "Oil impact has been a minor thing compared to trying to survive down in that area."

Evan Brunson of the Southern Growth Policies Board posed the question, "How are economic impacts of OCS development different from other impacts?" He said that generically they are the same. The problem boils down to a question of growth or controlled growth; growth management or no growth. Often the cost of not growing - of losing people and industry - is far greater than the costs of growth. Mr. Brunson said that primarily the problem is one of attitudes - that the public sector tends to think only in terms of what it is going to cost the government: "There may be a net adverse fiscal impact on local communities . . . but there are also a heck of a lot of benefits in terms of new jobs, in terms of payrolls to communities, to individuals."

Brunson showed that there is a wealth of research on the economic impacts of offshore development. Beyond that research, there is also an abundance of research on the research: ". . . it is easy to look at any study and critique it . . . all of us in the business have a vested interest in seeing that more research gets done, and I think particularly on these energy and OCS issues we may have milked the cow a little bit too long."

Raymond Boileau, representing the Coastal Energy Impact Program (CEIP), described the CEIP and how it helps local areas respond to the impacts of energy-related development. He said that the energy impact funds are allocated for three categories of activities: all energy facilities, coastal energy facilities, and OCS development. There are five criteria for qualifying for CEIP funds: (1) the activity must be energy-related; (2) there must be a definite link between the impact and the activity; (3) the severity of impact in terms of population growth, employment growth, need for more public facilities and services, etc. must be considered; (4) the immediacy of the impact must be considered, as must (5) the fiscal capacity of local government to respond.

Although CEIP funds are provided by the federal government, they are administered by the states. "I think that it is very important that we enter into a partnership, and that the partnership includes a local government, that it includes the community leaders, both public and private, that it includes the state, that it includes the private interests that are coming into the community that are going to be providing whatever energy activity that is causing the impact."

The overall consensus of the workshop was that through partnership, communication, and cooperation at all levels, adverse economic impacts of offshore development can be minimized.

Effects on the Environment

Panelists: Dr. Charles Woodruff, Ms. Linzee Weld, Capt. Ralph Hill, Keith Hay, and O. J. Shirley

This workshop saw little disagreement: previously conflicting parties have come closer together in their search for ways to obtain their separate goals. The tone of the discussion was summed up by a member of the audience toward the end of the session: ". . . a lot of the perceived disagreements are more perceived than real . . . because the questions you ask can determine to a large extent the answers you get . . . ."

It was generally agreed by environmentalists and industry representatives alike, that we do have a continuing demand for energy, and the source of that energy, at least for the next 20 years, will have to be offshore oil and gas.

As far as adverse environmental effects of offshore development are concerned, panelists agreed that they are minimal. Captain Ralph Hill of the U.S. Coast Guard provided statistics to show that a large part of the oil that ends up on the beaches comes from river runoff, the source of it being people who change the oil in their cars and dispose of it in sewage systems.

O. J. Shirley, representing Shell Oil Company, pointed out that most of the refineries and other energy-related facilities along the coast are not associated with OCS development: ". . . it is very difficult to segregate the impacts of offshore development from the prior impacts of onshore development . . . ." Most of the petrochemical complexes along the Texas coast are there because it is a water transportation route, and not because of offshore production. He summarized his opening remarks with, "On balance . . . the environmental impact of offshore development is quite small, and in view of our continuing need for the energy, our great need of an interim source of energy until we can develop other resources, I think it is something that we all should view as a good trade-off."

Linzee Weld of the Environmental Policy Center cited the experience of Scotland. When the people of Scotland saw that offshore oil was inevitable, they mandated certain trade-offs from the oil companies. She said we have a similar situation on the East Coast: "I think it is going to be a process of setting down people from communities, people from the oil industry, and working out how they can solve their own problems, and it is going to be a site-specific working out so that the two can live together." She continued that OCS drilling should occur, but with certain restrictions and certain planning elements to ameliorate the impacts. The important thing to discuss is not the impacts of offshore development, but how citizens can make requirements and what kinds of requirements they can make of the oil companies.

Dr. Woodruff summed up the feelings of the panelists when he said, "Not all environmental impacts are negative . . . all land and water are not created equal . . . different kinds of land and water sustain different uses."

Dissenting views from the audience revolved around the question of cumulative effects of pollutants on the environment, as with the concentration of refineries in the Houston-Galveston area. Herman Rutenberg, a member of the Sierra Club, said that the data presented by the panelists are largely a result of laboratory experiments, while "the fish and other marine organisms find themselves in water that is already heavily altered . . . so what we have to consider is the effect of an accumulation of materials to which is added the particular discharge that we might be talking about at sea."

Fishing and Recreation

Panelists: Steve Frishman, Paul Templet, Elizabeth Wilman, John Cole, James Prunty, and Edward Klima

Information and opinions about fishing and recreation as they are affected by offshore oil development are about as diverse as the marine life in the areas where development is taking place or is planned. Since much of the opposition to offshore drilling has come from commercial and sport fishing interests as well as those concerned with the impact of offshore oil on recreation, this workshop attempted to arrive at an understanding of the issues raised by fishermen and outdoor enthusiasts.

One of the major losses identified as a result of OCS development was loss of coastal land. Paul Templet of the Louisiana State Planning Office emphasized the importance of coastal land in Louisiana for recreation: "We are losing land. We are losing it pretty fast - about 20 square miles each year." Templet estimated that Louisiana had already lost enough wetlands to fill up an area half the size of the state of Rhode Island.

A benefit of offshore development that merited the general consensus of the panel was the improved fishing conditions around offshore rigs and underwater structures. The artificial reef effect concentrates the fish populations. However, even this benefit wasn't accepted wholeheartedly. John Cole, editor of the *Maine Times*, conceded that the artificial reefs did provide for easier fishing, but countered that "you don't have to put a 30 million dollar rig (with its associated risks) out there to make fishing better."

A major problem the panelists agreed existed was the construction of pipe stubs over abandoned or uncompleted wells. These stubs, required by the USGS, are a navigation hazard, and they snag shrimp nets. However, the USGS has eased its requirements for construction of stubs, and the number has been reduced considerably since 1970. James A. Prunty, an industry

official, pointed out, "In that year there were 217 stubs. With a change in the regulations of the U.S. Geological Survey, stubs that could be considered navigation hazards have dropped to 94."

Other problems that were brought up but were not resolved were the debris dumped overboard by offshore developers or left along the shore; and the crowding of docks by barge tenders and other industry-related vessels. The structural debris is unsightly onshore and presents navigation and shrimping hazards offshore. Private fishing interests feel that industry vessels are taking dock space away from charter boats and other fishing vessels.

The effects of offshore development on coastal wetlands could not be ignored. Wetlands are affected not only by the possibility of leaks and spills, but by the transporting of the offshore equipment to the water, which often requires canals and pipelines. When canals and pipeline trenches are not maintained by the companies, erosion widens them and destroys increasing amounts of wetland area. This argument was put forth by Paul Templet in answer to James Prunty's claim that the onshore effects are only positive, as they provide increased spawning grounds around the dams.

There seemed to be little doubt on the part of the panelists that offshore development was going to proceed. The problem lay in negotiating trade-offs with the oil companies to offset the damages that were sure to occur from offshore development. John Cole summed up the negative opinions with, "You can't say offshore drilling is good for anything. Offshore drilling is harmful to every living creature except perhaps the human beings who make a little dough out of it." Elizabeth Wilman, a resource economist, said that it is impossible to measure with absolute precision what all the costs of offshore development might be.

APPENDIX

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. . . I would say let's continue to have dialogues like these, to provide forums in which all parties can get together and exchange their views and their goals and seek common resolution.

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24 June 1977, Galveston, Texas

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