OUTER CONTINENTAL SHELF (OCS) SCIENTIFIC COMMITTEE (SC)

May 10-12, 2006
Website Summary

Wednesday, May 10, 2006

Welcome and Instructions

Dr. Lynda Shapiro, the SC's outgoing Chair, called the meeting to order at 8:30 a.m. and welcomed everyone to the meeting. Introductions were made and three newly-elected members were recognized: Drs. Tyler Priest, Eugene Shinn, and Michael Fry.

Dr. Robert Diaz was elected Chair, Dr. Richard Hildreth was elected Vice Chair, and Dr. Michael Castellini was elected Parliamentarian.

Drs. Shapiro and Duane Gill were presented with plaques by the Executive Secretary of the SC, Dr. James Kendall, for their outstanding contribution and commitment to the SC. Also recognized was Dr. Edella Schlager who was unable to attend the meeting.

MMS Director's Presentation and Discussion with the Committee

Mr. Greg Gould, Chief, Environmental Division, represented the MMS Director, Ms. Johnnie Burton, and reported to the SC the status of MMS oversight and associated issues. As advisor to the MMS Director, the SC appreciates the opportunity to have a dialogue with the Director on ongoing and future issues, policies, and activities of the Bureau. This exchange not only keeps the SC apprised of MMS's direction but also offers an opportunity for the SC to provide direct advice and guidance on matters as they relate to the Environmental Studies Program (ESP).

Below is Mr. Gould's verbatim presentation to the SC:
As some of you know, our Director, Johnnie Burton, is wearing two hats: one as the Director of MMS and the other as the Assistant Secretary for Land and Minerals Management. As you might image, she's double-booked most of the time and unfortunately, this is one of those times. Also, our Associate Director for Offshore Minerals Management, Tom Readinger, will be retiring in June and is wrapping up a number of loose ends.

Since Tom and Johnnie were unavailable, Jim asked me to open the meeting. As Chief of the Environmental Division, it is an honor to meet with all of you today. The work that you do is critical to the success of the ESP and MMS.

So, it is my pleasure to welcome you to beautiful Santa Barbara. As you may know, MMS has a little bit of history in Santa Barbara. Unfortunately, that piece of history refers to the oil blowout of 1969. MMS, Santa Barbara, and the oil and gas industry have come a long way since then. Later today our Pacific Regional Director, Ellen Aronson, will talk about what's going on in the MMS Pacific OCS Region.

The last hurricane season brought MMS many professional and personal challenges. During the 2005 hurricane season, there were 27 named storms – 15 of which became hurricanes. Last year was the first time there were three category-5 hurricanes in 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 multiple times. I am very happy to report that there was no loss of life or injuries to offshore workers at any OCS facilities, and there were no fires or major pollution events caused by process equipment failure during the storm.

Our Gulf of Mexico Regional Office is home to nearly 600 MMS employees. In the aftermath of Hurricane Katrina, we were all relieved that every single person working in our Gulf of Mexico Regional office was found safely. However, many people had extensive damage to their homes, or no homes at all. And in the face of personal hardships, our staff has shown great dedication and perseverance as they have assisted each other and came back to work to help our Nation recover.

Our office in Metairie, while not destroyed, suffered enough damage to close the building for several months. While the Gulf Coast and many of our employees were reeling from personal loss, the Nation needed MMS to get its energy production up and running again. So the decision was made to temporarily move some essential managers and staff from our Gulf of Mexico Regional office in New Orleans to Houston, Texas. This move took place 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 3rd the MMS staff that moved to Houston relocated back to the New Orleans area.

Both Hurricane Katrina and Rita led to a peak shut-in of 100% of Gulf oil production. Hurricane Katrina had the peak shut-in of 94% of gas production. As of today, 78% of the oil and 87% of the natural gas has been restored. Joe Christopher, the Gulf of Mexico Regional Supervisor for Leasing and Environment, will discuss the effects of Hurricanes Katrina and Rita on production, infrastructure, leasing, and our studies program in more detail during his presentation.

In addition to MMS's continued responsibilities pertaining to OCS oil and gas and marine minerals, we will now be looking to the Committee for guidance on studies regarding renewable energy and alternate uses of the OCS. As many of you know, the Energy Policy Act was enacted in August of last year. The Act gave the Secretary of the Interior the authority to grant access for renewable energy-related uses on Federal OCS lands. 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 comprehensive inventory and estimates that there are 115.4 billion barrels of oil and 633.7 trillion cubic feet of gas to be discovered on the OCS.

The largest task, Section 388 of the Energy Policy Act, gave MMS responsibility for regulating renewable energy and alternate uses of the OCS. MMS has begun the process of writing these regulations in addition to working on two wind farm proposals that were grandfathered into the MMS implementation of the Act. Maureen Bornholdt, the program manager for the renewable energy and alternate use team, will 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 to 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 a coordinated and comprehensive national ocean policy to the President and Congress. The Commission's final report, An Ocean Blueprint for the 21st Century, contains 212 recommendations addressing all aspects of ocean and coastal policy, including: resource protection, transportation, ocean resource use, science, education, mapping, and other topics.

To meet the challenges raised by the Commission, on December 17, 2004, the President issued an Executive Order creating the Cabinet-level Committee on Ocean Policy to coordinate the activities of executive branch departments and agencies regarding ocean-related matters in an integrated and effective manner. Simultaneously with this Executive Order, the President submitted to Congress his formal response to the Commission, the *U.S. Ocean Action Plan*.

To implement the President's *U.S. Ocean Action Plan*, the Administration created an 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. For example, the Secretary of the Interior is a member of the Committee on Ocean Policy and is also represented by the Assistant Deputy Secretary on the Interagency Committee on Ocean Science and Resource Management Integration, or the ICOSRMI for those of you who have heard Dr. Kendall talk about the Ocean Commission, but is now commonly referred to as the "Aqua" Box. MMS and USGS [U.S. Geological Survey] are members of the Joint Subcommittee on Ocean Science and Technology (JSOST) and the Subcommittee on Integrated Management of Ocean Resources (SIMOR); Interior also serves as a co-chair of SIMOR. In addition, MMS management and staff are directly involved in a number of Interagency Working Groups and Task Forces related to these Committees.

One of MMS's current responsibilities includes working on the development of an Ocean Research Priorities Plan and Implementation Strategy and ensuring that the ocean sciences and technology needs of coastal and resources managers are adequately addressed. I'm sure Dr. Kendall will have a lot more to say about this during the meeting.

Finally, the current 5-Year leasing program expires on June 30, 2007. Beginning in August of last year, MMS began developing the 5-Year Leasing Program for 2007-2012. It is a lengthy, multi-step process of consultation with interested and affected parties. MMS conducts an analysis of all 26 planning areas before the Secretary of Interior can approve a new leasing program.

The first document issued in the process is the Draft Proposed Plan. 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 offshore of Virginia and the North Aleutian Basin in the Bering Sea off the coast of Alaska. As you can imagine, this has stirred up a lot of interest in our leasing program.

For the first time, the 5-year EIS [Environmental Impact Statement] will address the issue of climate change. MMS staff will use available research to assess potential results of climate change on our cumulative analyses. For example, the impacts of climate change are already being observed in Alaska and our analyses will consider potential impacts on marine mammals and subsistence live-styles. We are 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.

We are also introducing a regional ecosystem-based management approach for describing and analyzing the environment in our EIS as suggested by the Ocean Commission and supported under the U.S. Ocean Action Plan. 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 analyses and descriptions are for the entire region. The Alaska OCS, however, can be divided into three areas based on ecological-climatic zones and by the natural divisions created by the Alaska land mass: the Arctic, the Bering, and the South Alaska Sub areas.

I want each of you to know how much MMS as a whole appreciates your time, insights and advice, especially me!! Because of the hard work and dedication of this Committee working to fine tune our Studies Plans, MMS is able to make better decisions about our current and future research, which allows us to make informed decisions regarding oil and gas activities on the OCS. I hope that you all enjoy the meeting, enjoy Santa Barbara, and the field trip to the oil seeps on Friday. Thank you!

Pacific OCS Region Update

Ms. Ellen Aronson, Pacific Regional Manager, provided an overview of the activities in the Region. She stated that oil and natural gas production from the Region's 43 active leases continues at relatively stable rates. The ESP continues to include studies that support decisions enabling wise management of these activities, including a long-term intertidal biology monitoring program at areas adjacent to active oil and gas facilities and investigations concerning the ecological role that oil and gas platforms play in the regional marine ecology in light of severe depletions of commercial and sports fish. She reported that recently the prospect of using offshore sand resources has prompted the Region to explore information needs related to these resources, particularly offshore San Francisco Bay.

The Energy Policy Act

Ms. Maureen Bornholdt, Program Manager, Renewable Energy/Alternative Use, stated that this Administration recognized the Nation's need for a comprehensive energy policy as early as 2001

with the Report of the National Energy Policy Development Group. When President Bush signed the Energy Policy Act into law on August 8, 2005, he committed his Administration to implementing the tools for "dependable, affordable, and environmentally sound production and distribution of energy." As manager of many of the onshore and offshore resources encompassed in the Energy Policy Act, the Department of the Interior plays a major role in implementing this legislation.

MMS' Data Management, Requirements, and Discussion

Dr. Mary Boatman, Oceanographer in the Environmental Assessment Branch, presented a brief background of the Environmental Studies Program information needs, describe how these needs are met through contractual requirements, and discussed internal data management issues.

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

Dr. Joe Christopher, Regional Supervisor for the Office of Leasing and Environment in the Gulf of Mexico OCS Region, described effects of Hurricanes Katrina and Rita on OCS oil and gas activities in the Gulf and provided a synopsis of environmental studies developed to address information needs resulting from the storms. He also provided brief updates on oil and gas activities and environmental studies in ultra-deepwater, and the status of offshore Liquefied Natural Gas ports in the Gulf of Mexico.

In the afternoon, the Regions met separately to discuss national and regional studies plans.

Thursday, May 11, 2006

The SC met with the Regions and Headquarters in Discipline Breakout Groups which are devoted to discipline-based breakout sessions (ecology/biology, physical oceanography, and socioeconomics) to discuss studies plans.

Friday, May 12, 2006

Discipline Breakout Groups Reports

Biology/Ecology Discipline Breakout Group

Members: Michael Castellini, Robert Diaz, Michael Fry, Michael Rex, Eugene Shinn, and John Trefry

Marine Minerals Program

This division and its operations are expanding geographically and in terms of extent of dredging as terrestrial and near-shore sources of sand and gravel become depleted. Growing demand is anticipated.

1. Proposed FY2007 Studies
   (a) Synthesize information on the Florida Coast with Respect to Environmental Impacts of Dredging,
   (b) Investigation of Potential Borrow Sites of South and Central California, and
   (c) Long-Term Monitoring of Borrow Sites.
      ■ Protocols established
      ■ Methods are field tested

Recommendation. Make the long-term monitoring (c) the first priority. The ecology/biology group believes the evaluation and tracking of environmental effects (particularly biological effects) of dredging is a top priority at this stage in the development of the Marine Minerals Program.

2. Proposed FY2008 Studies
   (a) Potential Effect of Dredging Off New England,
   (b) Physical effects of Dredging Shore-Face Attached Sand Ridges, and
   (c) Critical Review of Numerical Wave Models Including Field Evaluation.

Recommendation. Make Review and Evaluation of the Numerical Wave Model the top priority including climate change and sea level rise. Numerical wave models are the principal predictive tool of potential environmental effects of dredging.

<u>Pacific Region</u>
The emphasis of the Pacific Region changed from decommissioning to enhanced production, time-series monitoring, and roles of platforms in regional ecology.

1. Proposed FY2007 Studies
   (a) Environmental Mitigation Monitoring,
   (b) Multi-Agency Rocky Intertidal Network (MARINe),
   (c) Update Summary of Knowledge: Areas of Ongoing Production, and
   (d) Fish Assemblages on pipelines (Equivocal).

Recommendations: (a) and (c) are regulatory requirements that should be met; the Group strongly supports MARINe, and the Group needs to see a specific proposal on shifting studies from pipelines to rigs including the sampling design. (d) basically is off the table for now.

2. Proposed FY2008 Studies
   (a) Spatial & Temporal Variation in Size and Distribution of Juvenile Fishes on Rigs,
   (b) Investigation of Polychlorinated Biphenyls (PCB's) and Polycyclic Aromatic Hydrocarbons (PAH's) in Archived Samples, and
   (c) Summary of Knowledge on World Wide Decommissioning.

Recommendations: Spatial and temporal variation in juvenile fish is an important priority, PCB's and PAH's study is of very limited value, decommissioning study is important for all regions, the Group urged the Pacific Region to begin considering base-line studies for moratorium regions to anticipate future petroleum exploration.

Alaska Region

The region is faced with an unsettled and challenging situation driven by a new leasing schedule and dynamic environmental shifts caused by climate change.

1. Proposed FY2007 Studies
   (a) Chukchi Offshore Monitoring in Drilling Area (COMIDA) (Lease Sale 2007) – Post Lease Monitoring/Baselines,
   (b) North Aleutian Basin Synthesis and Research Planning Meeting (Lease Sale Proposed 2010),
   (c) Assessing Offshore Human Activities in Alaskan Arctic,
   (d) Monitoring Marine Birds in E. Chukchi Near-shore area,
   (e) Monitoring Health of Bowhead Whales,
   (f) Pinniped Movements and Foraging, and
   (g) Arctic Fish Ecology.

2. Proposed FY2008 Studies
   Polar Bear Habitat Use in Beaufort Sea

Recommendations: It is hard to evaluate priorities for (c) and (g) (2007) and 2008. Focus on Chukchi and North Aleutian Basin Studies which will determine priorities, encourage MMS to pursue international cooperation in assessing environmental issues at high latitudes – perhaps the Arctic Subcommittee should be the Alaskan Subcommittee and the Regional Office should begin looking at non-moratorium sites to get ahead of the leasing process.

Gulf of Mexico Region

There is a lot of uncertainty about the timing of potential new leasing in the Atlantic (possibly 2011, 2012). The Gulf of Mexico regional office wants to get ahead of leasing by planning and information gathering for the Atlantic Continental Shelf.

1. Proposed FY2007 Studies
   (a) Workshop on Marine Mammals and Turtles,
   (b) North and Central Atlantic Information Search and Synthesis (Benthic and Physical),
   (c) Workshop on Offshore Information for Virginia,
   (d) Lophelia II, and
   (e) Sperm Whale Acoustic Prey Study

2. Proposed FY2008 Studies
   Deepwater Artificial Reef Effects II

Recommendations: The Group strongly approves of the workshops and information gathering for the Atlantic to plan in advance of potential leasing, exploration and production, and urged support for Lophelia II. Deepwater coral studies are a major new advance in deep-sea biological oceanography that have captured the public attention and support.

Physical Oceanography Discipline Breakout Group
Members: Michael Kosro and Joe Smith

Gulf of Mexico Region
The Group complemented Drs. Alexis Lugo-Fernandez and Tony Sturges on the American Geophysical Union's publication of *Circulation in the Gulf of Mexico: Observations and Models,* edited by Alexis Lugo-Fernandez and Tony Sturges.

1. Proposed FY2007 Studies
   (a) North and Central Atlantic Information Resources – Data Search and Synthesis
      ■ ~2 decades since any significant energy-related OCS activity in region
      ■ Study aimed at synthesis of updated information to support management decisions that may be necessary over next 5-10 years
      ■ Endorse effort to update information based on large volume of new data
   (b) Workshop on the Information Needs for Offshore Virginia
      ■ Review environmental and socioeconomic issues for offshore Virginia
      ■ Develop recommendation for coordinated environmental and socioeconomic research for area
   (c) Joint U.S. – Mexico Physical Oceanography Workshop
      ■ Provides help in planning next phase of Phys-Oceanography program for Deepwater Gulf of Mexico
      ■ Actively facilitate participation of Mexican scientists in planning and execution
      ■ Opportunity to enlist additional resources and participation in the 2008 Loop Current Monitoring Study
      ■ Ensure participation of circulation modelers, remote sensing and observational scientists to provide feedback on array design for FY08 Loop Current Monitoring Study
   (d) Ultra-deepwater Circulation Processes in the Gulf of Mexico
      ■ Further development of Gulf of Mexicocirculation models
      ■ Develop scope to complete assessment of 2008 loop current monitoring program completed in time to present at U.S./Mexico Workshop
   (e) NASA Aura Satellite Data – Background Ozone in the Gulf of Mexico
      ■ Will use satellite data to map atmospheric ozone concentrations over offshore Gulf of Mexico
      ■ Supported by existing meteorological data
      ■ Recommend including effort to collect ground-truth observations of offshore ozone concentrations to compare with contemporaneous satellite data

2. Proposed FY2008 Studies
   (a) Dynamics of Loop Current in U.S. Waters
      ■ Field monitoring of currents in previously unstudied regions of deepwater Gulf of Mexico
      ■ Aimed at understanding eddy shedding mechanism and coupling between surface and bottom flows
      ■ Seek Mexican involvement in parallel efforts for Yucatan waters to simultaneously monitor in-flow
      ■ Consider including a component for data assimilation
      ■ Field study design to draw on findings of ultra-deepwater workshop
   (b) Meteorological and Wave Measurements for Improving Meteorological and Air Quality Modeling
      ■ Field program of wind and wave measurements at two offshore platforms
      ■ Improve capabilities of air quality models to treat processes at the air/water interface and in the atmospheric boundary layer
      ■ Will take advantage of 5-year update of Gulf of Mexico emissions sources
      ■ More detail on goals and expected outcomes would be helpful at next meeting

Alaska Region

1. Proposed FY2007 Studies
   (a) North Aleutian Basin Synthesis and Research Planning Meeting
      ■ Compressed timescale due to imminent lease-sale schedule
      ■ Anticipate concerns over impacts on
         ◊ Fisheries
         ◊ Right whales
         ◊ Overall productivity of Bering Sea
         ◊ Adequacy of circulation models for oil spill risk analysis
   (b) Study plan to be elaborated based on results of Phase 1(Planning meeting)
      ■ SC should be offered opportunity to review and provide input to Phase 2 plans
      ■ Potential for SC members to attend meeting and contribute to an accelerated review of plans (by email if face-to-face meetings impractical)
      ■ Delegate to arctic subcommittee of OCS-SC?
   (c) Chukchi Offshore Monitoring (COMIDA)
      ■ Similar in structure to recent Artic Nearshore Impact Monitoring In Development Area (ANIMIDA) program
      ■ Envision separate contractors for Phase 1/Phase 2 of effort
      ■ Recommend conducting Phase I workshops and design and use SC to review monitoring plan for years 2-5, when it's developed

2. Proposed FY2008 Studies
      ■ Plans in a state of flux due to high level of near term activity
      ■ Proposed program for high resolution bathymetry for Beaufort and Chukchi (deferred from previous year)
      ■ Arctic haze and regional air quality
      ■ Too early to endorse these items as priorities for 2008 program

Headquarters

1. Proposed FY2007 Studies
   (a) Extension of Ocean Model Calculations
      ■ Test model for predicting spilled oil transport
      ■ Take advantage of existing model and new drifter data sets and wind data for the 2000-2006 time frame
      ■ A valuable exercise to see how well a model, tuned to historical data, does in predicting data outside of its "training set"
   (b) Satellite Oceanography Study and Oceanic Atlas: North
      ■ Supporting renewable energy use
      ■ Collection of existing Atlantic satellite images
      ■ Use a range of sensors to infer information about currents, heat transport, suspended solids and phytoplankton levels
      ■ Overall focus of program needs to be tightened up, goal and scope better defined to ensure that it provides best overall support to renewable energy application
      ■ Atlas should include digital supplement with data for each image
   (c) Plan is to extend to south in 2008 program

Socioeconomics Discipline Breakout Group

Members: Richard Hildreth; Tyler Priest; and Duane Gill

General Recommendations. Appoint an economist to the SC, fill the social scientist vacancy on the Arctic Subcommittee, and encourage a subcommittee member to attend industry technical meetings and report back to the SC.

Gulf of Mexico Region

There are two proposed FY2007 studies and six proposed FY2008 studies.

(a) State and Local-Level Fiscal Effects of the Offshore Petroleum Industry

Recommendations: Start with a Geographic Information Systems with a compatible fiscal structure baseline of the jurisdictions of interest (e.g., municipalities, school districts, counties) for Alaska, Mississippi, Louisiana, and Texas, focus on one state and one community in that state for a pilot study, use a statement of objectives instead of a statement of work that would include a request for assistance with how to deal with post-hurricane effects in executing the project since there are methodological issues still to be resolved, and develop an analytical tool to assess the fiscal effects at a regional level.

(b) The Oil Services Contract Industry in the Gulf of Mexico Region

Recommendations: Strongly recommended by the 2004 Social and Economic Gulf of Mexico Workshop, contract workers make up 60 percent of direct offshore employment in the Gulf of Mexico, there are safety and risk issues associated with this group of workers, narrow sector focus and concentrate on drilling and production, and use a statement of objectives instead of a statement of work since there are methodological issues still to be resolved.

2. Proposed FY2008 Studies
   (a) Alternative Energy Project Scenarios for Planning Areas in the Gulf of Mexico and Atlantic Regions
   (b) Energy-Related Infrastructure in the Atlantic Region
   (c) Siting Issues and Resource Availability for Alternative Energy Project Scenarios in the Gulf of Mexico and Atlantic Planning Areas

Recommendations. Combine "Atlantic Energy-Related Infrastructure" and "Siting Issues and Resource Availability" into a single study and wait for the results of the Headquarters' alternative energy studies before beginning the Gulf of Mexico Alternative Energy Project Scenarios study.

(d) Socioeconomic Effects on Urban Communities

Recommendations. Recommended by the 2004 Social and Economic Gulf of Mexico Workshop, use a statement of objectives instead of a statement of work since there are still methodological issues to be resolved, do not begin study until Katrina effects have dissipated. For FY 2008, the two proposed studies, (1) Monitoring of Industry Compliance and National Register of Historic Places Evaluations of Submerged Sites on the Atlantic OCS, and (2) Investigation of Potential Spanish Shipwrecks in Ultra Deepwater, would enhance our understanding of the cultural heritage of the Gulf of Mexico (U.S. and Mexico) and Atlantic regions.

<u>Alaska Region</u>

1. Proposed FY2007 Studies
   (a) Chukchi Offshore Monitoring in Drilling Area

Recommendations: Workshop should involve social science researchers and SC representatives should be included in the workshop (e.g., Arctic Subcommittee?).

(b) North Aleutian Basin Synthesis and Research Planning Meeting

Recommendation: SC representatives should be included in the workshop (e.g., Arctic Subcommittee?).

(c)Assessing the Cumulative Extent of Offshore Human Activities in the Alaskan Arctic

Recommendations: Recognizing the difficulties in conducting cumulative impact assessments, the subcommittee supports the proposed study and use methods that improve data coverage.

2. Proposed FY2008 Studies
   Environmental Mitigation Monitoring of Oil Industry Operations on Subsistence Activities in the Vicinity of Nuiqsut

Recommendations: Group strongly endorses the proposed study, consider renaming the study to reflect cumulative impact issues, and study has the potential to inform cumulative impact studies in other regions.

Renewable Energy & Alternate Use

During a discussion of renewable energy and alternate uses of the OCS, the following points and considers were made:

- Focus on energy production as most important aspect,
- Harvest European/international experience in placing offshore wind projects,
- Physical impacts of placing structures on sea floor,
- Wind farms and Bird Impacts,
- How best to communicate findings to the public,
- What are the potential multiple use conflicts,
- Renewable studies should decide what "activities" are within the RSP scope,
- Port/harbor onshore support requirements and impacts,
- Electric and magnetic fields' potential impacts on marine biota,
- Use of existing corridors to transmit energy,
- Types/availability of mitigation for environmental impacts for renewable projects,
- Expand the National Renewable Energy Laboratory's mapping of offshore energy potential,
- Relate to Integrated Ocean Observing System program data/regions,
- Mitigation of social and economic impacts,
- Risk vs. Benefits: locally, regionally, nationally,
- SC should consider a renewable energy subcommittee,
- Potential environmental impacts of generating and transporting H2 versus electricity, and
- Workshop should be structured to avoid contention.

Committee Business

As a result of this year's deliberations, the following recommendations emerged:

1. Renewable energy alternate uses should focus on energy related uses of the OCS. Steps should be taken to insure greatest possible public acceptance of renewable energy on the OCS.

2. The SC would like to emphasize the importance of archiving MMS supported data in a manner that would keep it accessible. In addition to making data available through the National Oceanographic Data Center, MMS should keep and manage its own data archive. Data should be viewed as a renewable resource that can be mined as the need arises.

3. The Department of the Interior and the Office of Management and Budget guideline and procedures for implementation of peer review need to be evaluated for applicability to MMS mission.

4. If MMS is directed to open up new areas for exploration and lease sales, it should seek additional funding and not redirect funds programmed for other uses.

5. Wider dissemination of Request for Proposals is needed to reach a broader spectrum of scientists and make them aware of funding opportunities.

6. MMS should keep up it participation in key ocean related committees, such as the National Ocean Partnership Program, etc., but realize these commitments do require substantial effort by MMS personnel.

7. Regions should be allowed to develop a broader knowledge base within their regions. This would be consistent with developing ecosystem based management and would provide important baseline data over the entire region.

The following emerging issues were identified:

1. Acoustic and seismic effects on marine mammals continue to be an important environmental issue. The OCS Science Committee encourages MMS to continue and expand its cooperation with other agencies to address these issues.

2. Developments in the arctic and GOM relative to how oil and gas operations will be effected by climate change require system wide knowledge and data collection. This opens up the possibility for international cooperation with nations bordering the arctic and GOM.

The SC members will be polled to determine the best dates (Spring 2007) to hold the next meeting which may be held in the Gulf of Mexico.