

**Minerals Management Service**  
**Outer Continental Shelf Scientific Committee Meeting**

**May 10, 2006**

**Santa Barbara, California**

This meeting of the OCS Scientific Committee was held in accordance with the Federal Register Notice published on April 17, 2006, and followed the agenda contained in Appendix I. The meeting was attended by the Scientific Committee members, MMS staff, invited speakers, and visitors listed in Appendix II. Short biographies of each Committee member, MMS staff who works closely with the Committee, and invited speakers are provided at Appendix II. An outline created from the verbatim transcripts and references to the page numbers of the transcripts and a list of acronyms used during this meeting are provided in Appendix III and IV respectively. This synopsis and any text may be requested by the public for review.

**OUTER CONTINENTAL SHELF  
SCIENTIFIC COMMITTEE  
Plenary Session  
May 10, 2006  
Santa Barbara, California  
Proceedings**

**INTRODUCTION**

The Outer Continental Shelf (OCS) Scientific Committee (SC) is chartered under the Federal Advisory Committee Act (FACA) to advise the Minerals Management Service (MMS) on the feasibility, appropriateness, and scientific value of the MMS Environmental Studies Program (ESP). Its May 2006 meeting was called to order by Dr. Lynda Shapiro, Chair of the SC.

Dr. Shapiro announced that this would be her last meeting on the SC and thanked the members, MMS staff, and regional staff for their hard work.

She explained that the SC has evolved in terms of formatting its meetings which appears to be working very well. She explained to the new members and the audience that the SC meets in plenary session on the first day and, on the second day, it breaks into Discipline Breakout Groups and meets with the regions' staff to discuss planned future programs since the SC can have the best impact by working with the regions prior to the beginning of a program so that suggested changes may be put into effect.

On the last day, the SC meets in plenary session for presentations and discussions relating to the Discipline Breakout Groups' sessions, to discuss topics for the Letter to the Director, and to identify emerging issues.

Dr. James Kendall, Executive Secretary to the SC and Environmental Sciences Branch Chief, presented members with various books containing manuscripts, peer review literature, and reports that MMS staff has had published relating the ESP.

Dr. Shapiro then handed the meeting over to Vice Chair Dr. Robert Diaz.

**MMS DIRECTOR'S WELCOME, PRESENTATION, AND DISCUSSION**

*Presentation by Mr. Greg Gould*

Dr. Diaz introduced Mr. Greg Gould who was representing the MMS Director, Ms. Johnnie Burton.

Mr. Gould explained that in addition to being the Director, Ms. Burton is also acting Assistant Secretary for Lands and Minerals Management and that she was unable to attend the meeting due to her schedule. Mr. Tom Readinger, Associate Director for Offshore Minerals Management, who would normally be addressing the SC in her stead, will be retiring in June and also had prior commitments. He stated that the SC's work is critical to the success of the ESP and MMS and welcomed members to Santa Barbara.

**Gulf of Mexico OCS Region.** Mr. Gould stated that the 2005 hurricane season brought 27 named storms, 15 of which became hurricanes, and was the first year that three Category-5 hurricanes hit the Gulf of Mexico. In addition, the 2005 season was the first time four major hurricanes hit the U.S. in one season. As a result, over 30,000 offshore workers in the Gulf of Mexico were evacuated and the 4,000 structures in the Gulf prepared for hurricanes many times.

Fortunately, he reported, there was no loss of life or injuries to offshore workers at any OCS facility and there were no fires, damages, or major pollution events caused by process equipment failure during the storm.

The MMS office, located in Metairie, was not destroyed, but it did suffer enough damage to close the building for several months. Therefore, the decision was made to temporarily move some essential managers and staff from the Gulf of Mexico regional office in New Orleans to Houston, Texas, in September. In late October, all employees originally in the Elmwood office building reported to three locations: two in the New Orleans area and one in Houston. On April 3<sup>rd</sup>, the MMS staff that moved to Houston relocated back to the New Orleans area.

Hurricane Katrina had a peak shut-in of 94 percent of gas production. As of today, 78 percent of the oil and 87 percent of the natural gas has been restored. Mr. Joe Christopher, who is the Gulf of Mexico's Regional Supervisor for Leasing Environment, would be discussing the effects of Hurricanes Katrina and Rita on production, infrastructure, leasing, and the ESP in more detail during his presentation.

In addition to MMS's continued responsibilities pertaining to OCS oil and gas and marine minerals, it will now be looking to the community for guidance on studies regarding renewable energy and alternative uses of the OCS. He reported that the Energy Policy Act (EPAAct) was enacted in August of last year which gave the Secretary of the Interior authority to grant access for renewable energy-related uses on the Federal OCS. The Secretary named MMS as the lead agency for coordinating the permitting process with other federal agencies and monitor and regulate those facilities used for renewable energy production.

The Act also directed MMS to complete a comprehensive inventory of the undiscovered recoverable oil and gas resources on the OCS. MMS has completed this inventory and estimates that there are 115.4 billion barrels (Bbbl) of oil and 633.7 trillion cubic feet (Tcf) of gas to be discovered on the OCS.

The largest task of the EPAAct gave MMS responsibility for regulating renewable energy and alternative uses on the OCS. MMS has begun the process of writing regulations in addition to working on two wind farm proposals that were grandfathered into the MMS.

He introduced Ms. Maureen Bornholdt, the Program Manager for the Renewable Energy and Alternative Use team, who would discuss the Act and the current status of the regulations, proposals, and environmental studies in her presentation.

Recognizing the importance of the oceans, coasts, and Great Lakes in the United States, Congress enacted the Oceans Act of 2000 which created the U.S. Commission on Ocean Policy.

On September 20 2004, the Commission fulfilled its mandate to submit recommendations for coordinated and comprehensive national ocean policy to the President and Congress.

The Commission's report and ocean blueprint for the 21<sup>st</sup> century contains 212 recommendations which address all aspects of ocean and coastal policy, including resource protection, transportation, ocean resource use, science, education, mapping, and other topics.

On December 17, 2004, in order to meet the challenges raised by the Commission, the President issued an executive order creating a cabinet-level committee on ocean policy to coordinate the activities of the executive branch departments and agencies regarding ocean-related matters in an integrated and effective manner. Simultaneous to this executive order, the President submitted to Congress the U.S. Ocean Action Plan response to the Commission.

To implement the President's U.S. Ocean Action Plan, the Administration created the ocean governance structure that coordinates through several new as well as existing ocean-related committees and subcommittees.

Within this structure, both the department and the MMS are represented at various levels:

- the Secretary of the Interior is a member of the Committee on Ocean Policy;
- the Assistant Deputy Secretary is a member on the Interagency Committee on Ocean Science and Resource Management Integration (ICOSRMI);
- MMS and the U.S. Geological Survey (USGS) are members of the Joint Subcommittee on Ocean Science and Technology (JSOST);
- MMS is a member of the Subcommittee on Integrated Management in Ocean Resources (SIMOR);
- MMS management and staff are directly involved in a number of interagency work groups and task forces related to these committees; and
- one of MMS's current responsibilities includes working on the development of the Ocean Research Priorities Plan and Implementation Strategy (ORPPIS).

Mr. Gould stated that the current 5-year leasing program expires on June 30, 2007, so in early August of 2005, MMS began developing the 5-year leasing program for 2007 to 2012. He explained that before the Secretary of Interior can approve a new leasing program, a lengthy, multi-step process of consultation with interested and affected parties is conducted along with an analysis of all 26 planning areas.

The first document issued in the process is the draft proposed program. Due to the public comments received from state and local representatives, MMS decided to include areas for leasing that have not been offered in many years. These areas include an area off of Virginia and in the North Aleutian Basin in the Bering Sea off the coast of Alaska.

He reported that the 5-year Environmental Impact Statement (EIS) will address the issue of climate change for the first time using available research to assess potential results of climate change on accumulative analysis. He said that impacts of climate change are already being observed in Alaska and the analysis will consider potential impacts on marine mammals and subsistence lifestyles. The MMS is also examining the impacts of rising global temperatures on

coastal habitats in the Gulf of Mexico that would be flooded by rising sea levels in response to ice melting.

In the EIS, as suggested by the Ocean Commission and supported under the U.S. Ocean Action Plan, MMS is introducing a regional ecosystem-based management approach for describing and analyzing the environment. This is being done at the "scales" appropriate for a national, programmatic EIS. For example, the Gulf of Mexico OCS spans a subtropical/tropical environment unbroken by any continental barriers, so analysis and descriptions are for the entire region. The Alaska OCS, however, can be divided into three areas based on ecological climate zones and by the natural divisions created by the Alaska land masses: 1) the Arctic, 2) the Bering, and 3) the South Alaska subareas.

Mr. Gould thanked the SC for its hard work and dedication, time, insights, and advice in working to fine-tune the studies plans which helps MMS make better decisions about its current and future research.

### ***Open Discussion***

Dr. Michael Rex asked Mr. Gould if leasing for the new alternative sources of energy included in the energy bill would happen in the same kind of way as for petroleum resources. Mr. Gould responded that that is currently being worked on and that Ms. Bornholdt would be discussing the subject during her presentation.

Dr. Michael Fry noticed that neither Mr. Gould nor Director Burton, when giving her presentation last year to the SC, had mentioned sand and beach nourishment in their presentations and asked where this program currently stands. Ms. Bornholdt responded that MMS has recently been given the responsibility of another new program, the Coastal Impact Assistant Program (CIAP). This program has identified six states (Alabama, Alaska, California, Louisiana, Mississippi, and Texas) to receive \$250 million each fiscal year (FY) 2007 through 2010. These funds will be allocated based upon the proportion of qualified revenues derived from OCS activities offshore the individual state. Therefore, MMS is examining the existing structure of the Leasing Division in order to move the marine minerals stewardship to the regions that house these CIAP states. Mr. Gould added that these states will dictate what projects will be funded and the MMS is going to work with them on approving their plan.

### **PACIFIC OCS REGION UPDATE**

*Presentation by Ms. Ellen Aronson*

Ms. Aronson explained that the Pacific OCS Region is comprised of about 50 staff since being downsized approximately 3 years ago due to the expectation that there would be no development of the 36 leases in offshore Central California or the Northern Point Conception.

The Pacific OCS currently oversees the drilling and production on existing leases of which there are 43; the current priorities in the region are safety and enforcement associated with production from these leases, coordination with the State and other stakeholders regarding OCS Lands Act

(OCSLA)-associated proposals and activities, multiple-use management, and EAct implementation.

Ms. Aronson then provided a visual overview (PowerPoint) of the majority of producing leases offshore California.

She then explained the Region's safety and enforcement program. The Region had recently undergone a reorganization of the field inspection/enforcement function, consolidating two district offices into a single California District, which co-located with the Region in Camarillo.

There are advantages of co-locating the district with the Region:

- MMS can use its engineers, environmental scientists, and geologists more effectively in the management of the producing leases;
- the environmental liaison program, established several years ago to ensure that the environmental aspects of platform operations are carefully reviewed on an ongoing basis and on-board the facilities as appropriate, operates more efficiently with immediate and ongoing access to field inspectors and engineers (District Office functions); and
- MMS has a strong partnership with the County of Santa Barbara which keeps careful track of the inspections and enforcing programs; the management of functions in the field by a single District Manager ensures that the County will have consistent and timely information regarding the offshore operations.

She reported that the Pacific OCS Region has been contributing to the Nation's energy supplies since 1968 with a cumulative production of about 1 Bbbl of oil and 1 Tfc of gas. Current production is at 78,000 Bbbl of oil and 159 million cubic feet of gas.

Decommissioning in the Pacific OCS Region, once thought to be imminent, has been delayed as the price of oil has increased; operators are continuing operations and investing in additional wells and technologies to continue production from these leases.

In the area of innovative recovery efforts, there is a lot being done in extended-reach drilling. ExxonMobil plans to drill a well that will be the longest extended-reach well in the U.S. reaching about five and a half miles. With extended-reach drilling, ExxonMobil, with extended-reach wells, has been able to produce one of the reservoirs in the Santa Ynez Unit without an additional platform.

There are two federal/state developments that are in the planning stages by the operators. North of Point Conception (Tranquillon Ridge field), PXP is working on a proposal to produce reserves primarily underlying State tidelands from their existing Federal Platform Irene. In the Santa Barbara Channel (Carpinteria field), Pacific Offshore Operators has proposed producing State leases from existing Federal Platform Hogan. Effecting production of State tidelands from Federal platforms involves considerable coordination between MMS and the State and a number of formal agreements associated with operations, inspections, etc.

There are also a number of multiple-use management issues in which the Pacific OCS Region is involved. There are somewhere between two and four Liquefied Natural Gas (LNG) ports that have been discussed. The Cabrillo Port is a deepwater LNG port proposed for construction offshore southern California; the Region is working with the U.S. Coast Guard as a partner in looking at the environmental issues associated with the placement of that port and with respect to the issuance of a pipeline right-of-way. Clearwater Port LNG facility proposal involves an

existing Federal platform that is currently idle; the LNG operation would preclude the use of this platform for OCSLA oil and gas operations.

She discussed continuing work being made to the marine minerals program and said the Region is working closely with the State on a potential sand proposal offshore northern California.

Aquaculture is still a possibility. That was a proposal that was discussed on Platform Grace which is idled. A pilot project had been proposed a few years ago, however, it has been replaced with the LNG facility proposal. [This proposal, in the interim between the meeting and today, is no longer under consideration by the Federal oil and gas lessee or Hubbs Sea World Research Institute (HSWRI), which had proposed the marine aquaculture activity.]

In regards to the issue of renewable energy, there is a lot of interest in California and Oregon regarding wave and current energy; therefore, the Region would be involved in those proposals.

The Region has also been very involved in the area of education, with curriculum development, internships, classroom presentations, teacher workshops, educational events, collaborative partnerships, and field trips. Examples include:

- "Tidepool Math," a K-12 curriculum that teaches basic math and science principles using tidepools as the learning platform;
- "Watts it to You" is a 9<sup>th</sup>-12<sup>th</sup> grade curriculum and provides a role-play where students discuss, debate, and develop a regional energy plan, exploring renewable and nonrenewable energy resources and the mix in a community in an effort to make the community energy self-sufficient;
- working with the Santa Barbara Community Environmental Council through sponsoring energy education workshops with the National Energy Education Development Program; and,
- in the area of studies, MMS is a partner in the Multi Agency Rocky Intertidal Network (MARINE), which monitors the health of the intertidal zone in areas near oil and gas operations.

The Region is also involved in partnerships with academic institutions, other federal and state agencies, and organizations. Dr. Fred Piltz and Dr. Ann Bull represent the MMS on the Channel Islands National Marine Sanctuary Advisory Committee, and Dave Panzer sits on the Scientific Advisory Committee of the Southern California Ocean Observing System Coordinating Organization.

The Region's environmental studies program emphasizes two main areas:

- monitoring regional context for oil and gas operations; and
- the ecological role of oil and gas platforms offshore southern California.

The high visibility of MMS in regulating the oil and gas industry requires an understanding of the regional environment and the changes that are occurring there in relationship to potential environmental effects of oil and gas offshore California. In addition, the precarious status of any fish populations that occur along California's coast requires that MMS understand the valuable role that offshore oil and gas platforms play in recruiting and harboring fish populations.

### *Open Discussion*

Dr. Michael Castellini stated that past sessions of Discipline Breakout Groups focused on decommissioning and was wondering whether the Pacific OCS Region was going to shut down. Ms. Aronson responded that the Region is not expected to close, though the reorganization of the Region and the associated downsizing is associated with the current opinion that development of the undeveloped leases will not be pursued. This situation, the litigation associated with the undeveloped leases, had resulted in a significant dampener on the way the OCS program is perceived here. This is in combination with an already adversarial environment in the region regarding offshore oil and gas leasing. There has not been leasing within the past 20 years, and she feels once the issue of whether or not there is going to be additional development on the undeveloped leases offshore California is finally put to rest and concerns regarding the prospect of future leasing or development of areas outside the currently producing area are effectively addressed, the Region can settle in to the work before them: attending to operations on the existing producing leases, working with the State on Federal/State development proposals (from existing Federal platforms), addressing marine mineral extraction proposals, working toward implementation of EPOA alternative energy/alternate use provisions in the Region.

Dr. Eugene Shinn asked if the Pacific OCS Region or the National Oceanic and Atmospheric Administration (NOAA) are involved in the issue of marine mammals and seismic surveys. Ms. Aronson emphasized that the Region is involved in the national discussion regarding this issue. She said concerns do exist in the Pacific Region with respect to seismic activity; however, there had been some important work done a number of years ago through the High Energy Seismic Survey (HESS) team, which was a cooperative effort involving agencies, interest groups, and academicians to look at seismic survey issues and regulatory requirements in southern California. The team was highly successful in the development of measures to protect the marine mammals. The concerns with seismic surveys were primarily associated with deep seismic work associated with exploration; however, the Region has used the protocol and measures developed by the HESS team for pipeline projects and will continue to do so.

Dr. Fry mentioned the buy-back leases and asked if the entire Santa Maria Basin leases are being bought back by the MMS and does that mean those areas will no longer be considered. Ms. Aronson replied that there is a possibility those leases may be bought back and, if so, there won't be development of those areas, a major part of the Santa Maria Basin, other than the few existing, developed leases. The undeveloped leases are the subject of several lawsuits, including one filed by the lessees arguing breach of contract and demanding that the leases be bought back.

Dr. Joe Smith asked Ms. Aronson for additional information on the partnership between the Coast Guard and the MMS on these facilities. Ms. Aronson replied that the Coast Guard is the permitting agency on deepwater ports and that since the MMS has a lot of environmental information in that area, the Region has been involved in providing environmental review and guidance. In addition, the MMS is going to be responsible for the issuance of the pipeline rights-of-way associated with these deepwater ports.

Dr. Duane Gill asked whether or not there is anything in the works for using platforms as part of the Renewable Energy Program that develops in the future. Ms. Aronson said there are no active proposals on the table (HSWRI had proposed using idled Platform Grace as a marine mariculture

facility), but feels that as the Alternative Energy and Alternate Use program (under the Energy Policy Act) develops, there may be some interest in alternate use of platforms.

Dr. Fry asked if there has been meteorological monitoring on platforms to look at potential wind. Dr. Piltz responded that he is aware that one or several of the platforms have been instrumented for meteorological purposes, but not with regard to renewable energy. Primarily, it was because of physical oceanography studies.

Dr. Rex asked if leases have a term or are they issued in perpetuity. Ms. Aronson said that the producing leases are in existence for the life of production. He then asked what if production stops for a period of time because of the market and then might become initiated later. Ms. Aronson explained that as long as there is production from a unit, the unit is held and decommissioning isn't required. But when the unit stops producing, a decommissioning plan has to be submitted within 1 year of that cessation of production. There are two platforms that are currently not producing – Platform Grace and Platform Eureka – and with these changes in oil prices, it is likely there may be a change in the status of those with respect to production.

Dr. Smith asked, in regards to leases that cannot be developed because of the moratorium, whether or not there is a time limit where the operator would lose the lease. Ms. Aronson explained that the moratorium prohibits issuing new leases but has no effect on existing leases.

Dr. Fry said that some Santa Maria leases that had never entered into production were sold 15 years ago and asked if the developer has any legal obligations to develop those leases. Ms. Aronson replied that the leases have been continued by what is known as “suspensions.” Prior to 1999, the lessees received suspensions for the leases based on efforts underway to bring the leases into production. In 2001, the leases were suspended under direction of MMS to provide for the resolution of matters under litigation. The litigation continues.

Dr. Diaz wondered whether or not the law suit dealing with the developer of the Maneo leases off North Carolina has been settled. Mr. Gould replied that the suit was settled about 10 years ago, and the Government did buy back those leases. Mr. Paul Stang added that the companies who sued for buy-backs in the Bering Sea had won their suits; however, the terms of the settlement were not disclosed.

## **THE ENERGY ACT OF 2005**

*Presentation by Ms. Maureen Bornholdt*

President Bush signed the EAct on August 8, 2005, which contained numerous provisions associated with the offshore resource management of the OCS. Ms. Bornholdt focused on Section 388, which granted the Department of the Interior (DOI) new authority to regulate offshore renewable energy and alternate uses of the OCS. The DOI then designated MMS as the lead agency whose responsibility will be to regulate projects from construction to operation, to decommissioning, and to removal. With this designation previously under the OCSLA, it gives the MMS an advantage to developing its program.

The main initiatives contained in Section 388 are to 1) create a new regulatory process; 2) develop a consultation and coordination process; and 3) create a comprehensive mapping tool.

In the many years that it took to finally enact renewable energy and alternative use authority, there was concern about the specifics in the program. The program directives authorize development of a regulatory regime that:

- ensures consultation with States and other stakeholders,
- grants leases, easement, and/or right-of ways,
- enforces regulatory compliance,
- requires financial surety, and
- provides fair return to the Nation.

Section 388 also noted what it did not do:

- supersede or modify existing Federal authority,
- authorize any oil and gas activities in moratoria areas (Congressional moratoria and administrative withdrawals remain in effect), and
- apply to areas designated as National Marine Sanctuaries, National Parks, National Wildlife Refuges, or any National Monuments.

Actions that MMS need to do include:

- develop a regulatory program that integrates “new” uses with existing uses of offshore resources and
- manage two existing projects (1) Cape Wind, that is offshore Massachusetts in Nantucket Sound, and (2) Long Island Power Authority's offshore windfarm off of Jones Beach in Long Island, New York.

She continued that when developing a program framework, program premises include entering into meaningful dialogue with stakeholders, creating a new regulatory process, focusing on “regulator” role, and using sound science, engineering, and environmental protection principles. The MMS Action Plan is to:

1. Prepare a Programmatic EIS. She explained that the Programmatic EIS is not going to be like the usual Programmatic EIS for the 5-year program since the types of renewable projects are unknown. MMS will be analyzing the five known projects which are wind, current, wave, solar, and hydrogen; however, there may be additional projects. The Programmatic EIS also will be generic (evaluating and understanding the interface between the human, the coastal marine environment, and technologies) in order for a foundation to be built, establish some best management practices, determine conditions, and stipulations that can be used no matter what kind of environment. These steps will lead to more specific EISs, or eventually Environmental Assessments, to a lease sale, perhaps to a project.
2. Develop a regulatory program for offshore renewable energy and alternate use projects.
3. Develop a strategic studies plan for offshore renewable energy and alternate uses.

Ms. Bornholdt told the SC that in February 2006, MMS received public comments for drafting an Advanced Notice of Proposed Rulemaking and that about 150 comments and about 60 questions covering major components of the program, from access to regulatory, environmental regulation and compliance, operation regulation, fiscal structures, and consultation and coordination, were received.

She announced that scoping meetings would begin on May 18 in the Washington D.C. area. Other scoping meetings planned are:

- June 23 through 25, in Trenton, New Jersey, Boston, Massachusetts, and Long Island, New York,
- June 6, in Atlanta, Georgia,
- June 8, in Orlando, Florida,
- June 23, Gulf of Mexico in Austin, Texas,
- June 25, Long Beach, California, and
- June 6-8, Portland, Oregon, and San Francisco, California.

#### MMS Goals

For June 2006, the goal is to award a synthesis study that will assess the current state of knowledge regarding renewable energy/alternate use activities.

#### FY 2006:

- identify planned and ongoing research associated with renewable energy/alternate use projects (e.g., Cape Wind, Long Island Power Authority) to avoid duplicative MMS efforts and
- look for study efforts of other Federal/State agencies and Non-Government Organizations (NGO) to identify opportunities to collaborate and co-fund (e.g., Massachusetts Audubon study).

#### Winter 2006-2007:

- to publish draft regulation and open comment period;
- file draft Programmatic EIS; and
- hold public hearings.

#### Summer 2007:

- file the final Programmatic EIS and
- convene a workshop in June to discuss issues and identify data gaps (based on the June 2006 synthesis study) to assist in forming the basis for a strategic studies plan.

Summer/Fall 2007 target is to present the strategic studies plan to be integrated into FY 2008 MMS ESP for the SC's review.

#### Fall 2007:

- publish final regulations;
- publish Record of Decision; and
- hold public workshops.

She stated that Cape Wind Associates, LLC, proposes to construct a wind park in Nantucket Sound, Massachusetts, about 4.7 miles offshore. The proposal consists of 130 wind turbine generators and could produce up to 454 megawatts of electricity. MMS will prepare an EIS to evaluate the project's impact from construction through decommission and scoping for the MMS EIS will begin shortly.

The other project is the Long Island Power Authority and the developer, Florida Power Light, proposes to build an offshore wind park about 4 miles off the south shore of Long Island, New York. This particular proposal is for about only 40 wind turbines for about 140 megawatts and will be used in the local community. MMS will prepare an EIS to evaluate the project's impact from construction through decommissioning; scoping is planned for late Spring 2006.

#### Consultation and Coordination.

Critical given the growing number of ocean uses:

- Aquaculture
- Commercial & recreational activities
- Disposal sites
- Marine parks & sanctuaries
- Military restricted areas
- Natural gas import facilities
- Oil & gas development
- Renewable energy projects
- Scientific research
- Shipping
- Subsea communication
- Wetlands & coastal protection

With all of these offshore activities, it is becoming a very crowded place and trying to work with all of these users and the permitting agencies, there is a potential for generating conflicts.

The MMS is coordinating the establishment of a Multipurpose Marine Cadastre that will make its mission, and that of other OCS stakeholders, much easier and will help assuage or at least minimize conflicts. The purpose of the cadastre is to establish a physical, social, and political map of the OCS to show what resources are in the OCS, who claims those resources, who needs them, what restrictions affect them, and who has responsibility for each acre. This tool will be used to develop the Programmatic EIS. The MMS's Mapping and Boundary Branch will coordinate the development and implementation of the Multipurpose Marine Cadastre with input from other agencies such as NOAA and the U.S. Fish and Wildlife Service. MMS plans are ongoing to have the Multipurpose Marine Cadastre available online.

Ms. Bornholdt pointed out that there are a lot of opportunities in coordinating the Multipurpose Marine Cadastre such as:

- opening the OCS to renewable energy possibilities;
- building partnerships with new stakeholders;
- expanding our offshore expertise and scientific knowledge; and
- balancing multiple uses on the OCS to diversify the Nation's domestic energy portfolio.

#### ***Open Discussion***

Dr. Shapiro asked if these new responsibilities are going to be accompanied by new dollars or are these programs going to come at the expense of other programs? Ms. Bornholdt replied that it will be a little bit of both. MMS did not expect to get this authority early in 2006, so there was

a scramble. New dollars were received which enabled the hiring of people to do the studies and to execute MMS's responsibilities in developing this program.

Dr. Shapiro asked if anyone has come up with an estimate of what the potential energy is available and how this would compare with oil and gas. Ms. Bornholdt responded that an estimate has been determined but was unable to recite the numbers. She said that the Department of Energy (DOE) has on its website estimates with regard to wind and wave with the wind estimate being fairly accurate. The wave tidal current is still really neophyte since there haven't been many tests. She continued that when the National Energy Policy Report came out early in the Bush Administration, the target was 20 percent.

Dr. Gill asked, in regard to the marine cadastre, what role, if any, does the DOE have and asked for more clarification. Ms. Bornholdt said that she was not overly familiar with what the mapping group does but believes it is the Department of Commerce, the Coast Guard, and the Department of Defense, which does not mean or limit them from working with the group as they move forward since they are already working with MMS on renewable energy. In fact, one of the things that will be done with scoping is have a Natural Resource Ecology Laboratory (NREL) person who is going to help with the introduction of scoping describing to the public the renewable energy projects and the technologies that are available.

Dr. Rex said that a lease is a piece of seafloor and if an EIS is done, it has to be with respect to some particular kind of disturbance, such as windmill versus solar. He asked if the MMS is anticipating multiple uses for a lease. Ms. Bornholdt answered that MMS is looking at whether a lease, an easement, or a right-of-way is used, that would be for a specific purpose.

Dr. Smith asked whether or not the operators of the Cape Wind Project are going to be obligated to pay for the privilege of setting up their facility. Ms. Bornholdt replied absolutely – when President Bush signed the EAct, that changed things for Cape Wind. If the EAct had not been signed and if Cape Wind were able to move ahead with its Corps of Engineers Section 10 Rivers and Harbors Act Permit, there would not have been that obligation. But now that the EAct is signed and the OCSLA is amended, they will have to pay some sort of rent and royalty.

Dr. Smith remarked that, looking back over the history of oil and gas, there are areas that have had both a production and leasing program where energy and revenue were derived from the federal government for the leasing program, and there are other areas where this has not been as productive, not primarily because of the lack of resources, but because of public acceptance was not achieved for the facilities that were needed. He suggested that, as the Alternative Energy Program goes forward, take advantage of the lessons that have been learned from the oil and gas sector - that public acceptance of these facilities needs to be secured. There are already signs that there is going to be problems of acceptance of these facilities in some places; therefore, the overall program needs to pay a lot of attention to what is needed to get local communities to accept the presence of these facilities. Ms. Bornholdt agreed and announced that stakeholders' meetings, including regional, federal, and state government, NGOs in the region, and the public are scheduled for August and September 2006. Afterwards, it will be determined whether there is a follow-on that needs to be done, whether that follow-on could be a regional technical working group or some sort of FACA committee or the state wants more of a dialogue. She

added that the OCS Policy Committee has a Subcommittee on Alternative Use which will explain issues from the state level, identify NGOs, and the affected public.

Dr. Fry said that with the signing of the EPO Act, did that give MMS the ability to review and oversee the environmental studies at Cape Wind. Ms. Bornholdt answered that it did and that Dr. Rodney Cluck, who is the project manager, and his team have been working with Cape Wind. MMS has electrical and structural engineers reviewing Cape Wind's application to determine if it is acceptable.

Dr. Fry stated that prior to Exxon Valdez, the only information was that of the Hazardous Materials Simulated Environmental Test Tank Program for MMS in Alaska and without that data, the trustees would have been completely unable to prepare a case against Exxon. Therefore, he encouraged MMS to get involved with NREL's program, the National Wind Coordinating Committee in Washington, which is holding a workshop in November to talk about offshore wind.

He then asked if MMS foresees a possibility of co-locating or working with the Sand and Gravel Program for some of these offshore wind facilities to avoid conflicts. Ms. Bornholdt replied that the new responsibilities handed down in the EPO Act have been compared with MMS's existing structure and could result in a conflict. Mr. Barry Drucker, Program Manager of the Sand and Gravel Program, will be working closely with the Renewable Energy Program and, although it will not be easy, at least there are resources at hand to aid in making those types of decisions.

Dr. Castellini asked Ms. Bornholdt to imagine what her PowerPoint presentation would be in 3 years to the SC. The SC is charged with environmental impact, essentially, and its scientific perceptions along those lines. From the five predicted areas (wind, current, solar, wave, and hydrogen), the SC has the expertise to talk about the placement of platforms, impact to local benthic communities, and disturbance to the sand base. He asked what is the SC going to be dealing with regarding these issues 3 years from now. Ms. Bornholdt said that she does not know the kinds of issues MMS will be facing until they occur. She added that these strategic studies plans are dynamic and are not set in stone, so what may be seen as a forecast for 2008 and 2009, may be in gathering and doing this Programmatic EIS. She agreed that it is going to be a challenge; however, it is in being flexible and understanding that whatever occurs with the strategic studies plan for renewables has to be evolution. It cannot be stuck or cast in concrete since it is unknown what renewable technologies could be employed.

Dr. Smith commented that he is in agreement that there is going to be environmental consequences that are not understood yet of extracting energy from these sources. He said that no one knows what the consequences may be, but there will be side effects if a energy is extracted from natural systems on the scale needed to develop alternative energy sources. Extracting energy from ocean currents may not have the consequence of global climate change, but there will be other consequences that will need to be addressed.

Dr. Rex said it is going to be difficult to evaluate the impact of fisheries when extracting offshore energy since it involves equipment on the OCS and that no one knows the environmental circumstances under which they will recover, or if they will ever recover. He asked if fishing communities are being questioned to see what potential conflicts may occur. Ms. Bornholdt

stated that is why MMS is initially starting out with the generic Programmatic EIS which casts those types of questions. It is known that there will probably be an impact of fish resources, but it is not known to what extent. Things will need to be taken slowly and deliberately from this Programmatic EIS to more project specific.

Dr. Rex stated that the entire ecosystem is so close to collapse now that he believes going ahead with this program ought to be tempered with the fact that any kind of intervention might be disastrous. Ms. Bornholdt responded that because the SC has worked with MMS's studies plans to identify areas of information, MMS is as informed as it can be and it can move slowly and conditionally. As an example, she referred to the evolution of the oil and gas program – there is knowledge and there is learning. No one envisioned the deepwater development of today back in 1985, but yet there was a framework that MMS could work from, and that is what is being envisioned here; build a template that can be flexible, that can address issues, and hopefully be able to look into the future working with the SC to help identify those things so there is no disaster.

Dr. John Trefry asked if anyone knew the percent of total U.S. energy that is from on-land wind. Ms. Bornholdt said it is small, but it is booming and the issues that it is causing would never have been thought about.

Mr. Drucker explained that a lot of these sites are on sand areas and when dealing with fisheries issues, MMS realizes that these shoals are very diverse relative to what fish inhabit different areas and that studies will be done prior to wind structures being sited. Ms. Bornholdt agreed and added that it is going to be a challenge which is why MMS will be talking with research centers, universities, the industry, affected states, and stakeholders.

Dr. Kendall commented that for the first time in history, the oceans have a voice in the White House and resource management is now considered equal with resource and ocean science. There have been new subcommittees and committees formed to look at resource management and to hold the science accountable for providing the information to do that management. These issues being raised by the SC need to be addressed and because of the work this committee has done, MMS is going to be recognized as a frontrunner.

Dr. Gill commented that it seems obvious that as the members of the SC rotate, this emerging renewable energy field needs to be taken into account when recommending new members.

## **Data Management Efforts**

*Presentation by Dr. Mary Boatman*

Dr. Boatman explained that the National Environmental Policy Act signed in 1969, requires consideration of environmental impacts and public input which is the decision-maker to not only move forward with an action, but also to know the environmental implications of that action. This decision-making document is the EIS. The OCSLA, as amended in 1979, requires collection of information which includes the economic impacts, impacts to society, impacts to communities, air quality, whales, dolphins, et cetera, which is the Statement of Work (SOW). She continued that the ESP was initialized in 1978 and publications go back as far as 1974. MMS was created in 1982 as an agency from groups from the USGS and from Bureau of Lands

Management (BLM). Therefore, the initial baseline studies that are in MMS records as being done through the studies program were actually done for BLM.

Dr. Boatman explained that environmental information needs that are incorporated into the SOW include:

- Data for physical oceanography which is collected raw data using current meters modeled by MMS contractors. The outputs of that model are entered into MMS's internal oil spill modeling systems.
- Raw data for biology which are taken from locations of chemosynthetic communities, topographic features, deepwater corals, etc., and needs to be protected. Also, life cycles of marine animals, such as turtles and their nests, are collected to study potential impacts from an oil spill.
- Economic modeling is done in terms of socioeconomics which entail economic indicators and census information.

MMS requires all collected raw data be submitted to the National Oceanographic Data Center (NODC) by the contractor.

Dr. Boatman said that the data is released at the end of the contract with the final report after it has gone through several levels of review, internal review, and often through a scientific review board. MMS also facilitates sharing between contractors and since the data is derived from federal funds, it is made available to the public.

### ***Open Discussion***

Dr. Shapiro asked, in regards to data sharing, if there is any requirement in large interdisciplinary programs that the data be made available within the program to other investigators at some timeline. Dr. Boatman replied that MMS encourages and facilitates internal meetings to share information. Dr. Kendall added it is strongly enforced that any collected data be immediately available to any researcher on the project.

Dr. Rex stated that he has always thought MMS has the most valuable resources, but it is not in a very organized and usable form since the final report to the contract does not include raw data. He encouraged MMS to develop its own national database to include raw data so that it can be used and manipulated and would truly be available to the public. He felt that this database needs to be professionally managed so people can access it in that way. Dr. Smith agreed with him and added that there should be a single repository for all of the data.

Dr. Shapiro also suggested that MMS retain the raw data to avoid having to go back and collect similar data where often data can be reused to answer a different question. Dr. Boatman agreed and explained that that had been done a couple of years ago. Dr. Alexis-Lugo Fernandez added that MMS is beginning to require the submission of the raw data to the NODC and that some reports now have the raw data attached in CD form. Dr. Shapiro suggested that MMS converse with the Long Term Ecological Research Sites who have very good data management programs for their sites since she feels it would be worthwhile to talk to them about how they archive data and how they maintain access to that data.

Dr. Piltz commented that in the OCS Pacific region, there was one in-house study of birds surveys along the Ventura County coast where two MMS scientists collected, analyzed, and prepared the final report on the raw data and that the report is available. There is collected data on aerial surveys and boat surveys on marine mammal and seaward distribution beginning in the late to mid-late '70s and extending through the '80s. With regard to physical oceanography data, there is also some physical oceanography data in the office. Collected physical oceanography raw data is being used not only in regards to oil spill risk analysis but by researchers who look at larval recruitment to platforms and larval transport. It's fundamentally important to scientists who are investigating those phenomena have the best scientific information. He mentioned SCRIPPS Research Institute stating that it had acquired MMS's large physical oceanography project and that the raw data are archived and available on SCRIPPS's website.

Dr. Trefry asked whether or not raw data sets generated at MMS are sediment chemistry and asked if it was in any database. Mr. James Cimato replied that it has been sent to NODC but that it is difficult to retrieve and MMS does not have a single database for the sediment chemistry. However, he believes that the OCS Alaska and Pacific Regions would have something coupled together. Dr. Trefry explained that he is unable to find any MMS raw data. Mr. Dick Prentki said that as of about 1985, the OCS Alaska Region's raw data was available on floppy disks but now it is stored on CDs in the back of the report. He added that paper copies of the raw data are in the finished report. He also explained that the Science Review Boards for sediment work essentially have said that it doesn't want a corporate database; it wants the raw data in the back of the report for the sediment chemistry work so that both the methods and the quality control and the data can be reviewed at the same time. Ms. Mary Elaine Dunaway from the OCS Pacific region reported that she had gone back to the scientist who created the original raw data and was able to retrieve the information.

It was concluded at the end of this session that it would be a very good thing if MMS were to hold onto the data sets as well as submitting them to NODC and tracking that data in order to go back and re-mine it to answer other questions.

## **Impacts of Hurricanes Katrina and Rita to the MMS Gulf of Mexico Region**

*Presentation by Mr. Joseph Christopher*

Mr. Christopher stated that the Gulf of Mexico supplies 29 percent of the domestically-produced oil and 19 percent of the domestically-produced natural gas. The Gulf Coast region is very important to the Nation for its gate of entry for imports as well. He said that 60 percent of the crude oil imports come in to the country through the Gulf of Mexico and 47 percent of the Nation's refining capacity is located along the Gulf Coast.

The year 2005 brought 23 named storms to the Gulf of Mexico was a memorable year; yearly average total is about 10.

He said that within a 6-month period, eight hurricanes had entered the Gulf of Mexico and disrupted OCS production. Katrina and Rita came one after another which caused special problems. The MMS regional office suffered extreme damage which forced relocation of employees to locations around the country. There were 100 percent of oil production shut-in

during the hurricanes, and 94 percent of natural gas production which is approximately 5 million barrels a day of oil and 10 billion cubic feet per day of gas.

He continued that over 90 percent of the manned platforms were evacuated, 85 percent were working rigs. There were 3,050 platforms in the path of the hurricanes, which represents 76 percent of the 4,000 total platforms in the Gulf. About 22,000 miles of pipelines were in the path of the hurricanes, which is 67 percent of the 33,000 total miles.

Statistical highs from Hurricane Katrina:

- 9.4 billion cubic feet of gas and 6 million barrels of oil shut-in,
- 660 manned platforms evacuated,
- 89 rigs evacuated,
- 44 platforms were destroyed,
- 21 more platforms with extensive damage,
- 4 rigs destroyed,
- 5 jackups extensively damaged,
- 7 semisubmersibles and jackup rigs were set adrift, and
- 255 pipelines had been reported damaged.

Statistical highs from Hurricane Rita:

- 8.6 billion cubic feet of gas, and 6 million barrels of oil shut-in,
- 754 manned platforms evacuated,
- 107 rigs evacuated,
- 69 platforms were destroyed,
- 32 platforms had extensive damage,
- 6 rigs were destroyed,
- 12 jackups were extensively damaged,
- 16 semisubmersibles and jackup rigs were set adrift, and
- 206 pipelines reported damage.

He reported that as of May 3<sup>rd</sup>, there are still 79 platforms unoccupied, the shut-in oil production is over 324,000 barrels per day, and the shut-in gas production is over 2 billion standard cubic feet per day. Mobile Offshore Drilling Units (MODU) stationkeeping was a big problem since they can drift for miles during a storm. With Hurricane Katrina, there were seven drilling rigs with total stationkeeping failure and four with anchor pattern breaks of the 14 drilling rigs in the storm's path. With Hurricane Rita, there were 13 drilling rigs set adrift, none with anchor pattern breaks, of the 16 drilling rigs in the storm's path.

He explained that MODUs are floating drilling rigs that are piloted to the drill site and then drill while floating on station. In the case of jackup rigs, the legs of the drilling rig, are jacked down to the seabed and ultimately lift the floating facility or vessel out of the water to provide a stable drilling platform. Jackup rigs are limited to relatively shallow water compared to MODUs and drill ships.

The American Petroleum Institute and MMS are addressing the problems with stationkeeping. The mooring systems' mooring lines are going to be increased, the wires and chains are going to

be upgraded, and their reliability is going to be accelerated. Also, the anchors will be upgraded, maintenance and inspection will be improved along with the site planning and mooring analyses, and the monitoring capabilities for evacuated rigs will be improved.

Plans for the jackup rig stationskeeping are:

- establish new air gap standards,
- improve site assessment standards, and
- improve preloading operations, and add transponders to rigs for location monitoring when evacuated.

These improvements are a result of problems with air gaps which is the distance between the average level of the water and the bottom of the vessel once it is jacked up due to the rig not being jacked up high enough. Apparently, there was not enough attention given to the stability of the soils that the rig was being jacked down onto, so testing is being done so that when they are emplaced, they will be prepared for the stresses encountered by a hurricane.

He mentioned a few thoughts on these two storms:

- hurricanes hit more prolific and sensitive areas than the previous storms,
- damage exceeded that of all previous storms,
- these hurricanes came on heels of Hurricane Ivan the previous year, from which the oil and gas industry in the Gulf of Mexico had not fully recovered,
- MODUs adrift is an issue to be resolved,
- nearshore and onshore damage was widespread,
- time between storms stripped available resources necessary for normal recovery, and
- support bases were temporarily unable to fully support recovery operations

In response to these issues, MMS is putting money into some research efforts. One is modeling waves and currents produced by the two storms. Estimated cost, \$500,000 and the period of performance is 2006-2008 with a broad agency announcement. Another study is the post-hurricane assessment of sensitive habitats on the Flower Garden Banks vicinity with a performance period of 2006 with an estimated cost of \$3,000,000 which will be a sole-source procurement to PBS Ecological Sciences. The purpose of this study is to do a hard look at the Flower Garden Banks due to the damages caused by these hurricanes. Waves of 50 feet were reported during these and were within 60 feet of the surface to the National Marine Sanctuary where there were a lot of overturned coral heads, broken coral heads, and biota covered with sand.

Another study is a post hurricane assessment of OCS related infrastructure in communities in the Gulf with an estimate of \$225,000 with a co-op to Louisiana State University (LSU) and the period of performance of 2006-2008. MMS has an infrastructure fact book that looks at ports and facilities that support the OCS program and the capabilities of those facilities. This book is going to be updated and some things will be implemented relating to this project.

A study entitled “Spatial Restructuring and Fiscal Impacts in the Wake of Disaster: The Case of the Oil and Gas Industry Following Hurricanes Katrina and Rita” will look how employees of the gas industry have been affected, what kind of spatial shifts there are in employment, compare the OCS industry to other major industrial sectors, and what strategies oil and gas companies are

going to use to recruit new and retain current employees. On the engineering side, the MMS Technology and Research Program is assessing and evaluating platform damage to make sure the engineering is up to what it needs to be and evaluating pipeline movement and damage. It is also looking at hindcast data for use by contractors doing hurricane assessments and assessing methods to eliminate hydrates in pipelines and risers during startups after hurricanes.

Mr. Christopher told the committee that 54 percent of the leases are now in 1,000 feet of water or greater and 28 percent of those are in ultra-deepwater, which is 5,000 feet and greater.

There were six new projects in FY 2005 and there are nine projects in FY 2007. He continued that that the Gulf of Mexico is expected to produce about 2 million barrels of oil per day in the next few years.

Some of the ultra-deep water studies for FY 2007 are:

- Deepwater Artificial Reef Effects II,
- Continued Investigations of Northern Gulf of Mexico Deepwater Hard Bottom Communities with Emphasis on Lophelia Coral, and
- Gulf of Mexico Integrated Deepwater Ecology synthesis.

The MMS has one LNG project online which came online in March 2005 in West Cameron which is the Gulf Gateway Energy Bridge and uses a submerged turret system. When the LNG ship pulls up to it, the turret comes up into the bottom of the ship and offloads its product. When the ship is not there, the turret is submerged 80 or 90 feet below so that it's not a hazard to navigation.

Other planned LNG projects in the Gulf of Mexico are:

- Gulf Landing,
- Compass Port,
- Main Pass Energy Hub,
- Beacon Port, and
- Bienville O/S energy Terminal.

He explained that these projects are in process. The Main Pass Energy Hub was vetoed by the governor of Louisiana because of the fact that they wanted to use an open-loop system that would use seawater to reheat the gas so it would come back into a gaseous state again. The draft EIS has been distributed for the Beacon Port and the draft EIS for Bienville Offshore Energy Terminal is being prepared. All of these projects are facing the same issue with the open-loop, closed-loop system.

### ***Open Discussion***

Dr. Shapiro asked what criteria are used to determine which way a study is awarded, i.e., cooperative agreement versus a broad Request for Proposal (RFP). Dr. Pat Roscigno explained the decision for a broad agency announcement gives MMS flexibility in getting contractors to start on a project fairly quickly. The broad agency announcement is the quickest way to get the information, RFP/SOW, out into the environment so it can be competed. In reference to the Flower Gardens, MMS has a longstanding cooperative agreement contract with PBS&J which is a company that does research for MMS at the Flower Gardens and there is ample justification to

do that as a sole source. For LSU, it was recognized that there is expertise there to do the two social science studies, so they were contacted directly and two cooperative agreements were created to look at the infrastructure and the impact study. Mr. Cimato added that although Congress was to fund the studies dealing with hurricane effects, funds have not yet been received. However, MMS decided to go forward with them because of their importance and the fact that MMS has invested quite a bit of work on these issues. MMS was also informed that monies needed to be obligated and contracts awarded by April 2007.

Dr. Shinn asked why MMS is involved in studying the damages of the Flower Garden Banks since it is a national marine sanctuary and asked what exactly PBS&J is doing. Dr. Thomas Ahlfeld replied that MMS is a cosponsor along with the NOAA Marine Sanctuary Program and it is felt that the MMS still has responsibilities there since there is oil and gas development in that region. PBS&J has been doing the monitoring for the last 4 years, and the monitoring goes back to 1984 in a prescribed format with photo surveys. So it's a continuation of that type of work plus it's being extended to a couple other banks in the area besides the Flower Gardens.

Mr. Cimato asked about the Gulf Gateway turret buoy and whether it was a closed or open system. Mr. Christopher said that he believes it is a closed-loop system on the vessel and seawater is not used.

Dr. Gill asked if the money that Congress has promised is not delivered, what programs get cut and how is that decision made. Dr. Roscigno stated that, at this point, nothing will be cut. Mr. Cimato added that a couple of studies had been deferred which allows the hurricane studies to go forward and that he is very hopeful that the second supplemental from Congress will be granted which will take care of those deferred studies.

Dr. Shapiro commented that MMS should be upfront about what studies have been deferred in order to get the hurricane studies done so that the MMS is justified to ask for that money. Dr. Kendall said that Congress did give \$110,000 for hurricane studies and another \$1 million is expected. He added that MMS got \$1 million this year for the EPA activities, and next year there's a potential of a \$3.4 million increase to the studies program. Next year, the ESP may have a budget of \$21 million instead of \$17 million for new starts.

Dr. Smith commented that the LNG vessels used for submerged turret buoy type of LNG terminals have their own integrated vaporization systems that use seawater in a once through mode but are not open loop systems whereas the other terminals that are proposed for the Gulf of Mexico have the vaporization facilities on the terminals themselves and, in that situation, can consider using an open-loop system.

Dr. Rex said that he was very encouraged that there is talk about contemplating an ecosystem level or seascape level approach in the Gulf because this was proposed by the Deepwater Subcommittee which had advocated and had linked it, actually, to the database issue in order to critically write that that information needs to be consolidated.

Dr. Fry asked what Mexico does in the way of environmental studies since clearly they have the same issues. Dr. Lugo-Fernandez stated that MMS has funded the Mexican researchers to do current measurements in deep and ultra-deepwater in the Western Gulf of Mexico. A joint

workshop is also planned to design integrated studies on both sides of the Gulf. He said that the Institute of Mexican Petroleum is developing their own infrastructure to do current measurements and perform ecological research. Dr. Ahlfeld added that, in addition, the Mexicans have been incorporated into the deepwater Gulf benthic study. On a number of cruises, scientists from Universidad Autónoma de Bucaramanga in Mexico participated and samples were retrieved from Mexican waters for an analysis of the deepest part of the Gulf.

Dr. Gill asked if the Gulf of Mexico region is encouraging institutions and organizations such as refineries and other oil and gas producing entities to look at their organization to try to be more resilient should they experience a severe hurricane, in particular, the LSU project.

Mr. Christopher replied that the region is focusing internally on its continuation of operations plan so that it can react as a result of storms. He added that the region is interacting with industry on things such as joint industry projects to look primarily offshore. Since MMS has little to do with refineries, there is no involvement. Information is being provided to the ports.

Ms. Asha Luthra added that the infrastructure update is mainly an update on how the infrastructure in the original fact book study has been affected by the hurricane; however, it does have a community aspect to it as well. Somewhere between six and ten communities that have a high concentration of OCS-related infrastructure and at-risk populations are being studied, so it is going to have an environmental justice component to the study, which is one thing that the original fact book study did not have. So, it is going to give an idea of what communities were most affected by the hurricane and that information can be used to do more specific community studies. Dr. Gill suggested that while it is important to look at how communities and infrastructure have been impacted by these events, there is a need to be forward-looking and how preparedness can be improved to prevent some of the more debilitating impacts by being more resilient such as having a reserve work force that can be called upon to come in the immediate aftermath of a disaster so that no production time is lost. Mr. Christopher said that was a very interesting point – that an MMS article was featured in the *Government Executive Magazine* explaining how the regional personnel responded to the storm.

Dr. Shinn commented that the Chinese apparently will be drilling for Cuba in ultra-deepwater and said there is a lot of concern since it is in the axis of the loop current and wondered what effect the Cuban drilling experience will do to the ESP, and whether or not MMS will be involved.

Dr. Tyler Priest said that industry has learned a lot in this last year from hurricanes and that practice documents are being drawn up for jackups and semisubmersibles, and tasked if the recommended practice documents will be incorporated into the MMS program and in what way.

Mr. Christopher mentioned that the Notice to Lessees that MMS send out will require the companies to follow the procedures as laid out. Basically, MMS summarizes the recommended practices document and tell them that they have to report on what they're doing along the lines of the items that are specified. Mr. Gould added that in OCSLA, there is a “best available safest technology” that can be used to incorporate many of these recommended practices that industry puts together; therefore, it is easy to incorporate those recommended practices if it's the best available and safest technology.

## **Some Highlights of the MMS Environmental Studies Program and Our Goal for the Next Day-and-Half**

*Presentation by Dr. James Kendall*

Dr. Kendall read the Mission Statement for MMS:

**“To manage the energy and mineral resources on the OCS in an environmentally sound and safe manner and to timely collect, verify, and distribute mineral revenues from Indian and Federal lands.”**

And the ESP Mission:

**“To provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities.”**

Dr. Kendall announced that for FY 2005, the ESP had about \$17 million:

- About fifty-three percent of that was devoted to the Gulf of Mexico considering all of the OCS activities occurring there.
- The remainder was split between the other offices: Alaska, Pacific, Headquarters and the Marine Minerals (sand and gravel) Program.

He stated with these resources they initiated approximately 25 new MMS projects and that a couple of additional projects were initiated by the USGS Biological Resources Discipline with \$2.5 million that USGS devotes to the offshore program.

Currently, there are more than 300 active studies being managed – not necessarily all science projects or studies; some of these funds are used to sponsor workshops and symposiums. The MMS also supports the OCEAN.US office, the Nation’s center for ocean observations as well as other activities affiliated with the National Ocean Partnership Program (NOPP).

He reported that for FY 2006, MMS has approximately \$17 million with about 47 percent available for new projects. He reminded the Committee that MMS has projects that go from 1 year to 5 years, and that they are not all paid for “upfront”. As such, fifty-three percent of the ESP budget is used for ongoing studies and 47 percent is available for new starts.

There is also \$2.5 million available from USGS via their Offshore Program and it is anticipated that MMS will receive some additional funding for “hurricane related” studies (\$110,000 to \$1.2 million). He reported that \$1 million for the Renewable Energy Studies was also received and as a result of all of this, approximately 28 new projects will be started this year.

Dr. Kendall stated that it has been a very busy year with the hurricanes and new responsibilities and authorities.

He reported that some of the ESP highlights include:

- MMS NOPP Related Activities
  - 1) Chemo III which would be the third study on chemosynthetic communities.

- 2) Surface Circulation Radar Mapping in Alaska using coastal radar facilities to map currents.
  - 3) A Marine Mammal Research Initiative.
  - 4) The World War II Shipwreck Study which is a biological and archeological investigation of World War II shipwrecks in the deep Gulf of Mexico. This study was also given the DOI Cooperative Conservation Award by the Secretary of Interior since it involves universities, both domestic and international, NGOs, and industry.
  - 5) An economic study completed in 2002 of the economic benefits to the private sector of the Integrated Ocean Observing System.
- Joint Industry Projects

He announced that the oceans now have a voice in the White House since President Bush responded to the Ocean Commission with the U.S. Ocean Action Plan (USOAP). This plan includes policy and resource management – not just science. As a result of this plan, the Committee on Ocean Policy was formed including a number of subordinate/supporting groups including:

- ICOSRMI,
- Ocean Research and Resources Advisory Panel,
- National Security Council Policy Coordination Committee – Global Environment,
- JSOST, and
- SIMOR.

The USOAP is focused around a core requirement that the Nation's investment in ocean science be fully integrated with ocean resource management.

He described the ORPPIS as one of JSOST's priorities which is a plan and implementation strategy for ocean science for the next decade and had to be submitted to the President by the end of December 2006. It explains what the U.S. needs to do in the next 10 ten years and one of the big deals it contains is using science to support resource management.

He added that other highlights of the ESP include the following research opportunities:

- 1<sup>st</sup> MMS Marine Minerals Information Transfer Meeting;
- 7<sup>th</sup> International Temperate Reef Symposium; and
- 9<sup>th</sup> International Marine Environmental Modeling Seminar.

He announced that MMS's ongoing environmental studies will be updated on MMS's website on a regular basis and demonstrated to the Committee ways to access information. He also explained that information needs are accessed annually for the ESP planning process and from that, the Studies Development Plan (SDP) is developed. The Committee then reviews the SDP and, with the Committee's input, priorities are balanced with the resources available and it is then sent to the MMS Directorate for approval. Procurement then advises and determines which procurement vehicle should be used.

MMS is always cognizant of the need to maintain program quality; therefore, information needs are reviewed internally and externally. There have been reviews done by the National Academy of Science; Technical Proposal Evaluation Committees; Scientific/Quality Review Boards; Peer-

Reviewed Literature is supported; and 2 years ago, the Office of Management and Budget (OMB) did a P.A.R.T. review.

Priorities are determined by:

- mission relevance,
- technically feasible,
- scientific merit,
- timing,
- applicability, and
- affordability

The Scientific Committee reviews:

- relevance,
- scientific merit,
- objectives,
- relationship to other research,
- feasibility, and
- timing

Dr. Kendall said he had discussed the meeting mechanics with the Chair, SC, and has broken the discipline breakout groups up into a biological session, a social science session, and a physical session. He added that there is also a time when the Committee members get to break up into these groups with the MMS staff that are either responsible for the idea or has to develop the SOWs leading to RFP's. On Friday morning, the Committee will present their recommendations.

Dr. Gill said that the meeting he attended with Dr. Kendall was a very exciting opportunity to have input in the National Ocean Research Priorities Plan. The other opportunity that is available is that this document will soon be on a Website and available for anyone to comment and participate.

He explained that he was a break-out session leader for the Quality of Life Session and there was a lot of interaction, not only from social scientists, but ocean scientists who attended. He felt that some really good ideas about what direction the research should go and what kinds of research are needed.

### ***Open Discussion***

Dr. Castellini asked Dr. Kendall if the MMS Mission Statement is entirely relevant due to the new bill that was signed in August since it specified mineral resources. Dr. Kendall said that it absolutely does and that he had updated it earlier to read "energy and mineral" resources.

Mr. Christopher stated that the Mission Statement could actually be broader than alternative use, which opens the door to other uses of obsolete platforms for aquaculture and whatever else.

Dr. Hildreth questioned Dr. Gill about the Ocean Research Priorities Plan since he is privy to information that some social scientists at the University of California who were not particularly impressed by the attempts to build social science in kind of that classic issue in these exercises.

Dr. Gill acknowledged that there is obviously a lot of room for more input; however, the Quality

of Life Session fits in with the social science and he recognizes that all of the other components or work groups basically needed to pay attention to quality of life issues i.e., why do resource management if you are not addressing the questions, management for whom, and for what ultimate purpose in terms of improving quality of life. Dr. Kendall added that that the quality of life section was viewed as one of the seven themes and thinks that the social sciences was bumped up to sort of the umbrella crosscut for everything, where everything needs to feed into quality of life, whether it is fisheries management, ocean observations, or mitigating natural hazards. Dr. Piltz said that he was really impressed that that there were two plenary keynote speakers, Admiral James D. Watkins who had been the chair of the U.S. Commission on Ocean Policy Commission, and Secretary Mike Chrisman from the California Resources Agency. He said that the message he took away from his plenary talk was that there is a window of opportunity that has been opened for anyone that works in the coastal zone and the ocean sciences. These windows are unpredictable and the broadly-defined ocean science community/coastal community needs to take advantage of this in a way that grabs both Congress' attention about research and issues in the ocean and the public's attention for research and issues in the ocean. He continued that Admiral Watkins, who has worked both in the policy arena as a government employee and now as a private citizen, tried to get the message across to the attendees that what has to happen ultimately is a one- or two-page document that can be taken to the Hill to show the Congressmen and the Senators that here are the top two or three priorities of the United States in ocean research and that the priorities are important to you and your constituents, that the money is there, and that money needs to be reprogrammed. Dr. Piltz said that his impression of the meeting was that this is great background material, but someone is going to have to distill this down and come up with the sound bites that appeal to Congress because, as Admiral Watkins pointed out, according to his metric, approximately \$600 million is spent in ocean research around the country and that number has been stable for the last decade, which means because of inflation that it has really been eroded and we are probably at a half, or a quarter of that level. It's not enough to address the issues confronting the country in ocean management and the information that we need.

## **CHARGE TO THE DISCIPLINE SUBCOMMITTEES**

Dr. Diaz instructed the SC to break out into Discipline Breakout Groups.

Members of each Discipline Breakout Group were:

- Biology: Drs. Robert Diaz, Mike Castellini, Michael Fry, Mike Rex, Gene Shinn, and John Trefry;
- Physical/Chemical: Drs. Mike Kosro and Joe Smith;
- Social Sciences: Drs. Richard Hildreth and Tyler Priest.

During the Discipline Breakout Group's meeting, focus will be on:

- MMS ESP Planning Process
  1. Information needs assessed annually
  2. Studies development plans
  3. OCS SC Deliberations
  4. Balance needs/priorities with resources
- 5. Research approved by MMS Directorate
- 6. Procurement vehicle

- Program Quality
  1. Information needs reviewed internally/externally
  2. National Academy of Science Reviews
  3. OCS Scientific Committee
  4. External participation by a Technical Proposal Evaluation Committee
  5. Scientific/Quality Review Boards
  6. Peer reviewed literature
  7. OMB P.A.R.T review
- Determining Priorities
  1. Mission relevance
  2. Technically feasible
  3. Scientific merit
  4. Timing
  5. Applicability
  6. Affordable

The SC will also focus on:

- Relevance
- Scientific merit
- Objectives
- Relationship to other research
- Feasibility
- Timing

Dr. Kendall reminded those presenting to the SC, first and foremost, to give an explanation as to why the study is needed. This was a recommendations made by the SC during the previous meeting.