Bureau of Ocean Energy Management, Regulation and Enforcement
OCS Scientific Committee Meeting
September 14-16, 2010
Embassy Suites Dulles North
Ashburn, Virginia

Official Proceedings

- Tuesday, September 14, 2010
  - Agenda
  - Presentations
    - Acting Deputy Associate Director, Offshore Energy and Minerals Management – Mr. Robert LaBelle
    - Status of Offshore Energy and Minerals Management – Dr. Alan Thornhill
    - Source Control and Surface Containment, Well Kill Operations, Review of Policies and Reports – Mr. Lars Herbst
    - Immediate and Near-term Actions and Activities - Deep Water Horizon Incident – Dr. Rodney Cluck
    - USGS Response to the Deep Water Horizon Incident – Dr. Susan Finger
    - Welcome from Director Michael Bromwich via Telecom
    - Scientific Integrity Policy Discussion – Lead by Drs. James Kendall and Alan Thornhill
    - Natural Resource Damage Assessment – Dr. Robert Haddad
    - Overview of Regional Environmental Program – Dr. Rodney Cluck
      - Alaska OCS Region – Dr. Dee Williams
      - Gulf of Mexico OCS Region – Mr. Herb Leedy
      - Atlantic OCS Region – Dr. David Bigger
      - Pacific OCS Region – Dr. Ann Scarborough Bull
    - Environmental Sensitivity – Mr. James Bennett and Dr. Alan Thornhill
  - Transcripts Outline

- Wednesday, September 15, 2010
  - Agenda

- Thursday, September 16, 2010
  - Agenda
  - Discipline Subcommittee Presentations
    - Ecology/Biology
    - Physical Oceanography
    - Social Sciences
  - Committee Business
  - Transcripts Outline

- Acronyms

(Transcripts are available upon request. Please go to Transcripts Outline and request which pages you would like to receive. Please e-mail your request to: EnvironmentalStudiesProgram2@BOEMRE.gov

Meeting Summary

Supporting Materials

- **Committee Members**
- **Speakers**
- **Attendees**
- **Federal Register Notice**
- **Charter**
- **Discipline Breakout Groups and Subcommittees**
- **Information on Upcoming and Past Seminars, Conferences & Workshops**

OFFICIAL PROCEEDINGS

Tuesday, September 14, 2010

Welcome and Introductions

The Outer Continental Shelf (OCS) Scientific Committee (SC) is chartered under the Federal Advisory Committee Act to advise the Secretary of the Department of the Interior (DOI) on the feasibility, appropriateness, and scientific value of the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) Environmental Studies Program (ESP). Its September 2010 meeting was called to order by the Chair, Dr. D. Michael Fry who introduced Dr. James Kendall, Acting Deputy Associate Director and Executive Secretary of the Committee.

Acting Associate Director, Offshore Energy and Minerals Management

Presentation by Mr. Robert LaBelle

Mr. LaBelle stated that the tragedy of the Deepwater Horizon (DWH) explosion in the Gulf of Mexico affected everyone in the BOEMRE and took the loss of life and the tragedy personally. However, due to this event, it was recognized that a safer offshore program is needed and that the Committee is perfectly poised to make a big difference in BOEMRE's decisions.

Deepwater Horizon Oil Spill. He reported that the President created a commission that is looking into this event and many reviews at the national level have begun to investigate the root causes of the accident. Mr. Ken Salazar, Secretary of DOI, created an Offshore Safety Oversight Board which recently released a report containing 50 plus recommendations. Several Notice to Lessees (NTL) were mailed to the oil and gas industry requiring more verification of safety systems and more calculations of oil spill planning calculations. The Secretary imposed a suspension of deepwater drilling for 6 months and the Director of BOEMRE has hosted eight meetings around the country in order to get input from the industry, academia, the public, and others on how to improve safety and oil spill response and prevention. This information will be reported to the Secretary who will make a decision on the extent of the deepwater moratorium or suspension. He announced that more inspectors, safety engineers, and others will be hired in order to support the environmental and safety challenges which need to be met. Congress is expected to approve a substantially increase in funding which will allow BOEMRE to not only create three new bureaus, but also increase staffing and capabilities within those bureaus. An increase in funding for more environmental studies is also expected.

5-Year OCS Leasing Program. On March 31, 2010, the President and the Secretary announced the OCS Oil and Gas Strategy as part of President Barak Obama's comprehensive energy plan for the country. DOI is pursuing a balanced, science-based strategy for exploring and developing oil and gas resources on the OCS which will guide the current 2007-2012 offshore Oil and Gas Leasing Program as well as the new 2012-2017 program that will supersede the 2010-2015 Draft Proposed Program issued by the prior administration. As part of the March 31 strategy, the Bureau published a Notice of Intent to prepare an Environmental Impact Statement (EIS) listing the OCS areas to be scoped for inclusion in the 5-year EIS. The 5-Year Program, which consists of a schedule of oil and gas lease sales indicating the size, timing, and location of proposed leasing activities, has not yet been announced; however, an announcement is expected in the fall. These areas are mid- and south Atlantic; western, central, and a portion of the eastern Gulf of Mexico; and the Beaufort Sea, Chukchi Sea, and Cook Inlet, Alaska. This information will assist the Secretary in determining what will best meet national energy needs for the 5-year period following its approval. Further studies are now needed that will inform the ongoing delineation of impacts that might be coming from the DWH event and other stresses on the environment.

Renewable Energy: Cape Wind. Mr. LaBelle announced that the Cape Wind Energy Project has been approved and that BOEMRE is very close to having a signed lease. This project was proposed by Cape Wind in November 2001. Prior to the Bureau's involvement, the U.S. Army Corps of Engineers (USACE) assumed the lead federal regulatory role under the River and Harbors Act and issued a draft EIS in November 2004. Following the Energy Policy Act of 2005, the Bureau assumed lead federal responsibility and initiated its own independent environmental review pursuant to the National Environmental Policy Act (NEPA). The Bureau received a request from Cape Wind for a lease easement or right-of-way to construct and operate an offshore wind facility located in federal waters 4.7 miles offshore Cape Cod, Massachusetts, on

Horseshoe Shoal in Nantucket Sound. The project consists of 130, 3.6 megawatt wind turbine generators covering approximately 25 square miles in federal waters offshore Massachusetts and has been approved.

Presentation by Dr. Alan Thornhill
Dr. Thornhill is a political appointee whose role is to review scientific and technical data that will ensure the effective management of energy resources located on the Nation's OCS and to represent the scientists who do the work at BOEMRE and the contractors who do the work for the Bureau.

He has come to appreciate that BOEMRE is dedicated to making good decisions and trying to decide the right science in the right place to make those decisions happen and the SC is the first step in that process to figure out what the right questions are that need to be asked and what are the right studies that need to be put in place to actually make these decisions.

The approach of contracting to answer these questions makes the Bureau a very strong and nimble organization which allows resources to be redirected into studies that will get to the core of the issues that need to be managed. The opportunity to interact with the SC as a team to build a studies program is a very creative process and the application of the science to a decisionmaking process is a really essential step. He has spent most of his career figuring out how to take science data and analysis and apply it to real world problems in order to make decisions and incorporate all of the non-science values that have to be incorporated at the same time. Making the comparisons, the recommendations, and the decisions need to be based on the best available science at the appropriate temporal and spatial scales.

Open Discussion
Dr. Fry commented that he was really disappointed that the Director Mr. Michael Bromwich, BOEMRE, was not able to attend this meeting and encourages him not to buffer himself with a group of political appointees and separate himself from the science program. Dr. Thornhill commented that one of the benefits of being a political appointee and a scientist is that he is invited to political meetings and without a politically appointed scientist in the mix, science does not always have a representative in those meetings. He is able to step right in the middle of the politics and bring his science hat to try to make the process better.

Dr. Fry commented that the Director needs to know what the science program is doing and needs to support it. He noted that being nimble and being able to work with a small budget is really good, but changing studies midstream without consulting the people who have recommended the studies going forward somehow seems inappropriate. Dr. Thornhill responded that the Director recognizes that the budget for enforcement, inspections, and science has either been gutted or has not been able to keep pace with the expansion of activities which he wants to rectify.

Dr. Fry commented that he values the work Dr. Thornhill has done and that he is being very helpful in bringing the science to the Director; however, BOEMRE is a government bureau and he feels that it is very unfortunate that not only this Bureau, but others have been politicized in the past couple of years. He encouraged the Director to talk directly to his staff. Dr. Thornhill said that the Director is planning an all hands science meetings within the Bureau to discuss individual roles and contributions to BOEMRE's mission. These meetings demonstrate that the Director does recognize that the staff represents a very important core element of BOEMRE. As to Dr. Fry's comment regarding the politicization of science, Dr. Thornhill stated that in March of 2009, the President signed a memorandum on scientific integrity and directed the Office of Science and Technology Policy (OSTP) to create guidelines for implementing his high level principles of scientific integrity which the OSTP has been doing and is very close to finishing. DOI has never had a Department-wide scientific integrity policy which the Inspector General (IG) identified as a problem in its report that was released in April. The IG stipulated that DOI will go to the OSTP to find its recommendations based on the President's memo. Dr. Thornhill added that he is leading the writing team developing the Scientific Integrity Policy (SIP) and initial findings of the draft have been posted in the Federal Register. It is DOI's goal to have a policy that meets and exceeds the expectations of the President and the OST. DOI is leading the charge in scientific integrity because everything being done within the Department is based on the science. It is his hope that with the final product, the SC will be very proud that this Department is stepping up and setting the bar for the rest of the Federal Government on how scientific integrity has to be an essential part of everything the Department does. He said that he will be sure to inform the Committee when the final version is available for review.

Dr. Richard Howarth explained that in his dealings with the Office of Research and Development, although it is the scientific research arm of the Environmental Protection Agency (EPA) and sponsors academic research, it is not responsible

for writing EIS's nor does it have decisionmaking powers. There is a distinction between scientific studies and consulting reports and he suggested that BOEMRE devise similar mechanisms in which tasks are administratively separated. Dr. Thornhill agreed that there certainly are a number of models that could be implemented within the Bureau; however, BOEMRE has a unique challenge relative to many other bureaus in that it is both stewards of and regulatory agents of an enormous amount of trust resources which puts it in an odd situation of having to work all ends of that spectrum. BOEMRE is attempting to resolve some of the internal confusions by dividing it into three organizations:

- Office of Natural Resources Revenue which will help ensure that every dollar due to the public is received, accounted for, and appropriately distributed
- Bureau of Ocean Energy Management which will function as the resource manager for conventional and renewable energy on the OCS
- Bureau of Safety and Environmental Enforcement which will develop and enforce policy, rules, and regulations related to safe and environmentally sound development of OCS energy resources

He told the SC that he would take back to the Director and to the Mackenzie Group, who is currently reviewing the entire system to determine the right ways to reorganize the Bureau, any suggestions or concerns that the Committee may have.

BOEMRE Response to the Deep Water Horizon Incident

Dr. Kendall explained that Dr. Mike Prendergast, who is an engineer and Chief of Staff in the Gulf of Mexico OCS Region office, was unable to attend this meeting as planned. His objective was to give the SC a flavor of what else has been going on with BOEMRE since April 20. He introduced Mr. Lars Herbst, Regional Director of the Gulf of Mexico OCS Region, who would be giving Dr. Prendergast's presentation.

Presentation of Mr. Lars Herbst

Mr. Herbst touched on source control and surface containment, well kill operations, review of policies and reports, and science in support of decisionmaking.

Source control and containment

The regional office was tasked to simultaneously develop the following multiple control options:

- Surface containment
- Well kill operations through a Blowout Preventer (BOP)
- Planning and drilling of relief wells
- Over 200 new procedures were developed in less than 5 months
- Simultaneous Operations (SIMOPS) for Dynamically Positioned Vessels (DPV): two drilling rigs, three production and construction vessels, three oil tankers, five offshore intervention vessels, and three mud/cement pump vessels
- Up to 14 Remotely Operated Vehicles (ROV)
- Planning for emergency evacuations
- Inspections of all deepwater drilling rigs and production systems
- Environmental review of subsea activities
- Dispersant injection at wellhead (at depth)

It would be believed that SIMOPS is the responsibility of the U. S. Coast Guard (USCG). However, because these vessels were involved with energy, BOEMRE and all of its engineers and policymakers were involved in the day-to-day activities of those operations 24 hours 7 days a week.

Environmental personnel were also assigned to the National Incident Command Center (NICC) working with USCG and the engineers to ensure that no more environmental damage would be done.

Shortly after the spill several conference calls were conducted that included BOEMRE, the National Oceanic and Atmospheric Administration (NOAA), EPA, USCG, and other agencies with personnel who were knowledgeable of dispersants. The question was not what kinds of dispersants should be used, but whether or not dispersants should be used. After about a week of deliberations, a briefing paper was circulated among the different teams and senior leaders were briefed and the recommendation was made to the NICC that if dispersants were going to be used, it would be best to start them now and to start at the bottom.

Surface containment

- Flow of oil & gas through BOP, flexible hoses, manifolds, and risers to surface vessels
- Top hats channel flow to drillship (i.e. *Discoverer Enterprise*)
- DPV separate oil, gas, and water
- Off-loaded to double-hull tankers, gas flared, and produced water treated
- Subsea dispersants which are critical to control and reduce the volatile organic compounds and explosive gases in the area

Kill operations from Day 1

Multiple options developed to stop flow – subsea:

- Top kill designed to stop well flow with high rate of weighted mud injection through the BOP
- Top kill (3 attempts) temporarily stemmed the flow
- Capping stack installed on top of BOP stack
- Shut-in on July 15, 2010; seafloor was monitored for any subsea flow
- Development of static kill to pump mud and cement through the BOP
- Monitoring operations continue to ensure annulus outside well casing is sealed from reservoir and well permanently plugged

Important reviews, reports, and policies

- USCG and BOEMRE established a Marine Board Investigation – initiated April 2010 (ongoing)
- Report on Increased Safety Measures for Energy Development on the OCS, submitted to the President on May 27, 2010
- NTL 2010-NO5, Increased Safety Measures for Energy Development on the OCS released on June 8, 2010
- NTL 2010-NO6, Information Requirements for Exploration Plans, Development and Production Plans and Development Operations Coordination Documents on the OCS released on June 18, 2010
- OCS Safety Board Report a "Blueprint" for Next Steps on Internal Reforms of Offshore Energy Oversight released on September 9, 2010

Presentation by Dr. Rodney Cluck

Immediate Science Actions

Dr. Cluck reported on some of the immediate actions that took place immediately after the spill by the BOEMRE:

- Provided scientific experts and technical direction in the development of oil spill models and participated with multiple agencies' oil spill review teams and the Unified Command Center (UCC) for the DWH oil spill to ensure the highest confidence in the results
- Provided a collection of reports and data to NOAA from BOEMRE Gulf of Mexico studies for a baseline assessment and extensions of ongoing projects
- Provided extensive data and model results for the prediction of the spilled oil to aid response to clean up planning and response to NOAA
- Participated in the Flow Rate Technical Group (FRTG) which provided scientifically validated information to determine the volume of DWH oil flow and spill

Near-term Science Actions (1-6 months)

- Modified the Lophelia II Deepwater Corals project with NOAA to look for any impact or change to the corals baseline using photo mosaic images, sediment larval traps, and a successful cruise on the Nancy Foster from July 21-30
- Modified the Loop Current Study by deploying extensive mooring arrays in the center of the loop current to investigate its dynamics; first year data will be available for hindcast modeling; water samples will be collected and analyzed at the mooring sites during the rotation to track the extent of DWH spilled oil
- Participated in a socioeconomic conference with Louisiana State University (LSU) which had been planned prior to the spill to discuss baseline socioeconomic information needs
- Supported ocean circulation and climatological models and provided extensive data to NOAA's oil trajectory and shoreline threat probability modeling

BOEMRE is also working closely with other agencies in the hopes of leverage resources through partnerships with the Coastal Marine Institute (CMI) at LSU, as well as the Interagency Working Group on Ocean Partnership of which

Dr. Kendall is chair, and the Interagency Working Group on Ocean Social Science (IWG-OSS), which Dr. Cluck chairs. These groups are working together to bring other federal agencies into the mix in the hope of leveraging funds toward the common goal to achieve some of these larger level scientific information needs. BOEMRE is also taking advantage of Cooperative Ecosystem Study Units (CESU).

Open Discussion
Dr. Fry asked if whether or not an assessment has been done as to the dispersants made dispersing the plume relative to just the dispersants that were dispersed at the well head. Mr. Herb Leedy responded that the government reported that about 10 percent was dispersed chemically; however, Dr. Allan Lewis, who is an oil spill consultant, has estimated that it's closer to somewhere in the 25 to 40 percent. He added that this is a very preliminary target and there is still a lot of science that needs to be done.

Dr. Michael Kosro asked who determines the responsibilities being divided among NOAA, BOEMRE, and the other agencies for assessing the environmental damage and, in doing these studies, will there be a conclusion as to what happened and what issues there may be in the future. Dr. Cluck replied that each bureau essentially has a certain role with NOAA and Natural Resource Damage Assessment (NRDA) response. Mr. LaBelle added that it is BOEMRE's responsibility to see that the spill source is secured and to stop the spill as soon as possible. Containment is part of that responsibility, which is why BOEMRE was approving Bps actions in order to do that. Once the spill is in the water, however, the USCG is responsible for cleaning the containment and oil slicks, and NOAA has the responsibility for the damage assessment activity.

Dr. Ralph Brown asked if the individual duties assigned to the various agencies has precipitated any kind of discussion regarding coordination and response time and priority of response for future events across the agencies. Mr. LaBelle said BOEMRE is undertaking discussions at a high level with the USCG now; EPA and NOAA are reworking the oil spill response planning system from national plans to area contingency plans to reviews BOEMRE does of a project's oil spill response plan.

Dr. Eugene Shinn said that he was under the impression that NOAA was really in charge of everything and had heard very little of BOEMRE's involvement. Mr. Leedy agreed that NOAA is in charge since it oversees the NRDA environmental group which is gathering all of the information. However, BOEMRE has been very involved along with U.S. Fish and Wildlife Service (FWS), EPA, and the U. S. Geological Survey (USGS). Dr. Thornhill added that BOEMRE does have a lot of good science in-house; however, BOEMRE does not promote itself and other agencies have taken all of the credit. One of his personal missions is to raise the profile of the science of BOEMRE which will be one way to rebuild credibility. He said he was amazed when he realized that BOEMRE had maintained 30 years of monitoring datasets on whales, coastal habitats, and deepwater corals and stated the Bureau needs to be recognized.

Dr. Mary Scranton said that the reason no one knows about the science being done in BOEMRE is because there are no external reviews of the science and the data has not been published. Instead, these reports are put into internal documents. Dr. Thornhill explained that the SIP which is currently being developed gives a lot of credence and support to scientists who participate with scientific societies in getting their work into peer review publications. Dr. Cluck reported BOEMRE has developed a peer review database where peer review articles can now be tracked along with the abstracts.

Dr. David Bigger explained that it has been his experience that studies done by BOEMRE tend to show that offshore drilling is not as harmful as the public and the press thinks it is; therefore, a young scientist thinks twice about publishing the results of these kinds of studies because they'll be considered biostitutes or geostitutes, etc.

Deep Water Horizon Oil Spill Effects

Presentation by Dr. Susan Finger

Dr. Finger is the program coordinator for Columbia Research Center, USGS which provides all DOI bureaus with science information and does not have any management responsibilities. The mission of the USGS is to provide geologic, topographic, and hydrologic information that contributes to the wise management of the Nation's natural resources and promotes the health, safety, and well-being of the people. This information consists of maps, data bases, and descriptions and analyses of the water, energy, and mineral resources, land surface, underlying geologic structure, and dynamic processes of the earth. In that capacity, USGS scientists leverage their science by partnering with state, local, and tribal governments, academic community, other federal agencies, non-governmental organizations, and the private sector.

Dr. Finger addressed response actions, NRDA, and restoration in regards to the DWH oil spill.

The FRTG was led by USGS Director Marcia McNutt and was established to accurately estimate flow of escaping oil and was composed of multiple independent teams that used different methods to assess the spill:

- Mass Balance team (led by USGS)
- Plume Analysis Team (led by NOAA)
- Reservoir Modeling Team (led by BOEMRE)
- Nodal Analysis Team (led by Department of Energy (DOE)

The Mass Balance Team uses remote sensing data from deployment of the Airborne Visible Infrared Imaging Spectrometer and satellite imagery to calculate the amount of oil on the ocean surface on a certain day.

The Plume Modeling Team observes video of the oil/gas mixture escaping from the damaged well using particle image velocimetry analysis to estimate fluid velocity and flow volume.

The Reservoir Modeling Team identifies geologic formations as well as composition and pressures of the oil, natural gas and other compounds that are being released. The Team will populate computer models and determine flow rate from targeted sands in the well as a function of bottom-hole pressure using: open-hole logs; pressure, volume, and temperature data; core samples; and analog well or reservoir data.

The Nodal Analysis Team calculates fluid compositions, properties, and fluxes from both before and after riser removal using input from reservoir modeling (including pressure, temperature, fluid composition and properties over time) and pressure and temperature conditions at the leak points on the sea floor along with details of the geometries of the well, BOP, and riser.

Other ways the USGS has been involved

- Currently conducting studies on the stability of the berm system, i.e., how useful it has been and the potential of long-term impacts in terms of biological and physical changes
- Analyzing rock samples to determine how deep in the ocean these rocks are and whether or not they are associated with the explosion
- ROV has been deployed that have the ability to do geospatial analysis
- Water, sediment, and benthic samples collected from the first week of the spill at about 70 locations for baseline assessments
- Conducted coastal vegetation photo surveys
- Remote sensing and production of maps and geographic information system layers
- Working with DOI and NOAA
    - Providing scientific support as a member of the DOI Coordination Team
    - Participating in Technical Working Groups (TWG)
    - Developing and reviewing work plans
    - Participating in studies on deepwater corals, Kemp's ridley and loggerhead sea turtles, gulf sturgeon, and birds
- Has leadership role in aerial imagery, remote sensing and satellite imagery
- Working with Technical Groups to determine the type of mapping required to address important resource issues
- With NOAA and DOI, developing an Ecotoxicological Assessment Group
- Evaluating indicators of physiological response to oil and oil dispersant mixtures

Lessons Learned from other spills

- Pre-spill data is important for assessing injury to resources and recovery
- Think long term regarding restoration *(multiple decades)*
- Consider both offshore marine and coastal ecosystems and multiple levels of food chain
- Natural variation in marine and coastal ecosystems will confound understanding of recovery

Open Discussion

Dr. Fry stated that originally when the NRDA process was developed, USGS studies were constrained against looking at what would be the new baseline and were prevented from doing basic ecological research, focusing more on injury and

restoration, and asked what has changed over the last 15 years which enables NRDA process to look at new baseline and do actual research. Dr. Finger replied that several years ago, a restoration science component was brought into the NRDA program and work is being focused on those issues. She added that she sees a lot of opportunities in science for USGS to advance restoration. In terms of baseline, it is not pristine. Baseline defined under NRDA is but for the contamination and in older cases, the baseline is unknown but what is known are the values and functions that can be offered to replace those ecological services that have been lost. There is a huge effort in USGS to step into the ecosystem services category to develop science along those lines and to evaluate the function of what is there and what needs to be returned to its natural state.

Dr. Fry said that it is BOEMRE's responsibility to have a baseline for its ESP to be able to predict what changes would happen with oil or gas development. He stated that there will be a new baseline for coastal ecosystems and pelagic and benthic communities in the Gulf of Mexico which will not be related directly to response or restoration and asked who is responsible to pay for those new baseline studies. Dr. Finger explained that if the settlement for restoration involves baseline studies, then that is in part what the NRDA program does. Although she doesn't know about the funding sources, she said that when there is a settlement for restoration, those dollars reside in DOI and are used site specifically for restoration of those areas.

Dr. Howarth stated there is an immigration of economic and ecological expertise in understanding fisheries and that this is going to be hugely important in the NRDA process and BOEMRE in terms of understanding how its activities affect marine fisheries and asked at what point does BOEMRE get involved. Dr. Kendall said the Joint Subcommittee on Ocean Science and Technology is convening a workshop that will talk about human services and economics on the same level as biological and fisheries and said there are numerous groups working together to address those exact concerns. Dr. Cluck added that he co-chairs the IWG-OSS and part of the charge of that group is to better integrate and come up with ideas for ecosystem services and how it meshes together with this ecosystem-based approach.

Dr. Shinn commented that the Gulf of Mexico has hundreds, if not thousands, of natural seeps that have been there forever and is concerned about dispersants coming down the Mississippi River and shifting the baseline of coral reefs and asked how these dispersants are going to be separated from the reefs as studies are being done. Dr. Kendall replied that BOEMRE and other agencies have been studying loop currents and eddies in the Gulf for close to two decades but the information has not been put to use. He feels now, however, that this information will be of great use and believes that there is going to be some great eco tomes or atlases published over the next decade resulting from the oil spill. Also since the spill has drawn attention to the Gulf's health, he is hopeful that the Gulf will have a better chance at becoming healthier than it had been prior to the spill.

Teleconference with Director Michael Bromwich

Director Bromwich informed the Committee that on August 4, he kicked off a series of fact-finding forums designed to collect information and views about deepwater drilling safety reforms, well containment, and oil spill response and explained that these findings would be considered in evaluating whether to recommend any modifications to the scope or duration of the deepwater drilling suspensions announced by Secretary Salazar on July 12, 2010.

Director Bromwich stated that science is a critically important part of BOEMRE's mission, and decisions regarding the management of trust resources must be based on the best available science. The capacity of the science program needs to be increased to a level that is appropriate with the goal being to explore for energy in the right places and for the right reasons and it is the science that will separate both the right places and identify the right reasons.

BOEMRE has been criticized in the past and steps need to be taken to raise its credibility and make clear that the decisions being made are drawn on a sound and scientifically sound basis. In order to get credit for the science being done, he, Dr. Thornhill, and others, will be very much involved in the weeks and the months ahead promoting and publicizing the ESP and the science being done through press releases, announcements, and events of various kinds. An outreach and education strategy will be developed that will serve as the central goal of raising the credibility and the ability of the Agency everywhere: first, inside the walls of DOI; second more broadly within the Federal Government; third, more broadly with academic constituencies, colleges, and universities around the country; and last but not least, with the public. This is an ambitious strategy, but Director Bromwich said he believes it is the right thing to do given the very strong and outstanding work that is being done and has been done inside the Agency.

Director Bromwich commented on the importance of what the Committee is doing and expressed his appreciation for all the hard and important work that the Agency and the Committee is doing.

Scientific Integrity Policy Discussion

Open Discussion with Drs. Thornhill and Kendall

Dr. Kendall referred to the departmental draft of the SIP and explained that the SC had reviewed it almost 4 years ago. Comments were sent to DOI's Science and Technology team who considered those comments in the document that is currently being reviewed. He added that about a year and a half ago, BOEMRE had finalized its scientific integrity document which tiers off of the current departmental draft. BOEMRE's document, however, was made into an interim policy which means it must be changed within 2 years after the departmental document is in place. Once the department's SIP is finalized, BOEMRE's document can be revised.

Dr. Thornhill explained that DOI-wide policy will be relatively high-level, overarching principles and guidance for scientific integrity. The document will contain recommendations to the bureaus which have specific needs and unique challenges that require additional guidelines with peer review or with science department-wide measures. Further, because there are unique demands on different disciplines which cannot be covered in a single policy, it is going to be recommended to scientists who work within disciplines to look to the scientific societies that provides guidance on scientific integrity and ethical conduct of scientific work. This Committee will definitely be engaged to review what may be needed beyond what DOI adopts.

He added that there is a department-wide peer review policy currently under review as well. However, it is being delayed until the departmental SIP is completed since these two documents will be companions.

Natural Resource Damage Assessment

Presentation by Dr. Robert Haddad

Dr. Haddad explained that the goal of NRDA is to compensate the public for injuries to natural resources and natural resource service losses.

The NDRA is:

- different than the spill response actions,
- stops the discharge and, to the extent possible, removes oil from the environment and prevents oiling of sensitive areas,
- a structured process defined in regulations,
- focused on the restoration of injured (contaminated) natural resources, and
- considers restoration very early in the process.

Its primary authorities are specified in the Oil Pollution Act (OPA), the Comprehensive Environmental Response, Compensation and Liability Act also known as the Superfund, the Clean Water Act, the National Marine Sanctuaries Act, and the Park System Resources Protection Act.

Natural resource trustees include state governors, tribes, Secretaries of the Departments of Agriculture, Commerce, Defense, DOE, and DOI, and foreign governments under OPA.

He explained that natural resources are air, water (underwater oil plumes), soil sediment (oiled beaches), biota (death, disease, organ/tissue injury, reduced reproduction, and behavioral abnormalities of birds, fish, invertebrates) and habitat (marshes, mangroves, mudflats, and vegetation).

Dr. Haddad explained the purpose of restoration is to return injured resources to the condition they would have been had the release of oil or a hazardous substance never occurred, and to restore, replace, rehabilitate, and acquire equivalent primary and compensatory expense.

The Trustee Council for the DWH oil spill consists of both federal and state governments whose goal is to work cooperatively to determine the magnitude and extent of injury to natural resources in the Gulf of Mexico from the oil spill and fully restore those injured resources. Representing the government are the Department of Commerce (NOAA), DOI (FWS, National Park Service [NPS], Bureau of Land Management, and Bureau of Indian Affairs, and the Department of Defense (Navy). State trustees are Alabama, Florida, Louisiana, Mississippi, and Texas.

During pre-assessment phase, TWG's composed of state and federal natural resource trustees work with the responsible party's consultant, implements baseline, and conducts post-impact field studies for the following resource categories:

- water column – fate and transport,
- fisheries and plankton,
- submerged aquatic vegetation,
- subtidal habitats,
- shallow and deepwater corals,
- shoreline habitats – beaches, wetlands, and mudflats,
- birds,
- marine mammals and turtles,
- terrestrial wildlife, and
- human use – fishing, hunting, and beach recreational closures.

Currently, sample collections are being taken for water, sediment, and tissues. Also being collected are data via land, ship-based sampling, and aerial surveys. These will be reviewed by trustees who will assess impacts from the response, including dispersant use at the surface and at depth.

Open Discussion
Dr. Joe Smith asked if NOAA has had any contact with Bahamian or Cuban governments regarding their plans for drilling. Dr. Haddad replied that he has not; however, while there is a request to send somebody on a Cuban delegation, he was not aware of exactly that it has to do with drilling.

Dr. Scranton asked whether or not there is a mechanism for taking collected data to channels other than NOAA's direct collections and incorporating it into the damage assessment efforts. Dr. Haddad replied that data being collected will be peer reviewed and published which will give NOAA more legal authority.

Dr. Scranton commented that one issue being reported is collected data is not being shared with one another and she hoped that the information is being combined. Dr. Haddad agreed stating that the collected data first needs to be solid data. He said there has also been an outreach to the academic community not so much to review the data, but to look at the data and provide thoughts of what may be missing. Having met with Dr. Don Rice (Director, Chemical Oceanography, dispatched to Unified Area Command in New Orleans to coordinate academic and federal agency research efforts), he said the discussions included how the academic community should be integrated into the national and regional response teams – not into any formal process, but such that when there is an oil spill or a national disaster, they can be made part of the local science team.

Dr. Mark Johnson asked what discussions have there been regarding archiving the collected data for the long term so that it can be referred to in 30 years. Dr. Haddad responded that there are ongoing discussions looking towards how these data can be put together and archived such that it is not only available tomorrow, but will be available and accessible in future years. He added that under NRDA statutes, NOAA will be responsible for archiving its response data. However, answers are being sought as to how to take all of the response data, not just NOAA's, and put it into one of NOAA's larger data systems.

Mr. LaBelle asked about the more intensive data gathering and whether or not that information will be available to other federal agencies which need to make decisions based on NEPA. Dr. Haddad replied that all of the response data collected over these next 30 to 60 days is public data; however, NRDA data will probably cease being public when the injury assessment study phase begins. Once the case settles, those data will then become public.

Dr. Fry cautioned Dr. Haddad that one of the earliest studies from the Exxon Valdez oil spill showed that black oyster catchers were injured and attorneys for the Department of Justice decided black oyster catchers were such a minor resource

that the study was terminated. However, it turns out that black oyster catchers were probably the best indicator of the shoreline of Alaska, which meant that they were the most important. He suggested that attorneys who have a science background or who will listen need to be appointed. Dr. Haddad agreed and said that each case will be evaluated and compensated appropriately to endure public or any third party challenge.

Dr. Richard Hildreth asked when the studies involving impacts of dispersants would become available and whether or not responsible parties would be held liable for injuries inflicted by the use of dispersants. Dr. Haddad replied a lot of studies have been completed and put into press or made available to the public by the EPA. He assured the Committee parties for all of the natural resource injuries that resulted as a part of this spill, whether caused by the oil, by volunteers tramping in the marsh, or caused by building berms that impacted turtle habitat and other things would be held responsible.

Dr. Shinn asked if there were plans to do toxicology studies of combinations on oil and dispersants on various organisms including coral. Dr. Haddad replied some studies have been done and other studies are currently being conducted.

Dr. Johnson said one issue in the North Slope is that subsistence users want an honest broker to keep the data, such as the University of Alaska, and if the same situation arises in the Gulf of Mexico, how it would be addressed. Dr. Haddad mentioned that there have been discussions with National Science Foundation (NSF) to integrate the federal agencies, academics, and the private institutions as well to help coordinate the science that will be done.

Overview of Regional Environmental Studies Program

National Region

Dr. Cluck explained the purpose of the ESP is to provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities on human, marine, and coastal environments through competitive contracts (interagency agreements), partnering NOAA, Ocean of Natural Resources, NSF, USGS, FWS, NPS, DOE, CMI (University of Alaska and LSU), CESU, and cooperative agreements with universities.

He described the key science mission is to obtain quality information for environmental impact assessment to support leasing (sale and on-lease activities) and monitor both natural and anthropogenic environmental changes.

He reported the current ESP base is $30.7 million; however, because of the DWH oil spill and the need for new studies, there is a potential for a base budget increase to $47.2 million and hiring of new personnel:

- Fiscal Year 2011 – increase of $6.5 million and 10 Full-Time Equivalent (FTE)
- Fiscal Year 2012 – increase of $10 million and 8 FTE

New studies needed in order to meet the following NEPA post-spill requests

- A supplemental environmental statement is needed for Western and Central Gulf of Mexico planning areas in order to update baseline conditions and potential environmental effects
- Evaluating procedures based on the August 16, 2010 Council on Environmental Quality report recommendations to promote more robust and transparent implementation of NEPA practices, procedures and policies
- Environmental Assessments (EA) to replace categorical exclusions
- Catastrophic event risk analysis currently in process will be added to the EIS and EA for all regions
- Baseline studies – biological, physical, and social/economic
- Environmental monitoring – biological, physical, and social/economic

National Region's Proposed Fiscal Year (FY) 2011 studies

- Environmental Sensitivity and Marine Productivity
- Propagation Characteristics of Sound
- Update of Oil Spill Risk Model
- Characterization of Bottom Sediment Transport During Extreme Events
- Case Law History Applicable to Cultural Heritage
- Protection of Sensitive Archaeological Resources and Benthic Habitats
- Synthesis of Research Projects & Offshore Sand (Marine Minerals Program)

- Marine Biological Data Archive
- Commercial Fish Hang Data as a Proxy for Historic Shipwreck Sites

Dr. Cluck gave a presentation on the Coastal Marine Spatial Planning (CMSP) which is identified as a priority objective of the National Ocean Policy (NOP) and offers a comprehensive, integrated approach for planning and managing offshore and coastal activities. The plans are being developed cooperatively among federal, state, tribal, and local authorities and include substantial stakeholder, scientific, and public input, and will be a vehicle to achieve all nine NOP priority objectives.

The National Ocean Council (NOC) will be conducting a 2-3 day national CMSP workshop and simulation exercise to kick-start the initiative.

CMSP challenges

- Dispute resolution – the process must work towards resolving conflicts among stakeholders
- Data and science dissemination and usability
- Legal inconsistencies
- Existing regulatory frameworks

An IWG-OSS has been created which will assist NOC and regional planning bodies concerning integration of social science into CMSP planning including space-use data and conflict resolution. Partners to this working group include NOAA, USGS, USACE, NSF, EPA, NPS, U. S. Navy, and USCG.

Environmental Studies Program Information System (ESPIS). ESPIS contains completed ESP reports and technical summaries that are available online and offers full electronic and searchable PDF files, including images and graphics.

Geo-ESPIS is a planned enhancement of ESPIS which will provide a geospatial search tool for all completed ESP reports in a PDF format, is based on the Multipurpose Marine Cadastre which will facilitate information sharing for NEPA assessment, oil and gas and alternative energy leasing, and will support the CMSP planning initiative.

Dr. Cluck reported that the planning ESP outreach program planning team is developing a strategic plan focusing on improving the visibility of BOEMRE commitment to science; connecting data and information with the public, leadership, scientists, congress and policy makers, educators, students and more; developing outreach materials and continued presence in future workshops, conferences and public forums; creating a new branding, updated website and media outlets; and identifying immediate actions that can be implanted while the plan will be strategic in nature.

Open Discussion

Dr. Smith asked about current base manpower and whether or not there will be additions to the base manpower for FY 2011 and FY 2012. Each regional chief responded:

National Office	20
Pacific OCS Region	3
Gulf of Mexico OCS Region	23
Alaska OCS Region	9

Dr. Fry asked what the budget was for FY 2009. Dr. Cluck responded that its base had been about $29 million. The initial base for FY 2010 was $30.7 million; however, the base increased to $37 million. These extra funds permitted BOEMRE to enter into a Broad Agency Announcement for eight renewable energy studies partnered with NOAA and DOE. Dr. Kendall added that BOEMRE had also partnered with other agencies which would contribute approximately 20 to 30 percent more to those dollars.

Dr. Tyler Priest asked if the Atlantic OCS Region is still being managed by the Gulf of Mexico OCS Region. Dr. Cluck replied that the Atlantic OCS Region has essentially been formed to an extent and the National office and the Gulf of Mexico OCS Region are guiding staff who will be developing the region's Standard Development Plan (SDP).

Alaska OCS Region

Dr. Williams told the Committee that the preliminary revised OCS Oil and Gas Leasing Program 2007-2012 cancelled four Arctic lease sales and the withdrawal of North Aleutian Basin leasing through 2017; the 2011 Alaska ESP will focus on the Chukchi and Beaufort Sea Leased Areas.

Studies Outreach. The Alaska OCS Region is considering different ways to increase the profile of the ESP in FY 2011, including developing a statewide oceans research and studies project browser, sponsoring additional informational meetings/workshops, conducting joint BOEMRE/Principal Investigator presentations, circulating more press releases, and renting display space at scientific meetings.

Adjustments to the FY 2011 Arctic studies program

- Expand studies priority list
- Update and improve Oil Spill Risk Analysis models
- Conduct a lessons learned workshop for spill response in Arctic
- Research biological effects of dispersants in cold water
- Improve baseline for monitoring shore- zone habitat and bioremediation
- Enhance spill detection technologies and Nowcast instrumentation

Alaska OCS Region proposed new starts for FY 2011 studies

- Updates to the Fault Tree for Oil-Spill Occurrence Estimators is needed under the forthcoming MMS 2012-2017, 5-Year Program
- Oil Spill Occurrence Estimators for Onshore Alaska and Canada North Slope Crude and Refined Oil Spills
- Hanna Shoal Ecosystem Study
- Synthesis Report Generation: Technical Support for Environmental Analyses on Select Regional Topics
- Marine Mammal/Physical Oceanography Synthesis
- Monitoring the Distribution of Arctic Whales -COMIDA/BWASP Extension (Chukchi Offshore Monitoring in Drilling Area/Bowhead Whale Aerial Survey Project)
- Distribution of Fish, Crab and Lower Trophic Communities in the Chukchi Sea Lease Area
- Social Indicators in Coastal Alaska: Arctic Communities
- Shorebirds and Infaunal abundance and Distribution on Delta Mudflats Along the Beaufort Sea
- Oil Spill Lessons Learned Workshop
- Maximum Credible Blowout Occurrence and Size Estimators for the Alaska OCS
- ShoreZone Mapping of the North Slope of Alaska
- Workshop on Interagency Protocols for Immediate On-the-Scene Oil Spill Impact Science
- Arctic Cod Genomics, a Pilot Study
- ANIMIDA III: Contaminants, Sources, Bioaccumulation (Arctic Nearshore Impact Monitoring in Development Area

Open Discussion

Dr. Fry asked if an attempt has been made to allow experimental oil spills in terms of evaluating real situations, such as under ice or in deep water. Dr. Williams said he is aware that there have been increasing requests and statements at high levels to reconsider a longstanding policy not to deliberately pollute federal waters. He mentioned that next week he would be attending a USCG-led workshop intended to begin the process of adapting the Gulf oil spill incident to Arctic conditions.

Atlantic OCS Region

Dr. Bigger reported that the Environmental Protection Agency of 2005 gave the Secretary of the Interior the authority to regulate a broad spectrum of activities including the production, transportation, or transmission of energy from sources other than oil and gas. In 2009, President Obama announced that DOI has finalized a long-awaited framework for renewable energy production on the OCS which establishes a program to grant leases, easements, and rights-of-way for orderly, safe, and environmentally responsible renewable energy development activities such as the siting and construction of off-shore wind farms on the OCS.

In addition to establishing a process for granting leases, easements, and rights-of-way for offshore renewable energy development, the program also establishes methods for sharing revenues generated from OCS renewable energy projects

with adjacent coastal states. Additionally, the framework will enhance partnerships with federal, state, and local agencies and tribal governments to assist in maximizing the economic and ecological benefits of OCS renewable energy development.

He announced that task force meetings established for coordination with affected state, local, and tribal governments and federal agencies, have taken place in Delaware, Maryland, Massachusetts, New Jersey, Rhode Island, and Virginia with Florida, Maine, New York, North Carolina, and South Carolina on the horizon.

The Atlantic Offshore Wind Energy Consortium began in June when the Secretary signed an agreement with 10 of the east coast governors and the setup of three work groups which are creating action plans to implement the objectives of the Memorandum of Understanding (MOU) with the Federal Energy Regulatory Commission (FERC). This MOU clarifies each agency's jurisdictional responsibilities for leasing and licensing renewable energy projects on the OCS.

Under the agreement, BOEMRE has exclusive jurisdiction with regard to the production, transportation, or transmission of energy from non-hydrokinetic renewable energy projects, including wind and solar, and FERC will have exclusive jurisdiction to issue licenses for the construction and operation of hydrokinetic projects, including wave and current, but companies will be required to first obtain a lease through BOEMRE.

Planned Biological Science Studies

- Information Synthesis on the Potential for Bat Interactions with Offshore Wind Facilities
- Evaluation of Lighting Schemes for Offshore Wind Facilities & Impacts to Local Environments

Planned Physical Science Studies

- Synthesis, Analysis, and Integration of Air Quality & Meteorological Data for the Atlantic Region
- Validation of buoy-mounted LIDAR wind technology

Planned Social Sciences Studies

- The Economic Impact of OCS Wind Development on Commercial Fishing
- Recreation & Tourism in the Atlantic Region
- Distribution & Capabilities of Radar Systems for the North Atlantic & Mid-Atlantic Seaboard
- Feasibility of Using Gap-Fill Radar to Improve Surveillance Coverage Near Wind Facilities

Future Studies

- Develop regional maps showing the predicted spatial and temporal distribution of birds
- Investigate how birds respond to wind facilities and turbines
- Explore the efficacy of new technology
    - Surveys
    - Mortality

Regional challenges

- New technology - changing fast
- Compressed time frames
- Magnitude of environmental effect
- Many stakeholders
- Permitting requirements
- Information gaps and sharing

Open Discussion

Dr. Fry asked if any of the studies presented had been in last year's Committee review. Dr. Bigger replied that some of them had been but that they had been revised.

Dr. Fry requested the Subcommittee on Alternative Energy be apprised of new alternative issues since much of this is quite new and he believes the Subcommittee would like to keep abreast of what BOEMRE is doing.

Dr. Shinn asked what the basis of concern is about turtles and windmills. Dr. Bigger replied that he thinks turtles would be more affected during the construction phase of the windmills; however, he is concerned about pylons being pounded into the sea floor.

Gulf of Mexico OCS Region

Mr. Herb Leedy said that the Macondo Well which blew out April 20, claimed 11 lives and released 4.9 million barrels of oil over 87 days. Almost 800,000 gallons of dispersants were injected subsea into the plume at that point and another 600,000 gallons on the surface in that vicinity. The Gulf of Mexico is where the future is for oil reserves and despite significant challenges, this is where the oil reserves are and drilling will continue.

Several lease sales have been cancelled since the DWH oil spill; BOEMRE is in the process of determining which lease sales remaining in the current 5-Year Program will proceed.

Planned Studies – Gulf of Mexico

- Characterization of Potentially Sensitive Biological Features Surrounding Shelf-Edge Topographic Banks in the Northern Gulf of Mexico with Analyses of Impacts and Recovery
- Baseline Coastal Oil Spill Characterization
- Detailed Gulf of Mexico Vessel Trip Data to Support Environmental, Socioeconomic, and Archaeological Impact Analyses of OCS Activity
- Archaeological Impact Analyses of OCS Vessel Activity
- Characterization of Seagrass in Waters of the U.S. Outer Continental Shelf Florida Big Bend Area
- Gulf of Mexico 2011 Monitoring Initiative: Lesser Known Shelf-Edge Banks
- Workshop on Monitoring the Long-term Effects of Offshore Oil and Gas Activities in Gulf of Mexico
- A Coupled Atmosphere and Ocean Model in the Gulf of Mexico

Planned Studies - Atlantic

- Battle of the Atlantic Expedition 2011
- Controlled Seismic Airgun Exposure Experiments with Bottlenose Dolphins and Humpback Whales in Study Areas off of Cape Hatteras
- Comprehensive Ecosystem Characterization of the U.S. Outer Continental Shelf: Pelagic Sargassum Algae Distribution and Movement in the Gulf of Mexico and Atlantic
- Extended Mid-Atlantic Planning Area Information Resources Data Search and Literature Synthesis

Proposed FY2011-2013 studies as a result of the Deepwater Horizon Oil Spill (Addendum)

- Hindcasting of the Gulf of Mexico Oil Spill Using an Ocean Circulation Model
- Effects of Oil & Gas Exploration on Estuarine Bottlenose Dolphin Stocks
- Long-term Monitoring Effects of Oil Spill on Pelagic *Sargassum*, Distribution and Movement in the Gulf of Mexico and Atlantic
- Impacts to Shipwrecks and Prehistoric Sites Located as a Result of Dredging Activities Associated with the Deepwater Horizon Oil Spill
- Sperm Whales in the Eastern Gulf (SWEG)
- Effects of Gulf of Mexico OCS Leasing Program and the Gulf of Mexico Oil Spill on Recreation, Tourism, and Fisheries
- MAG-PLAN Post-Gulf of Mexico Oil Spill Modifications
- Socioeconomic Analysis of the Gulf of Mexico Oil Spill on Gulf of Mexico Region's Families and Communities
- A Comparative Analysis of the Effects of the Deepwater Horizon Spill on the Biota Inhabiting Six World War II Shipwrecks and Shipwrecks Spanning the 16th – 20th Centuries in the Gulf of Mexico
- Air Quality Impacts Assessment of the Deepwater Horizon Oil Spill
- Documenting Impacts of the Deepwater Horizon Oil Spill on Coastal Avian Communities
- Recovery, Restoration, and Remediation Following the Deepwater Horizon Oil Spill: Potential Contamination and Recovery of Live Bottom Habitats on the West Florida Shelf and South Florida Reefs
- Recovery, Restoration, and Remediation Following the Deepwater Horizon Oil Spill: Florida Big Bend Seagrass Community Characterization and Recovery

- Determining Long-Term Impacts on Phytoplankton Communities During Recovery from the Deepwater Horizon Oil Spill
- Assessing an Oxygen Budget for the Gulf of Mexico After the Deepwater Horizon Incident
- Oil/Dispersed Oil-Sediment Interactions in Deep Water Environments
- Natural Seep Inputs and Their Relation to the Hydrocarbon Inventory of the Gulf of Mexico

Pacific OCS Region

Dr. Scarborough Bull gave an overview of the ongoing offshore energy programs, looking toward the near future, and described the ongoing studies being done.

She reported both conventional energy and renewable energy are subjects of study for the Pacific OCS. Conventional energy is just another way of talking about oil and gas and there is existing development and production of oil and gas resources. There is an ever-increasing interest from major corporations, major companies, and the states looking into the development of renewable energy, not only the wave energy conversion technology, but also wind technology and floating wind turbines in deepwater.

The Pacific OCS Region's ESP has been ongoing since 1973. There have been about 284 studies completed at nearly $130 million. There are currently 30 active contracts which include every single studies contract along with study components. Eighteen of these active contracts are conventional energy studies and 12 are renewable energy studies.

Peak production for oil production was in 1995 and peak production for gas was at the beginning of this decade. At peak oil production, daily production was over 200,000 barrels per day meaning 70 million barrels of oil annually were being produced. Currently, daily production is about 61,000 barrels of oil and 113,000 cubic feet of natural gas being produced. Cumulatively for the country, Pacific OCS installations have produced greater than a billion barrels of oil and over 1.62 trillion cubic feet of natural gas.

She reported here are currently 49 leases and 23 platforms in federal waters which are no further than 10 miles from shore and are very visible to the residents of the county.

Dr. Scarborough Bull reported on the two major subjects for the Pacific OCS Region Study Program. For renewable energy, the Pacific Region is concentrating on expanding the geographic boundaries of studies through CA, OR, WA, HI, increasing baseline information of existing resources and habitats in areas of interest for renewable energy, and determining potential impacts from installation of renewable energy structures. For conventional energy (existing oil and gas infrastructure) the Pacific Region is concentrating on the role of platforms within the southern California marine ecosystem; monitoring within the regional context for oil and gas operations; and determining the potential impacts from removal or reefing of offshore oil platforms.

Proposed FY 2011 Studies

- Inventory and Analysis of Coastal and Submerged Archaeological Site Occurrence of the Pacific OCS
- DOI Partnership: Distinguishing Between Human and Natural Causes of Changes in Nearshore Ecosystems Using Long-term Data From DOI Monitoring Programs
- Renewable Energy *in situ* Power Cable Observation
- Southern Sea Otter Range Expansion and Habitat Use and Interaction With Manmade Structures
- West Coast Marine Renewable Energy Planning Guidebook

Open Discussion

Dr. Smith asked how the public is responding to offshore alternative energy structures in California. Dr. Scarborough-Bull replied that the space-use study is currently being conducted for the Atlantic and Pacific regions. She thinks, however, that it strictly depends on where the structures are located. Oregon is very engaged and stakeholders have come to the table, including the fishermen. California is not unreceptive, but is less engaged.

Dr. Fry asked if FERC will pay BOEMRE for doing the environmental studies in support of its program. Dr. Scarborough-Bull said no and explained that FERC has a process by which the applicants pay for a lot of the site-specific studies that are needed to support information based for license applications.

Dr. Cluck reminded the Committee that BOEMRE has an MOU with FERC and BOEMRE still maintains leasing authority in the OCS; however, the permitting aspect is with FERC and the state. Dr. Fry stated he believes it is inappropriate for a federal agency to release permits without first reviewing the studies.

Mr. Leedy wanted to know how close the State of California is to signing the Artificial Rigs-to-Reef Bill. Dr. Scarborough-Bull replied that through good scientific design, peer review, and long-term monitoring, science-influenced decision-making has been obtained and the State of California, through the Ocean Protection Council and the Ocean Science Trust, is in support of the Bill which has been passed by the assembly and is on Governor Arnold Schwarzenegger's desk to establish a Rigs-to-Reefs program for California.

Environmental Sensitivity Assessment

Presentations by Mr. James Bennett and Dr. Alan Thornhill

Presentation by Mr. James Bennett

Mr. Bennett explained that the 5-Year Plan process can take up to 3 years to complete and includes a number of analyses required by the OCS Lands Act (OCSLA). One analysis is the relative environmental sensitivity assessment of different areas of the OCS. He said that the difficulties with this requirement are 1) the language in the OCSLA is vague and is subject to interpretation, 2) environmental sensitivity is not a commonly agreed upon concept in ecology, and 3) since it is viewed from various perspectives, environmental sensitivity could be assessed using different approaches depending on the specific interpretation of section 18(2)(g).

He informed the SC that DOI was challenged on the current 2007 to 2012 5-Year Plan on four environmental issues. The court ruled in favor of DOI on three of these issues, dismissing all of the plaintiff's NEPA-based objections, including challenges to BOEMRE's treatment of climate change. However, the Petitioners also argued that since 2002, DOI has relied only on NOAA's Environmental Sensitivity Index (ESI) for determining overall environmental sensitivity as required under Section 18 of OCSLA. This information had been collected systematically and consistently over many years and identifies coastal and shoreline areas on a scale of 1 to 10 as most sensitive to least sensitive. The court agreed and, on remand, DOI must conduct a more complete comparative analysis of the environmental sensitivity of different areas.

Mr. Bennett explained that environmental sensitivity, as BOEMRE defines it, is the vulnerability of an area to a stressor, such as an oil spill, and is one of many environmental analyses that is not a reiteration of the EIS. It does not assess environmental impact, consider the level of oil and gas activity, nor does it consider socioeconomic importance of marine and coastal habitats fauna.

The supplement that resulted from the remand was done in-house and included representatives from the regional offices and an interdisciplinary team covering most of the sciences dealing with ocean resources. The original analysis had been based on coastal habitats and the ESI data prepared by NOAA. Due to the remand, this analysis needed to be expanded to include marine habitats, BOEMRE's rankings of marine productivity, and marine fauna.

For the 2012 to 2017 program, OCSSC guidance and expertise is being sought on how this should be approached and how this analysis can be improved and expanded. A study on sensitivity is planned and the draft study on marine productivity has recently been received which will be folded into this effort. One example that has arisen from this process is the issue of impacts to the environment and species over a long-term period of time.

Presentation by Dr. Thornhill

Dr. Thornhill gave an example of sensitivity versus resilience. He said to consider a tropical rainforest and drag a giant chain behind two tractors and completely flatten the rainforest for a couple of hectares and then leave it alone. Within a couple of years there will be significant secondary regrowth of that tropical rainforest and it will be full of birds. It's a highly resilient system. It is believed that it is partly because there is tremendous energy input and throughput into that system. Doing exactly the same experiment in the Sonoran Desert, it would take hundreds of years before that system is recovered, partly, because of the very low energy throughput.

He then asked which is the more sensitive? He said the analysis depends on one's point of view and how the original question was asked. BOEMRE must anticipate and be prepared to answer that question no matter how it is asked in order to provide an analysis of the results that one would get if asked the question in a different frame of reference recursively.

Dr. Thornhill said the latest version of OSCLA was written in 1978 and since then the understanding of the term "sensitivity" has definitely evolved and he believes that in 10 years, there will be even further understanding of that term. He presented a few scenarios that may assist in trying to anticipate what those changes may be:

- Should the definition of sensitivity include resilience?
- Relative Environmental Sensitivity and Marine Productivity: Is this one analysis or two?
- How should special designations such as endangered species or marine sanctuaries be handled?
- Is an ecosystem approach appropriate and feasible?
- What is the difference between an impact analysis and a sensitivity analysis? Is one more appropriate than the other?
- What should the final product of the analysis be?

Mr. Bennett added the resiliency issue would also need to be dealt with which is fundamental in defining how that information would be provided to the decision maker.

Open Discussion
Dr. Howarth commented that maybe sensitivity should be understood in terms of the provisioning and damage to ecosystem services at a point in time and over time and suggested a multi-scale or multi-attribute concept of resilience which focuses on the concerns of the public. Also, putting together indices that aggregate different things always involves value judgments and so to some extent, the problem is how BOEMRE weighs different things that concerns the public in a way that's scientifically grounded and yet also responsive to stakeholder interests, legal requirements, etc. Dr. Thornhill responded that OSCLA requires that regional relative rankings or comparisons of sensitivity be completed. This is difficult to do since one of these regions is enormous and so heterogeneous that an assessment of whether or not it is resilient is a problem since it could be resilient to some things. In addition, resilience dissolves into two components, the resistance to change and the ability to recover once the perturbation has occurred. Which one of these is going to be assessed? Energy throughput might say that recovery from a perturbation is faster with higher energy input which would suggest that maybe productivity could act as a proxy, but does that also work on the resistance of change to perturbation? That's not really clear.

Dr. Howarth responded that this should be defined in terms of ecosystem services and that sensitivity should affect things that people care about, which probably points in the direction of stakeholder analysis. He asked what BOEMRE can learn from the Marine, Earth, and Atmospheric process. Dr. Thornhill agreed and said that it does actually make sense to consider going down the ecosystems services path because this is where USGS and others are focused; however, Nature Conservancy and others have discovered that people have really strong opinions about what is and is not important.

Dr. Fry said that this effort is confounded not only because of the ecosystem function, but also because some species are transient to any of the ecosystems of which they are part of; therefore, BOEMRE is dealing with a profound conflict of trying to unify it which is not possible. Dr. Thornhill replied that the environmental sensitivity analysis must include all data which is the reason why he is reaching out to the OCSSC to solve this problem.

Dr. Smith asked Dr. Thornhill if BOEMRE is expected to answer everybody's questions according to their particular personal value systems and, as an alternative, suggested recognizing that environmental sensitivity not be defined in the regulation. This would, perhaps, make the case for BOEMRE's own definition, i.e., figure out what the definition ought to be and build a case around it. He agrees with Dr. Howarth on comparing the effects of some activity on different environmental compartments is going to result in making some subjective judgments. Dr. Thornhill pointed out that in the environmental sensitivity analysis, the definition of sensitivity is clear; however, some individuals have an instinctive feel for what is more or less sensitive and the definition is interpreted differently from the component versus the system perspective.

Orientation for Discipline Breakout Groups and Special Announcement

Presentation by Dr. Rodney Cluck

On behalf of Secretary Salazar, Dr. Cluck presented DOI's Partners in Conservation Award to the project team and its contributors for a new study report, *History of Offshore Oil and Gas Industry in Southern Louisiana.* This award recognized the project team including Drs. Tyler Priest and Harry Luton of the Gulf of Mexico OCS Region, for their

exceptional contributions to collecting and preserving a priceless historical resource and an enduring source of pride for the State of Louisiana and its people.

Another Partners in Conservation Award was presented to the Alaska OCS Region for its bowhead whale tracking project which was a collaboration of science and traditional knowledge that has yielded a new level of insight into the biology of the endangered bowhead whale, advanced marine mineral science, and set new standards for future studies. This study involved various individuals from the Alaska Department of Fish and Game, the Alaska Eskimo Whaling Commission, the Barrow Arctic Science Consortium, the Canadian Department of Fisheries and Oceans, the Greenland Institute of Natural Resources in Denmark, BOEMRE, NOAA, the North Slope Burrow Department of Wildlife Management, and the Tupiactic Hunters and Trappers Committee.

Wednesday, September 15, 2010

This day was spent reviewing regional draft SDP's. Following a brief charge from the Chair to the Discipline Breakout Groups, the groups went into their sessions (Ecology/Biology, Physical Oceanography, and Social Sciences) to consider proposed regional priorities and information needs. Each Discipline Breakout Group met with staff members from each BOEMRE OCS Region and Headquarters. In each breakout session, a Committee member was designated as a discussion leader and a BOEMRE staff member was assigned to take notes. Regional BOEMRE Studies Chiefs and staff members were asked to identify, justify, and discuss priorities for future environmental studies.

Thursday, September 16, 2010

Discipline Breakout Groups Reports

Biology/Ecology Discipline Breakout Group
Members: Drs. Kenneth Dunton, Michael Fry, Lorrie Rea, Eugene Shinn, and John Trefry

Dr. Rea gave an overall overview of the regional presentations.

General Comments

- Regions had a strong suite of study plans that represented a broad range of disciplines and good partnering or leverage of funding
- Some study plans at this stage not fully developed, but recognize the unusual challenges presented by oil spill and reorganization of the Agency
- SC could be more effective in advisory role if sub-committees could be re-energized (funding required) and/or more frequent meetings of the full committee could be accomplished (potentially in conjunction with regional Information Transfer Meetings [ITM])
- Subcommittees (by region or discipline) should be involved with regional staff to help identify data and research needs and making recommendations early in the study plan development process
- Committee would also like to have the opportunity to review and potentially comment on Request for Proposals development for the CMI funding cycles and CESU projects to get a better rounded view of the suite of studies being developed
- In basic science studies (as opposed to directed contract products) peer reviewed publication should be important in proposal selection. Peer reviewed publications from previous funding should be a criteria considered in proposal awarding

Recommendations

- Alaska OCS Region:
    - Prospective or the application should be broadened to make projects a little more multidisciplinary
    - Make sure study plans and data are integrated with industry data collection to the maximal extent possible to hopefully avoid replication of studies
    - Make maximum use of all the data in these projects very much more applicable to the questions at hand instead of trying to combine research projects after the fact

- Pacific OCS Region: None
- Gulf of Mexico OCS Region:
    - BOEMRE should be a natural resource trustee and be included in some TWG's in addition to just by invitation
- Atlantic OCS Region:
    - In addition to renewable wind energy, BOEMRE should be giving additional attention to wave and underwater turbine projects that are being proposed to FERC
- Headquarters:
    - The synthesis of research for extraction of offshore sand is a very high priority.

Physical Oceanography Discipline Breakout Group
Members: Drs. Michael Kosro, Mark Johnson, Mary Scranton, Joe Smith

General Comments/Recommendations

- Study profiles need to be delivered in advance of the review sessions
- Recommend preparation of a follow-up spreadsheet indicating how committee guidance was incorporated into the final plan, the funded projects, and indicating any funded projects not reviewed by the SC
- Support expanded implementation of Office of Management and Budget requirements for peer review and encourage more substantive input from peer review processes at all project stages
- Due to the popularity of project specific websites as outreach tools for research, it might be worth considering a workshop on website design
- A presentation on BOEMRE programs related to oil spill response might be appropriate for the next OCS SC meeting
- Recommend preparation of a 1-page "elevator speech" document from the Principal Investigator of each ongoing project for inclusion in the annual committee package

Social Sciences Discipline Breakout Group
Members: Drs. Ralph Brown, Richard Hildreth, Richard Howarth, and Tyler Priest

General Comments/Recommendations

- Given the high number of shipwreck and archaeological studies, recommendation was made to appoint a marine archaeologist to the Scientific Committee; this will not require additional resources given projected Committee vacancies
- The study planning process should emphasize both Agency information needs and the scientific and scholarly merit of proposals
    - This should be reflected in the Committee's profile summaries (in addition to "BOEMRE Information Needs to Be Addressed")
- BOEMRE should reconsider the current composition of the SC in light of proposal trends, e.g. archaeology, radar, legal research, etc.
- While the multiple constraints on the ESP are recognized, there was is a concern that this study plan inadequately addresses the implications of the DWH oil spill
    - Recommend the Gulf of Mexico OCS Region immediately consider a more comprehensive approach to the socio-economic impacts of the spill, i.e. as outlined in Dr. Luton's comprehensive socio-economic research plan (draft); it is hoped that the increased budget will support such an effort
    - Recommend re-establishing a Studies Chief in the GOM Region

Committee Business

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

1. Prior to 1999, the OCSSC had met two to three times a year. Beginning in 2000, the Committee has met only once a year and that meeting has been devoted to a review of proposed studies. With increased interest in the ESP and the quality of science being produced by BOEMRE, the OCSSC recommends expanding its role to two meetings per year with the first meeting being devoted to discussing proposed study plans and making recommendations as to individual studies and overall priorities of the ESP. The second meeting should focus on results of ongoing studies which will be

discussed in the context of future ESP needs so that the Committee can offer advice to improve the continuity of the ESP and future needs.

2. The OCSSC would like to receive information on the results of the studies it has recommended. The recommendation was made that members of the Committee be encouraged to attend one or more ITM's each year using Scientific Committee travel funds. These meetings provide an excellent opportunity to receive information and to interact with studies investigators where updates and results of ongoing studies are presented. Currently the OCSSC does not receive updates or results of the studies it recommends. Although the Committee is an unpaid advisory committee, a commitment of time and effort is shared because members believe in the mission of BOEMRE and want to provide services to make the program more successful.
3. The OCSSC has discussed the critical need for peer review of proposed studies and completed work and the need to publish the results of these studies in peer reviewed journals. It is very important that the scientific community as a whole has the highest confidence in BOEMRE data, and the Committee recommends that BOEMRE develop a system for independent review of proposals, including an applicant's publication of prior results, as part of the review of proposals. Contactors should be required to publish their results as a condition of funding.
4. The OCSSC noted the difficulty of reconciling projects reviewed in earlier years with those actually implemented by BOEMRE. Specifically, the Committee requested that BOEMRE prepare a follow-up spreadsheet indicating how OCSSC guidance was incorporated into the final plan, which of the projects proposed in the previous two meetings were actually funded, and identify any projects that were not previously reviewed by the Committee.
5. The OCSSC requested that Director Bromwich invite appropriate senior technical staff from FERC to the next meeting to describe the environmental assessment and permitting process for offshore renewable energy. This will enable the Committee to evaluate and make recommendations as to the need for BOEMRE involvement in environmental assessments of offshore renewable energy pursuant to the leasing authority of BOEMRE for those projects over which FERC has permitting jurisdiction. The OCSSC is concerned that the overlapping jurisdictions may result in significant data gaps and inadequate environmental studies in support of renewable energy, and the Committee would appreciate clarification as to the responsibilities of BOEMRE and FERC in permitting and leasing of renewable energy projects.

The OCSSC reviewed 51 study plans from the four regions including reviews of BOEMRE needs and priorities for future studies in support of leasing. In several areas the Committee felt that priorities for some required studies for leasing should be ranked higher than the positions set by the regions and this could pose problems if the ESP budget were insufficient to cover all anticipated studies. The Committee wants to insure that those studies which support a specific lease sale are set at a high enough priority to guarantee funding.

The Committee has outlined the following guidelines for setting priorities for studies:

1. The study is required for leasing
2. The study provides the best environmental information for the ESP
3. The study fills important data gaps
4. The study will provide long-term continuity and assessment of environmental or anthropogenic change in response to BOEMRE regulated activities

In regard to specific study areas, the OCSSC has the following additional recommendations:

1. The OCSSC is particularly concerned with the risks of ice in exploration and development of oil and gas in the Arctic. Ice will pose risks to drill rigs, pipelines, and deepwater operations and the Committee felt there are insufficient studies proposed to evaluate and manage these risks. Furthermore, the ability to deal with oil spills under icy conditions has not been adequately tested and warrants more complete evaluation prior to any Arctic lease sale.
2. The OCSSC recommends that descriptions of studies conducted by CMI and CESU be provided to the Committee to assist in understanding the scope and extent of overall studies being conducted. This information would assist in assessing data gaps and overlaps in studies.
3. The OCSSC recommends that BOEMRE set as priority the discovery and cataloging of natural oil seeps in the Gulf of Mexico, Pacific, and Alaska regions. The Committee was surprised this had not been done in the past.
4. Environmental Sensitivity Analysis. The OCSSC believes this is an important program direction and thanked the staff, especially Dr. Thornhill and Mr. Bennett for their presentation. Dr. Lorrie Rea of the SC has volunteered to chair a subcommittee to work with Agency staff on this complex issue.
5. The OCSSC recommends that the Pacific OCS Region develop CESU participation to fully utilize the expertise of the west coast regional universities.

6. The OCSSC recommends that studies be developed for a socioeconomic analysis of the DWH oil spill on families and communities emphasizing long term and secondary effects of the spill.
7. Four additional areas of research were identified by the OCSSC for consideration in future ESP development: a) impact of alternative energy development on commercial fishing in the Atlantic and Pacific regions; b) impact of alternative energy development on beach nourishment and sand and gravel programs of states; c) installation of green lighting on offshore platforms to reduce migratory bird kills; and d) toxicity studies of spilled oil on coral reefs.

Other comments made to BOEMRE from the OCSSC:

- Provide more lead time for the Committee to review policies; last minute additions cannot be reviewed properly
- Provide feedback to the Committee on its recommendations
- Provide a detailed schedule on the Discipline Breakout Groups sessions, especially on the multi-topic profiles, information technologies, and fates and effects where the main discipline may not be clear
- Add scientific merit to the profiles; SDP's should contain fundamental scientific questions which the project should answer upon completion
- Provide the possible funding mechanism, i.e., competitive contracts or cooperative or interagency agreements
- Provide a list of other studies that have been awarded without the Committee's review
- Request Committee assistance in the Request for Proposal Development of the CMI/CESII proposals
- Include an overview of BOEMRE' s Technology Assessment and Research Program
- New members need to represent the disciplines and subject matter experts to meet new directions and recommends more physical oceanographers be appointed
- Provide the Committee clarification on their role, i.e., how its members can best support the mission of BOEMRE science
- BOEMRE should become an NRDA trustee
- Arctic ice studies need to be introduced
- Review reorganization procedures to ensure that the social science impacts of the DWH oil spill are adequately incorporated
- Deepwater offshore wind requires either moored or floating turbines
- Appoint an archeologist to the Committee

Subcommittees. After discussion, the revised subcommittees are:

DEEPWATER	ALASKA	DECOMMIS-SIONING	RENEWABLE ENERGY	ENVIRONMENTAL SENSITIVITY
***Joe Smith**	***Peter Schweitzer**	***Mary Scranton**	***Mike Fry**	***Lorrie Rea**
Jim Coleman	Ken Dunton	Richard Hildreth	Ralph Brown	Richard Howarth
Mike Kosro	Mike Fry	Eugene Shinn	Richard Hildreth	Mike Fry
Tyler Priest	Lorrie Rea	Joe Smith	Richard Howarth	Richard Hildreth
Mike Rex	Duane Gill		Mike Kosro	Joe Smith
**Ian Voprial	Richard Howarth			

The meeting was adjourned at 2:47 p.m.

I certify that the above minutes are an accurate caption of the September 140-16, 2011, OCS Scientific Committee proceedings. The minutes may be released to OCS SC members and made available for public inspection.

Fry

D. Michael Fry
Chair, OCS Scientific Committee
Bureau of Ocean Energy Management, Regulation and Enforcement

ACRONYMS

BOEMRE	Bureau of Ocean Energy Management, Regulation and Enforcement
BOP	Blowout Preventer
CESU	Cooperative Ecosystem Study Units
CMI	Coastal Management Institute
CMSP	Coastal Marine Spatial Planning
DOE	Department of Energy
DOI	Department of the Interior
DPV	Dynamically Positioned Vehicles
DWH	Deepwater Horizon
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESI	Environmental Sensitivity Index
ESP	Environmental Studies Program
ESPIS	Environmental Studies Program Information System
FERC	Federal Energy Regulatory Commission
FRTG	Flow Rate Technical Group
FTE	Full-Time Equivalent
FWS	Fish and Wildlife Service
FY	Fiscal Year
IG	Inspector General
ITM	Information Transfer Meeting
IWG-OSS	Interagency Working Group on Ocean Social Science
LSU	Outer Continental Shelf
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NSF	National Science Foundation
NICC	National Incident Command Center
NOAA	National Oceanic and Atmospheric Administration
NOC	National Ocean Council
NOP	National Ocean Policy

NPS	National Park Service
NRDA	Natural Resource Damage Assessment
NSF	National Science Foundation
NTL	Notice to Leeses
OCS	Outer Continental Shelf
SC	Scientific Committee
OPA	Oil Pollution Act
OSCLA	Outer Continental Shelf Lands Act
OSTP	Office of Science and Technology Policy
ROV	Remotely Operated Vehicle
SDP	Standard Development Plans
SIMOPS	Simultaneous Operations
SIP	Science Integrity Policy
TWG	Technical Working Group
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USGS	United States Geological Survey

Meeting Summary

Tuesday, September 14, 2010

Welcome and Introduction

The meeting was called to order by the Chair, Dr. D. Michael Fry, who introduced Dr. James Kendall, Acting Deputy Associate Director and Executive Secretary of the Outer Continental Shelf Science Committee (OCSSC).

Associate Director, Offshore Energy and Minerals Management Presentation and Discussion

Presentation by Mr. Robert LaBelle (Acting)

As advisor to the Director, Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), the OCSSC appreciates the opportunity to discuss ongoing and future issues, policies, and activities of the Bureau. This exchange not only keeps the Committee apprised of BOEMRE's direction but also offers an opportunity for the Committee to provide direct advice and guidance on matters as they relate to the Environmental Studies Program (ESP).

Mr. LaBelle reported on the Deepwater Horizon (DWH) oil spill, the 5-Year Leasing Program, and Renewable Energy-Cape Wind. Following his presentation there were a series of informational presentations.

Science Advisor to the Director Presentation and Discussion

Presentation by Dr. Alan Thornhill

Dr. Thornhill is a political appointee and his role is to review scientific and technical data that will ensure the effective management of energy resources located on the Nation's OCS and to represent the scientists who do the work at BOEMRE and the contractors who do the work for the Bureau. His presentation focused on the status of Offshore Energy and Minerals Management.

BOEMRE Response to the Deep Water Horizon Incident

Presentations by Mr. Lars Herbst, Regional Director of the Gulf of Mexico Region and Dr. Rodney Cluck, Chief, Environmental Sciences Branch

Mr. Herbst's and Dr. Cluck's presentations centered on what has been going on in BOEMRE and the OCS Gulf of Mexico Region since the DWH oil spill on April 20. Mr. Herbst touched on source control and surface containment, well kill operations, review of policies and reports, and science in support of decision-making. Dr. Cluck reported on some of the immediate actions that took place immediately after the spill by the BOEMRE.

Deep Water Horizon Oil Spill Effects

Presentation by Dr. Susan Finger

Dr. Finger is the program coordinator for Columbia Research Center, U.S. Geological Survey, which provides all Department of the Interior (DOI) bureaus with science. She addressed the response actions, the natural resource management assessment, and restoration in regards to the DWH oil spill.

Teleconference with the Director

Mr. Michael R. Bromwich

Mr. Bromwich stated that steps need to be taken to raise the credibility of the agency and make clear that decisions being made are drawn on a scientifically sound basis. In order to get credit for the science being done, he, Dr. Thornhill, and others, will be very much involved in the weeks and the months ahead promoting and publicizing the ESP and the science being done through press releases, announcements, and events of various kinds. Mr. Bromwich commented on the

importance of what the Committee is doing and expressed his appreciation for all the hard and important work being done by the Agency and the Committee.

Natural Resource Damage Assessment

Presentation by Dr. Robert Haddad

Dr. Haddad from NOAA spoke on the Natural Resource Damage Assessment and Restoration Program (DARRP) due to the DWH oil spill. The goal of DARRP is to compensate the public for injuries to natural resources and natural resource service losses.

Overview of Environmental Studies Program

Presentation by Dr. Rodney Cluck

The purpose of the Environmental Program is to provide information needed to predict, assess, and manage impacts from offshore energy and marine minerals exploration, development, and production activities on human, marine, and coastal environments through competitive contracts and cooperative agreements with universities. Dr. Cluck reported on the National Region's Proposed FY 2011 Studies, Coastal Marine Spatial Planning, ESP Information System, and the ESP Outreach Program.

Overview of Regional Environmental Programs including Regional Components of the ESP

Presentations from Drs. Dee Williams, Chief, Environmental Studies Management Section, Alaska OCS Region;
Dr. David Bigger, Biologist, Office of Alternative Energy Programs;
Dr. Herb Leedy, Supervisor, Biological Sciences Unit, Gulf of Mexico OCS Region, and
Dr. Ann Scarborough-Bull, Chief, Environmental Studies Section, Pacific OCS Region

Presentations provided a brief orientation of the OCS Program as well as regional challenges. The presentations focused on the most pressing issues facing the Alaska, Gulf of Mexico, Atlantic, and Pacific regions.

Environmental Sensitivity

Presentations by Dr. Allen Thornhill and Mr. James Bennett

Dr. Thornhill and Mr. Bennett presented an overview of BOEMRE's process for developing its Environmental Sensitivity Analysis for offshore energy development. Included in their discussions were details on how these documents have been produced for past analyses and thoughts on how to potentially adjust BOEMRE practices when preparing future generations of these documents.

Wednesday, September 15, 2010

This day was spent reviewing regional draft Studies Development Plans (SDP). Following a brief charge from the Chair to the Discipline Breakout Groups, the groups went into their sessions (Ecology/Biology, Physical Oceanography, and Social Sciences) to consider proposed regional priorities and information needs. Each Discipline Breakout Group met with staff members from BOEMRE's OCS regions and headquarters. In each breakout session, a Committee member was designated as a discussion leader and a BOEMRE staff member was assigned to take notes. Regional BOEMRE Studies Chiefs and staff members were asked to identify, justify, and discuss priorities for future environmental studies.

Thursday, September 16, 2010

Discipline Breakout Groups Reports

Reports from each of the Discipline Breakout Group were presented in plenary session:

- Biology/Ecology Discipline Breakout Group
- Physical Science Discipline Breakout Group

- Socioeconomic Discipline Breakout Group

Committee Business

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

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2. The OCSSC would like to receive information on the results of the studies it has recommended. The recommendation was made that members of the Committee be encouraged to attend one or more Information Transfer Meetings each year using Scientific Committee travel funds. These meetings provide an excellent opportunity to receive information and to interact with studies investigators where updates and results of ongoing studies are presented. Currently the OCSSC does not receive updates or results of the studies it recommends. Although the Committee is an unpaid advisory committee, a commitment of time and effort is shared because members believe in the mission of this Bureau and want to provide services to make the program more successful.

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- Provide the Committee clarification on their role, i.e., how its members can best support the mission of BOEMRE science.
- BOEMRE should become a NRDA trustee.
- Arctic ice studies need to be introduced.
- Review reorganization procedures to ensure that the social science impacts of the DWH oil spill are adequately incorporated.
- Deepwater offshore wind requires either moored or floating turbines.
- Appoint an archeologist to the Committee.

Subcommittees. After discussion, the revised subcommittees are:

DEEPWATER	ALASKA	DECOMMIS-SIONING	RENEWABLE ENERGY	ENVIRONMENTAL SENSITIVITY
***Joe Smith**	***Peter Schweitzer**	***Mary Scranton**	***Mike Fry**	***Lorrie Rea**
Jim Coleman	Ken Dunton	Richard Hildreth	Ralph Brown	Richard Howarth
Mike Kosro	Mike Fry	Eugene Shinn	Richard Hildreth	Mike Fry
Tyler Priest	Lorrie Rea	Joe Smith	Richard Howarth	Richard Hildreth
Mike Rex	Duane Gill		Mike Kosro	Joe Smith
**Ian Voprial	Richard Howarth			

The meeting was adjourned at 2:47 p.m.

Bureau of Ocean Energy Management, Regulation and Enforcement
Outer Continental Shelf
Scientific Committee
Meeting Agenda

MEETING DATES: September 14-16, 2010

LOCATION: Embassy Suites Dulles North
44610 Waxpool Road
Ashburn, VA 20147
(703) 723-5300

Tuesday, September 14

8:30 a.m.	Welcome and Introductions *(please turn cell phones off or set to silent)*	**Dr. D. Michael Fry**, Chair, OCS SC and **Dr. James Kendall**, Executive Secretary of the OCS SC and Chief, Environmental Division, BOEMRE
8:45 a.m.		**Mr. Robert LaBelle**, Acting Associate Director
9:00 a.m.		**Dr. Alan Thornhill**, Science Advisor to the Director
9:15 a.m.	Source Control and Surface Containment, Well Kill Operations, Review of Policies and Reports	**Mr. Lars Herbst**, Regional Director, Gulf of Mexico OCS Region
	Immediate and Near-term Actions and Activities - Deep Water Horizon Incident	**Dr. Rodney Cluck**, Chief, Environmental Sciences Branch
9:45 a.m.	USGS Response to the Deep Water Horizon Incident	**Dr. Susan Finger**, Program Coordinator, Columbia Environmental Research Center, U. S. Geological Survey

10:15 a.m. – 10:30 a.m. BREAK

10:30 a.m.	Director's Welcome	**Mr. Michael Bromwich**, Director

As advisor to the Director, BOEMRE, the Committee appreciates the opportunity to have a dialogue with the Director on ongoing and future issues, policies, and activities of the Bureau and Department. This exchange not only keeps the Committee apprised of BOEMRE direction, but also offers an opportunity for the Committee to provide direct advice and guidance on matters as they relate to the Environmental Studies Program and broader scientific issues.

11:00 a.m.	Natural Resource Damage Assessment	**Dr. Robert Haddad**, National Oceanic and Atmospheric Administration

Dr. Haddad will present to the Committee on the NRDA process as pertaining to the Deep Water Horizon Incident.

11:30 – 1:30 p.m.	**LUNCH**	
1:30 p.m.	Overview of Environmental Studies Program	**Dr. Rodney Cluck**, Chief, Environmental Sciences Branch
1:45 p.m.	Overview of Regional Environmental Programs including Regional components of the ESP	**(20 minutes each)**
	• Alaska OCS Region	**Dr. Dee Williams**, Chief, Environmental Studies Management Section
	• Atlantic OCS Region	**Dr. David Bigger**, Biologist, Office of Alternative Energy Programs
	• Gulf of Mexico	**Dr. Herb Leedy**, Supervisor, Biological Sciences Unit
	• Pacific OCS Region	**Dr. Ann Scarborough-Bull**, Chief**,** Environmental Studies Section

Presentations will provide a brief orientation of the OCS Program as well as regional challenges. The presentations will focus on the most pressing issues facing the Alaska, the Gulf of Mexico, the Atlantic, and the Pacific Regions.

3:05 p.m. – 3:20 p.m.	**BREAK**	
3:20 p.m.	Environmental Sensitivity	**Mr. James Bennett**, Chief, Branch of Environmental Assessment and **Dr. Alan Thornhill**

Dr. Thornhill and Mr. Bennett will be presenting an overview of BOEMRE's process for developing its Environmental Sensitivity Analysis for offshore energy development. Included in their discussions will be details on how these documents have been produced for past analyses and thoughts on how to potentially adjust BOEMRE practices when preparing future generations of these documents. BOEMRE's proposed Environmental Sensitivity and Marine Productivity will also be discussed.

4:15 p.m.	Orientation for Discipline Breakout Groups and Special Announcement	**Dr. Rodney Cluck**
4:30 p.m.	Public Comment	

RECESS

Bureau of Ocean Energy Management, Regulation and Enforcement
Outer Continental Shelf (OCS)
Scientific Committee (SC)
Meeting Agenda

Wednesday, September 15, 2010

7:50 a.m. – 8:00 a.m. Charge to the Discipline Breakout Groups **Dr. D. Michael Fry,** Chair

Physical Sciences, Biology, and Socioeconomic Disciplines meet separately to discuss national and regional studies plans.

Biology/Ecology or Interdisciplinary	**Physical Sciences**	**Social Sciences**
Recorder: Jim Price	Recorder: Walter Johnson	Recorder: John Primo
8:00 a.m. – 10:00 a.m. Alaska	8:00 a.m. – 9:00 a.m. Atlantic	8:00 a.m. – 10:30 a.m. Gulf of Mexico
	9:00 a.m. – 11:30 a.m. Gulf of Mexico	
10:00 a.m. – 11:30 a.m. Pacific		10:30 a.m. – 11:30 a.m. Atlantic
11:30 a.m. – 1:00 p.m. LUNCH		
1:00 p.m. – 3:30 p.m. Gulf of Mexico	1:00 p.m. – 2:30 p.m. National	1:00 p.m. – 2:30 p.m. Alaska
	2:30 p.m. – 4:30 p.m. Alaska	2:30 p.m. – 3:00 p.m. Pacific
		3:00 p.m. – 4:30 p.m. National
3:30 p.m. – 4:00 p.m. Atlantic		
4:00 p.m. – 5:00 p.m. National (Environmental Sensitivity)		

Sessions include sand and gravel and renewable energy study profiles.

Bureau of Ocean Energy Management, Regulation and Enforcement
Outer Continental Shelf (OCS)
Scientific Committee (SC)
Meeting Agenda

Thursday, September 16, 2010

8:00 a.m.	Preparation of Discipline Breakout Groups Reports	**OCS SC representatives and BOEMRE personnel**
10:00 a.m.	Reports From Discipline Breakout Group Sessions (20 minutes each) *(please turn cell phones off or set to silent)* • **Ecology/Biology** • **Physical Oceanography**	
	10:40 a.m. – 11:00 p.m. BREAK	
	• **Social Sciences**	
11:20 a.m.	Open Discussion of Breakout Group Reports	**Dr. Michael Fry**, Chair, OCS SC
	12:00 Noon – 1:30 p.m. LUNCH	
1:30 p.m.	Public Comment	
2:00 p.m.	Committee Business • Items for Letter to the Director • Emerging Issues/Topics of Interest	**Dr. Michael Fry**
	2:30 p.m. – 2:45 p.m. BREAK	
	• Upcoming Retirements • Other Business • Dates and locations for the next meeting	
3:30 p.m.	Final Comments	
4:00 p.m.	**ADJOURN**	

DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION, AND ENFORCEMENT

OCS Scientific Committee
MEMBERSHIP INFORMATION

Ashburn, Virginia
September 14-16, 2010

Dr. Ralph Browning Brown

Dr. Brown is a professor with the Department of Sociology, Executive Director of the Rural Sociological Society, and Director of the International Development Minor at Brigham Young University, and his interests include: community satisfaction and attachment, including community-level impacts due to boom-growth most often associated with large-scale economic development; natural resource-human interface; persistent rural poverty and subsistence lifestyles, and effects of mass consumer economy on rural communities and their residents. He specializes in Social Impact Assessment and is versed in both quantitative and qualitative data collection and analysis techniques.

Executive Director of the Rural Sociological Society and
Director, International Development Minor
Professor
Department of Sociology
2034 JFSB
Brigham Young University
Provo, Utah 84602-5400
office: (801) 422-3242
fax: (801) 422-0625
e-mail: ralph_brown@BYU.edu

Discipline: Socioeconomics (Development and Social Change;
Social Impact Assessment)

Appointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. James M. Coleman

Dr. Coleman is a Boyd Professor for the Coastal Studies Institute (CSI) and recently served as Interim Vice-Chancellor for Research and Graduate Studies at Louisiana State University (LSU). He started his professional career as a graduate student at CSI, and eventually served as Director of CSI, Chairman of Geology and Geophysics, head of the School of Geoscience, and interim Dean of Basic Sciences before being named Executive Vice-Chancellor in 1989. He has conducted worldwide research on deltaic sedimentation, riverine processes, marine geology, shallow structure of shelf sediments, and muddy coasts. He serves on numerous local, state, and national committees and is presently a member of the Ocean Studies Board, National Research Council, and has recently been appointed to the U.S. Commission on Ocean Policy.

Boyd Professor, Coastal Studies Institute
335 Howe-Russell
Louisiana State University
Baton Rouge, Louisiana 70803
office: (225) 578-6633
fax: (225) 578-2520
e-mail: chanjc@lsu.edu

Discipline: Oceanography/Geology (Use of Science in Oil and Gas Decisionmaking)

Appointed:	March 30, 2004
Reappointed Under New Charter:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. Kenneth H. Dunton

Dr. Dunton is a biological oceanographer whose research is focused on estuarine and coastal processes. Although his work spans from the Arctic to the Antarctic, his continuous studies of the arctic coastal ecosystem has spanned three decades and over 3000 research dives. Funded by the National Science Foundation's Arctic System Science's Shelf-Basins Interactions study from 1999 to 2008, he examined the distribution and biomass of benthic biota and changes in trophic structure based on the application of stable isotopic signatures. He has also performed intensive studies of nearshore shelf arctic benthic communities and kelp beds since 1977. He has examined the linkages between arctic watersheds and coastal lagoons along the eastern Alaskan Beaufort Sea coast, with particular emphasis on the lagoon systems of the Arctic National Wildlife Refuge. His work in the Gulf of Mexico has addressed the productivity of seagrass and marsh systems, and the trophic structure of the Flower Gardens coral reef community. He obtained a B.S. from the University of Maine (1975), M.S. from Western Washington (1977), and Ph.D. from the University of Alaska-Fairbanks (1986), and is currently a professor in Marine Science at The University of Texas at Austin.

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Discipline: Discipline: Biological Effects of Potential Oil and Gas Development on Marine Benthic Communities of the Arctic Basin and Gulf of Mexico

Originally Appointed:	June 24, 2008
Eligible for Reappointment:	June 24, 2011

Dr. Michael D. Fry
Chair

Dr. Fry is an avian toxicologist whose research interests over the past 30 years have focused on the effects of pollutants and pesticides on ecosystems with a focus on wild birds. Before joining American Bird Conservancy, he was a research physiologist in the Department of Avian/Animal Sciences at the University of California, Davis, for 25 years.

Dr Fry is Chair of the Department of Interior's Bureau of Ocean Energy Management, Regulation and Enforcement's Outer Continental Shelf Scientific Committee (OCSSC), serving since 2007. He had previously served on the OCSSC from 1989-1995, and as Chair for 2 years. Dr. Fry has been a panel member for the National Academy of Sciences on hormone active chemicals in the environment, and has participated in toxicology reviews and international symposia for the Organization for Economic Cooperation and Development (OECD), and for the United Nations University in Japan. He has been a committee member for the Environmental Protection Agency (EPA) and OECD in revising avian toxicity test methods, was a member of the EPA Ecological Committee for the Federal Insecticide, Fungicide and Rodenticide Act Risk Assessment Methods (1997-1999), and a Science Advisory Panel member for the EPA terrestrial risk assessment in 2004.

Dr. Fry received his PhD in physiology from the University of California, Davis, in 1971, and has had held postdoctoral research and teaching positions in Australia and at the Cardiovascular Research Institute at University of California, San Francisco.

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Discipline: Ecology (Avian Biology & Alternative Use)

Appointed:	April 28, 2006
Reappointed Under New Charter	June 24, 2008

Dr. Richard G. Hildreth

Dr. Hildreth is the author of three casebooks and many other publications on ocean and coastal law. He has consulted frequently with Federal and State coastal management agencies in the U.S. and Australia, and with Pacific Island governments on environmental legal matters. Dr. Hildreth served as the University of Queensland Law Faculty's 50th Anniversary Visiting Fellow. He has served on the National Research Council's Non-native Oysters and Coastal Ocean Committees, the Pacific Northwest Regional Marine Research Board, and the editorial advisory boards of the journals *Coastal Management* and *Ocean Development and International Law*.

Dr. Hildreth practiced business law with Steinhart & Falconer in San Francisco before teaching law.

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Discipline: Socioeconomics (Ocean & Coastal Law; Law of the Sea)

Appointed:	March 30,2004
Reappointed:	April 28, 2006
Reappointed Under New Charter	June 24, 2008

Dr. Richard B. Howarth

Dr. Howarth is an economist who studies the theory of environmental policy analysis with application to topics such as energy use, climate change, and ecological conservation. His research and teaching emphasize themes that include the role of discounting and sustainability in evaluating long-term environmental policies; mathematical models of economy-environment interactions; and the interplay between economics and ethics in valuing and managing environmental resources. Dr. Howarth has held appointments at the Lawrence Berkeley National Laboratory and the University of California at Santa Cruz. He is currently the Pat and John Rosenwald Professor in the Environmental Studies Program at Dartmouth College and the Editor-in-Chief of *Ecological Economics*.

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Discipline: Socioeconomics (Environmental Economics and Policy Analysis)

Originally Appointed:	June 24, 2008
Eligible for Reappointment:	June 24, 2011

Dr. Mark A. Johnson

Dr. Johnson's research interests include physical oceanography of the Arctic Ocean with a focus on its general circulation and variability. His approach is analysis of historical and model data sets and use of observational methods such as moored instruments. His present focus is assessment of the ice volume of the Arctic Ocean, especially thickness along the margins, and how this may be affected by climate change.

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Discipline: Physical Oceanography (Arctic Region and Sea Ice)

Originally Appointed: June 24, 2008
Eligible for Reappointment: June 24, 2011

Dr. P. Michael Kosro

Dr. Kosro is a coastal physical oceanographer, and a Professor of Oceanography at Oregon State University. His group has installed and operates a large array of HF current mapping systems to continuously measure the time-varying surface circulation over the entire Oregon coast, while also using conventional moored and shipborne tools. Recent studies include interannual variability of the circulation, mesoscale features of the upwelling circulation, California Current and undercurrent, and spatial structure of tidal flows.

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Discipline: Physical Oceanography (Shelf-deep Sea Exchange/Pacific Coast)

Appointed:	March 30, 2004
Reappointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. Richard "Tyler" Priest
Parliamentarian

Dr. Priest is Clinical Professor and Director of Global Studies at the C.T. Bauer College of Business, University of Houston, and a faculty affiliate of the Public History Program at the University of Houston. He is also a member of the Technology Pioneer Committee for the Offshore Energy Center in Houston. He received his Ph.D. in history from the University of Wisconsin-Madison. His specializes in the history of offshore oil and gas in the Gulf of Mexico and is currently working on a study of the evolution of offshore exploration technology and leasing. He has served as chief historian on a Shell Oil corporate history project and chief historian for a Minerals Management Service (MMS) project to document the history of the offshore oil industry in the Gulf of Mexico (OCS Study MMS 2004-049). He has authored books on the offshore operations of Shell Oil and Brown & Root.

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Discipline: Socioeconomics (Historian-Social/Economic Effects and the Oil and Gas Industry)

Appointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. Lorrie Rea
Vice-Chair

Dr. Rea's general research interest encompasses the metabolism and nutritional physiology of terrestrial and marine mammals and is particularly interested in questions dealing with lipid metabolism in large mammals and how physiological processes are adapted to periods of food limitation and fasting in the wild. Most of her recent research addresses health, diet, and body condition assessment of Steller sea lions in Alaska. Dr. Rea earned her Ph.D. in Marine Biology from the University of Alaska Fairbanks (1995) after obtaining a B.S. from the University of Guelph (1987) and an M.S. from the University of California Santa Cruz (1990). She is currently a wildlife physiologist with the Alaska Department of Fish and Game, Division of Wildlife Conservation.

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Discipline: Biology (Endangered Species; Arctic Marine Mammal Health)

Appointed:	June 24, 2008
Eligible for Reappointment:	June 24, 2011

Dr. Peter P. Schweitzer

Dr. Schweitzer was born and raised in Austria where he became fascinated with the mysterious country that no longer exists, the Soviet Union, during the 1980's. A student exchange program enabled him to study in Leningrad for one academic year in 1986/87 and to begin ethnohistoric research of the Chukchi Peninsula in the Russian Far East, which led to a Ph.D. degree awarded by the University of Vienna in 1990. Since 1990, he has had several opportunities for longer and shorter field trips to Chukotka and, more recently, to the Republic of Sakha (Yakutia). Since 1992, he has been conducting fieldwork in various communities on the Seward Peninsula in Alaska. He joined the faculty of the Department of Anthropology at the University of Alaska Fairbanks in 1991. His topical interests, in addition to the above-mentioned historical inquiries, encompass social organization (kinship, gender, politics), hunter-gatherer studies, the history of anthropology, transnationalism and other forms of interethnic contact, as well as practices and ideologies of colonialism and their local impacts. Since 2007, he has been serving as Director of Alaska EPSCoR (Experimental Program to Stimulate Competitive Research).

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Discipline: Socioeconomics (Anthropology and Subsistence)

Appointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. Mary I. Scranton

Dr. Scranton received a B.A. in Chemistry from Mount Holyoke College and a Ph.D. in Oceanography from the Woods Hole Oceanographic Institution/MIT Joint Program in Oceanography. Her dissertation was on the marine geochemistry of methane. Following her dissertation work, she spent 2 years as a National Academy of Sciences/National Research Council Postdoctoral Fellow at the Naval Research Lab in Washington, D.C., working on analytical and geochemical aspects of hydrogen gas distributions in the ocean and atmosphere. Since 1979, she has been at the Marine Sciences Research Center of Stony Brook University. In recent years, she has been interested in the factors controlling the cycling of organic compounds in sediments and in the water column, primarily as a part of the CARIACO (Carbon Retention in a Colored Ocean) program, a study of carbon cycling in the Cariaco Basin, Venezuela. She also maintains her long-standing interest in methane geochemistry and is investigating the role of seeps and vents, and possibly of destabilizing gas hydrates, in controlling water-column methane concentrations near the U.S. north-east continental shelf.

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Discipline: Chemical Oceanography (Geochemistry/Hydrates)

Appointed:	March 30, 2004
Reappointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. Eugene A. Shinn

Dr. Shinn began his career as a biologist, but in 1958 switched to carbonate sedimentology after joining Shell Development Co., the research arm of Shell Oil. During his 15-years with Shell, he conducted extensive studies in modern carbonate sedimentation and diagenesis in the Florida Keys, the Bahamas, and the Persian Gulf. With Shell, he completed assignments with Royal Dutch Shell and lived in Doha, Qatar. His last major assignment was with the Environmental Affairs Department at Shell's head office in Houston. He advised the company on environmental issues and served on several American Petroleum Institute research panels. In 1974, Dr. Shinn left Shell to establish a research field station (Fisher Island, Florida) for the United States Geological Survey (USGS).

He ran the station and conducted research there for 15-years. His main focus was on modern carbonates, especially tidal flats, and coral reefs, but he also conducted studies on the environmental effects of offshore drilling. Fisher Island Station also supported a Texas A&M doctoral dissertation on the effects of drill mud on corals. Another study focused on the effects of offshore drilling in the Philippines and off Key West. Later, with funding from the Minerals Management Service, he used a two-man submersible and evaluated the effects of sex drill sites in the eastern Gulf of Mexico. In 1989, he transferred to the USGS Coastal Program in St. Petersburg, Florida, where he began studies of sewage contamination and groundwater movement in the Florida Keys. His next research project was on the environmental effects of transoceanic African dust. In 1998 the University of South Florida awarded him a Ph.D. in Earth Science. After 31years of service, Dr. Shinn retired and joined the University of South Florida College of Marine Science in St. Petersburg, Florida. He currently serves on numerous committees relating to coral reef health as well as the American Association of Petroleum Geologists' Global Climate Change Committee. In June 2009, he received the Twenhofel Medal, the highest award annually presented by SEPM, (Society for Sedimentary Geology).

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Discipline: Zoology/Geology (Fate/Effects;Government/Industry Science)

Appointed:	April 28, 2006
Reappointed:	June 24, 2008

Dr. Joseph Patrick Smith

Dr. Smith is group leader for environmental technology research at ExxonMobil Upstream Research Company. He holds a Ph.D. in physical chemistry from the University of California at Berkeley (1978) and a B.S. in chemistry from the University of Rochester (1972). He joined Exxon Production Research Company in 1981 and has been active in research on the environmental aspects of offshore oil and gas operations since 1990. His research interests include numerical modeling of offshore discharges, the environmental fate and effects of drilling and production discharges, and the environmental effects of seawater usage in liquefied natural gas processing. He is the Chairman of the Offshore Operators Committee (OOC) Environmental Sciences Subcommittee and has also served on the steering groups for many joint industry environmental studies sponsored by organizations such as OOC, the American Petroleum Institute, and the International Association of Oil and Gas Producers.

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Discipline: Physical Oceanography (Oil and Gas Industry Use of Science

Appointed:	March 30, 2004
Reappointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Dr. John H. Trefry

Dr. Trefry is a Professor of Marine & Environmental Sciences at Florida Institute of Technology. He holds a Ph.D. in Chemical Oceanography from Texas A&M University. His research activities focus on the concentrations and cycling of trace metals in rivers, estuaries, oceans and deep-sea hydrothermal vents. Trace metals are studied for their natural value and for their potential as pollutants. Dr. Trefry's research activities are carried out in a wide variety of geographical settings including the Pacific and Atlantic Oceans, the Alaskan Arctic, the Gulf of Mexico and the Indian River Lagoon, Florida. He has been active in studies of environmental issues related to offshore oil exploration and production in the Gulf of Mexico, the Beaufort Sea, and the Chukchi Sea. He presently serves as an Associate Editor of the journal *Marine Chemistry*.

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Discipline: Chemical Oceanographer/Biology (Chemical Contaminants)

Appointed:	March 30, 2004
Reappointed:	April 28, 2006
Reappointed Under New Charter:	June 24, 2008

Federal Ex Officio Member

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Executive Director & Designated Federal Officer

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OCS SCIENTIFIC COMMITTEE
DISCIPLINE BREAKOUT GROUPS

ECOLOGY/ BIOLOGY	PHYSICAL OCEANOGRAPHY	SOCIOECONOMICS
Kenneth Dunton	Jim Coleman	Ralph Brown
Michael Fry	Mark Johnson	Richard Hildreth
Lorrie Rea	Mike Kosro	Richard Howarth
Gene Shinn	Mary Scranton	Tyler Priest
John Trefry	Joe Smith	Peter Schweitzer

SUBCOMMITTEES

DEEPWATER	ALASKA	MARINE MINERALS	DECOMMIS-SIONING	RENEWABLE ENERGY
***Joe Smith**	***Peter Schweitzer**	***John Trefry**	***Mary Scranton**	***Mike Fry**
Jim Coleman	Ken Dunton	Jim Coleman	Richard Hildreth	Ralph Brown
Mike Kosro	Mike Fry	Robert Diaz	Eugene Shinn	Richard Hildreth
Tyler Priest	Lorrie Rea	Richard Hildreth	Joe Smith	Richard Howarth
Mike Rex	Duane Gill	Denise Stephenson-Hawk		Mike Kosro
**Ian Voprial	Richard Howarth			

* Chair
**Membership Pending

DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT,
REGULATION, AND ENFORCEMENT

Outside Speakers at the Outer Continental Shelf Scientific Committee Meeting

Ashburn, Virginia

September 14-16, 2010

SUSAN FINGER

Program Coordinator, Columbia Environmental Research Center
United States Geological Survey

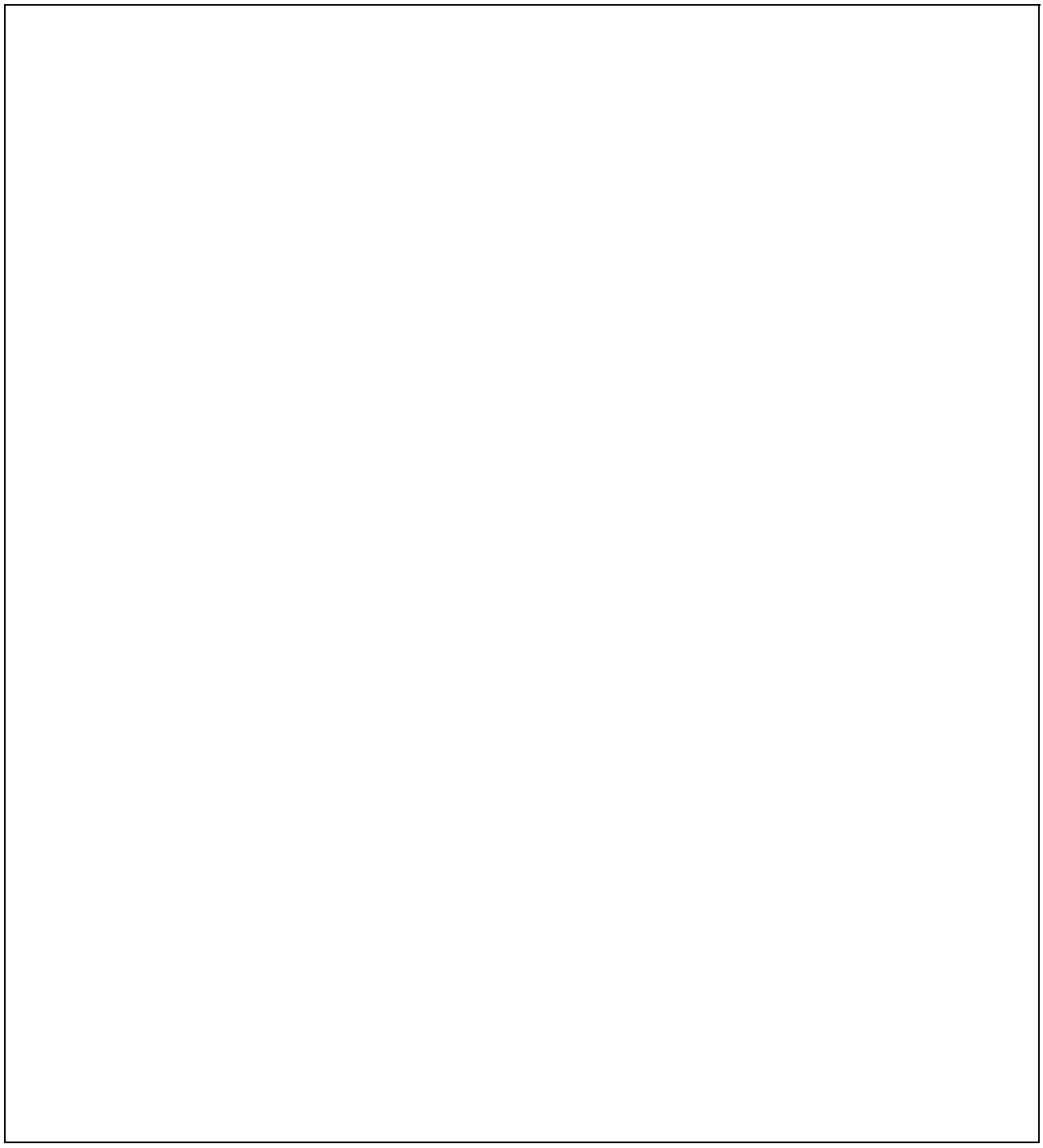
Dr. Finger is a Program Coordinator with the U. S. Geological Survey's Columbia Environmental Research Center. She currently serves as the USGS Science Advisor for the Department of Interior's Natural Resource Damage Assessment and Restoration Program. For the Deepwater Horizon incident, she serves on the DOI Coordination team and provides scientific support for the Trustee Steering Committee. She has over 25 years of experience assessing the ecotoxicological effects of contaminants on biological resources. She provides guidance in the identification and implementation of new research areas for the Columbia Center and has been involved in research assessing the effects of irrigation drain water on endangered fish species in the western United States, in studies evaluating the effects of oil spills on freshwater ecosystems, and in investigations to determine the ecological effects of fire-fighting chemicals on the terrestrial and aquatic environment. She has over 30 publications in peer reviewed journals.

ROBERT HADDAD

Chief, Assessment and Restoration Division
National Oceanic and Atmospheric Administration

Dr. Haddad earned his Ph.D. in Chemical Oceanography at the University of North Carolina, Chapel Hill, with a focus on sedimentary organic geochemistry. Following post-doctoral fellowships at NASA and at Stanford University, he joined Unocal's Petroleum Geochemistry Research Group and provided in-house company-wide consultation on environmental liability issues. While at Unocal, Dr. Haddad also provided expert witness support in Forensic Geochemistry and technical leadership for Natural Resource Damage Assessment (NRDA) in Unocal's worldwide emergency response organization. After leaving Unocal, he was responsible for strategic and technical leadership on Ocean Pollution Act (OPA) NRDA cases as West Coast Regional Risk Manager for ENTRIX, Inc. and then as a Vice President for ARCADIS-JSA. Prior to joining the National Oceanic Atmospheric Administration (NOAA), Dr. Haddad was President and Principal Scientist for Applied Geochemical Strategies, Inc. In this role, he provided strategic and technical liability consulting for clients (OPA and Comprehensive Environmental Response, Compensation, and Liability Act NRDA and non-NRDA issues) and expert witness testimony in various aspects of forensic geochemistry. He is currently working for the NOAA as the Chief of the Assessment & Restoration Division. In this position, he also co-leads NOAA's Damage Assessment Remediation & Restoration Program.

Dr. Haddad maintains his position as Adjunct Professor at California Polytechnic State University, San Luis Obispo, where he has worked with faculty in the Environmental Biotechnology Institute and taught Oceanography.



DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION. AND ENFORCEMENT

Personnel Who Interact with the OCS Scientific Committee

Ashburn, Virginia
September 14-16, 2010

MICHAEL R. BROMWICH
Director

On June 21, Secretary of the Interior Ken Salazar swore-in former Justice Department Inspector General Michael R. Bromwich as Director of the Bureau of Ocean Energy Management, Regulation and Enforcement to lead reforms that will strengthen oversight and regulation of offshore oil and gas development.

Mr. Bromwich is overseeing the fundamental restructuring of the former Minerals Management Service, which was responsible for overseeing oil and gas development on the Outer Continental Shelf. Just before Mr. Bromwich's arrival, Secretary Salazar renamed the Minerals Management Service (MMS) the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) as it undergoes reorganization and reform and to signal the organization's commitment to aggressive regulation and enforcement.

Mr. Bromwich was previously a litigation partner in the Washington, DC and New York offices of Fried Frank. He headed the firm's Internal Investigations, Compliance and Monitoring practice group. Mr. Bromwich concentrated his practice on conducting internal investigations for private companies and other organizations; providing monitoring and oversight services in connection with public and private litigation and government enforcement actions; and representing institutions and individuals in white-collar criminal and regulatory matters. He also provided crisis management assistance and counseling.

After joining the firm in 1999, Mr. Bromwich conducted many major internal investigations for companies, both publicly traded and privately held, in the energy, pharmaceuticals, public accounting, and private security industries, among others; reviewed the compliance programs and policies of major companies in a variety of industries, conducted extensive field reviews of such programs and made recommendations for their improvement; and represented companies and individuals in state and federal criminal investigations. In 2002, Mr. Bromwich was selected by the Department of Justice and the District of Columbia to serve as the Independent Monitor for the District of Columbia's Metropolitan Police Department (MPD), focusing on use of force, civil rights integrity, internal misconduct, and training issues. He served in that position until 2008 when MPD was determined to have achieved substantial compliance. In 2007, Mr. Bromwich was selected by the City of Houston to undertake a comprehensive investigation of the Houston Police Department Crime Lab; the investigation was widely praised for identifying serious problems in some of the Crime Lab's operations and providing recommendations for the Lab's improvement. In late 2009, Mr. Bromwich was selected by the Department of Justice and the Government of the Virgin Islands to serve as the Independent Monitor for the Virgin Islands Police Department focusing on use of force and related issues.

From 1994 to 1999, Mr. Bromwich served as Inspector General for the Department of Justice. As Inspector General, he headed the law enforcement agency principally responsible for conducting criminal and administrative investigations into allegations of corruption and misconduct involving the 120,000 employees of the Department of Justice. He was also responsible for conducting independent audits of the Department's programs and operations.

As Inspector General, Mr. Bromwich was best known for conducting special investigations into allegations of misconduct, defective procedures and incompetence in

the FBI Laboratory; the FBI's conduct and activities regarding the Aldrich Ames matter; the handling of classified information by the FBI and the Department of Justice in the campaign finance investigation; the alleged deception of a Congressional delegation by high-ranking officials of the Immigration and Naturalization Service; and the Justice Department's role in the CIA crack cocaine controversy. During his tenure as Inspector General, Mr. Bromwich testified before Congressional committees on about 20 occasions.

Before his appointment as Inspector General, Mr. Bromwich served as a federal prosecutor in the 1980s. From 1987 through 1989, he served as Associate Counsel in the Office of Independent Counsel for Iran-Contra. In January-May 1989, he was one of three courtroom lawyers for the government in the case of *United States v. Oliver L. North*. Mr. Bromwich's other responsibilities in that office included supervising a team of prosecutors and law enforcement agents that investigated allegations of criminal misconduct against government officials and private citizens in connection with provision of aid to the Contras in Nicaragua and serving as overall coordinator of the Iran-Contra grand jury.

From 1983 to 1987, Mr. Bromwich served as an Assistant U.S. Attorney in the U.S. Attorney's Office for the Southern District of New York. During his tenure, he tried many lengthy and complex cases and argued many appellate matters before the Second Circuit. Mr. Bromwich served as Deputy Chief and Chief of the Office's Narcotics Unit.

In addition to his government service, Mr. Bromwich spent about seven years as a lawyer in private practice. From 1989 through 1993, he was a partner in the Washington, DC office of Mayer, Brown & Platt, where he specialized in white-collar criminal defense. Mr. Bromwich represented individual and corporate clients in state and federal administrative and judicial proceedings, conducted and supervised numerous complex investigations on behalf of individual and corporate clients and tried two cases to verdict, including the acquittal of a defendant charged with export violations that was the subject of national press attention. Earlier, from 1980 to 1983, he was an associate in the Washington, DC office of Foley & Lardner.

Mr. Bromwich has published articles in law reviews and other publications on conducting and managing complex investigations. He is also a frequent speaker and panelist on law enforcement, oversight and criminal law issues. Since leaving government in 1999, he has published articles on law enforcement, criminal justice and oversight issues in *The New York Times*, *Washington Post*, *Los Angeles Times*, *the Boston Globe,* and *Legal Times*. During his career, he has also participated in nationally televised symposia on the Independent Counsel Act, the operation of the jury system in high-profile cases and the changing role of federal prosecutors. He has also been the subject of profiles published by *The American Lawyer*, and the *Associated Press* and since leaving government has made appearances on a wide variety of nationally televised news and public affairs programs.

Mr. Bromwich received his law degree from the Harvard Law School in 1980 and a master's degree in Public Policy from Harvard's John F. Kennedy School of Government the same year. He received his undergraduate degree, *summa cum laude,* from Harvard College in 1976. Mr. Bromwich is admitted to the District of Columbia and New York Bars.

ALAN D. THORNHILL
Science Advisor to the Director

In March 2010, Dr. Thornhill was hired as Science Advisor to the Director. From 2001 to 2010, he was the Executive Director of the Society for Conservation Biology—an international society of 12,000 conservation professionals working to advance the science and practice of protecting life on Earth. Previously he was the Director of Learning and Communications for the Science Division for The Nature Conservancy (the global organization), and a Professor of Ecology and Evolutionary Biology at Rice University in Houston, Texas. In his role as the first Executive Director of the Society for Conservation Biology, he launched the executive office, oversaw the development of a professional staff, and initiated programs that have seen the global membership triple in seven years. Among these programs is the David H. Smith Conservation Research Fellowship Program, a two year postdoctoral research grant for outstanding early-career scientists, The Smith Program seeks to develop future world leaders and entrepreneurs who are successful at linking conservation science and application. Alan D. Thornhill earned his Bachelors and Ph.D. degrees in Ecology from the University of California, Irvine.

ROBERT P. LABELLE
Acting Deputy Associate Director for Offshore Energy and Minerals Management

Mr. LaBelle, as the Deputy Associate Director for Offshore Energy and Minerals Management, serves as Chief Operating Officer for the management of all facets of the U.S. Offshore Energy Program, including policy development and program planning. As mandated in the Energy Policy Act of 2005, this now includes authority for development and regulation of offshore wind, wave, and marine current energy in all U.S. Federal waters.

He has received both the Citation for Distinguished Service (2008) and the Citation for Meritorious Service (1996) from the Department of the Interior (DOI) in recognition of his scientific and management accomplishments. Previously, as Chief of the Minerals Management Service's (MMS) Environmental Division, Mr. LaBelle was responsible for offshore oil and gas industry compliance with all environmental requirements, including water and air quality, seafloor impacts, endangered species, oil spill risk analysis, and cultural resources. He has managed large environmental and technology research programs and has overseen the preparation of numerous Environmental Impact Statements and other decision documents used for U.S. offshore energy activities.

In prior positions, Mr. LaBelle was Chief of the MMS Technology Assessment and Research Program, where he led research on safety, engineering, and technical aspects of offshore production and development. Prior to joining DOI, Mr. LaBelle worked for Martin Marietta Corp on the siting of electrical power plants and on assessing their effects on aquatic species. Mr. LaBelle is a graduate of the University of Massachusetts Dartmouth (BS), the University of Maryland (MS), and Loyola College, MD (MBA).

JAMES F. BENNETT
Chief, Environmental Assessment Branch

Jim Bennett has over 30 years of Federal service and experience dealing with environmental issues with the Department of the Interior focusing on NEPA, Natural Resource Damage Assessment, and GIS applications. He has two Master's degrees--one in Environmental Planning and the other in Computer Systems Management. He is with the Headquarters office of the new Bureau of Ocean Energy Management (formerly the Minerals Management Service) and serves as the Chief of the Branch of Environmental Assessment. He currently oversees BOEMRE's compliance with NEPA and other environmental laws focusing on Federal Outer Continental Shelf programs including oil and gas, sand and gravel, and alternative energy.

DAVID BIGGER
Avian Biologist, Office of Alternative Energy Programs

Dr. David Bigger is an avian biologist in the Office of Alternative Energy Programs. He serves as the program's studies coordinator and as the staff lead for the Atlantic Offshore Wind Consortium's Data and Science Work Group. Dr. Bigger has over 12 years of professional experience with endangered species and natural resource management. Prior to joining the Department of Interior, Dr. Bigger was a Senior Scientist in the private sector where he directed the development of a habitat conservation plan's scientific research program for a threatened species, designed and managed an inland population monitoring program to assess the effectiveness of conservation strategies, and explored alternative conservation strategies for several listed species including the spotted owl and marbled murrelet. Dr. Bigger earned his Ph.D. in Biology from the University of California at Santa Cruz.

ANN SCARBOROUGH-BULL
Chief, Environmental Studies
Pacific Outer Continental Shelf (OCS) Region

A Southern California native, Ann was brought up on the ocean and worked as a deck-hand for her father during commercial fishing and charter boat operations. She received her Bachelor's degree in both Biochemistry and Biology from University of California San Diego and went on to obtain a Master's and PhD from Louisiana State University and the Marine Biological Laboratory Woods Hole. Her post-doctoral work at Johns Hopkins University centered on the health of fish populations and their responses to anthropogenic degradation of their environments. A career employee for the Department of the Interior in environmental research and assessment, she worked over a decade for the former Minerals Management Service, now, Bureau of Ocean Energy Management, Regulation and Enforcement, in the Gulf of Mexico Region and has been with BOEM Pacific Region since 2001. Ann Scarborough-Bull is presently the Chief of Environmental Studies, Pacific Outer Continental Shelf Region.

JOSEPH CHRISTOPHER

Regional Supervisor, Office of Leasing and Environment
Gulf of Mexico Outer Continental Shelf (OCS) Region

Mr. Christopher has been involved in various aspects of the OCS Program for over 30 years, and is currently responsible for the Region's leasing and adjudication activities, environmental studies program, pre- and post-lease environmental assessment processes, and Coastal Impact Assistance Program. He holds a B.A. in Geography from the University of New Orleans and an M.A. in Management from Central Michigan University.

RODNEY E. CLUCK

Chief, Environmental Sciences Branch

Dr. Cluck holds a Ph.D. in sociology from Mississippi State University and a Masters Degree in Rural Sociology from the University of Arkansas, Fayetteville. For 6 years Dr. Cluck served as the Headquarters' social scientist for the Environmental Division. In 2005, Dr. Cluck joined the Office of Offshore Alternative Energy Programs and was the project manager for the United States' first offshore wind facility. Dr. Cluck is currently the Chief of the Environmental Sciences Branch.

CLEVE COWLES

Regional Supervisor, Office of Leasing and Environment
Alaska Outer Continental Shelf (OCS) Region

Dr. Cowles oversees the region's environmental assessment, leasing, and environmental studies activities. He has been with the Alaska OCS Region since 1979, serving as Wildlife Biologist (Endangered. Species), Chief of the Environmental Studies Unit (1983-1994), Acting Chief of the Social and Economic Studies Unit (1992-1994), and Chief, Environmental Studies Section (1995-2007). He received his B.S. in Wildlife Science from the University of Maine (1969) and an M.S. (1974) and Ph.D. (1979) in Wildlife/Fisheries Sciences at Virginia Polytechnic Institute and State University.

JAMES J. KENDALL

Chief, Environmental Division and
Outer Continental Shelf (OCS) Scientific Committee Executive Secretary

Dr. Kendall was appointed Chief of the Environmental Division for Offshore Energy and Minerals Management in June 2008. Previously, he served as the Chief of the Environmental Sciences Branch which is responsible for coordinating the Bureau of Ocean Energy Management, Regulation and Enforcement's (BOEMRE). The BOEMRE ESP is tasked with providing the environmental and socioeconomic information necessary for BOEMRE to make informed decisions concerning offshore energy and marine minerals activities. Prior to joining the BOEMRE Headquarters Office, Dr. Kendall served as the ESP Studies Chief for the MMS Gulf of Mexico OCS Regional Office in New Orleans, Louisiana. He received his bachelor's degree in biology from Old Dominion University, his Ph.D. in oceanography from Texas A&M University, and did a post-doctoral fellowship with the Hebrew University of Jerusalem, Israel; he is also a graduate of the Senior Executive Fellows program of the John F. Kennedy School of Government, Harvard University. Dr. Kendall has conducted marine research in the Gulf of Mexico, Caribbean, and Red Sea.

HERB LEEDY

Supervisor, Biological Sciences Unit
Gulf of Mexico Outer Continental Shelf (OCS) Region

Mr. Leedy has been with BOEM since 1996 when he was hired as a fisheries biologist in the Pacific Region. He moved to the GOMR in 2002 and has served in his current position since 2006. He earned a BS in Biology from Texas A&M University in 1987.

MICHAEL PRENDERGAST

Chief of Staff
Gulf of Mexico and Atlantic Outer Continental Shelf (OCS) Regions

Mr. Prendergast is currently the Chief of Staff for the Gulf of Mexico Region, Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEM), U.S. Department of the Interior. As Chief of Staff for the Gulf Region, he supports the Office of the Regional Director in congressional requests, government audits, international affairs, the Coastal Impact Assistance Program (CIAP), resource evaluation, and production and development issues. He has also served on several government details for the U.S. Government Accountability Office (GAO), as well as the Office of the Inspector General (OIG) for the Department of the Interior, and has more than 27 years of experience with the Minerals Management Service (MMS) and BOEM. Mr. Prendergast holds a BS in Petroleum Engineering from the University of Southwestern Louisiana.

PASQUALE “PAT” ROSCIGNO

Chief, Environmental Sciences Section
Gulf of Mexico and Atlantic Outer Continental Shelf (OCS) Regions

Dr. Roscigno is the Chief of the Environmental Sciences Section for the Gulf of Mexico and Atlantic OCS Regions. He is responsible for managing the Regions' Environmental Studies Program and has over 20 years of experience in managing multi-disciplinary environmental projects. Previously, he held several different research and program management positions with the Minerals Management Service and with the Department of Interior's U.S. Fish and Wildlife Service. He attended Fordham University in New York City.

LYNNETTE L. VESCO

Regional Supervisor, Office of Leasing and Environment
Pacific Outer Continental Shelf (OCS) Region

Ms. Vesco is the Regional Supervisor, Office of Leasing & Environment, Pacific OCS Region. She manages the leasing and environmental aspects of Pacific OCS Region programs, including the oil and gas, renewable energy and marine minerals programs. She is responsible for planning and managing the Region’s Environmental Studies Program; coordinating the review and analysis of offshore energy and marine mineral lease proposals; conducting environmental reviews, analyses and consultations for proposed activities; ensuring compliance with environmental conditions of project approvals; and planning and managing the Region’s Coastal Impact Assistance Program which provides grants to the State and local governments affected by oil and gas activities. Ms. Vesco has an M.A. in marine biology.

DEE WILLIAMS

Chief, Environmental Studies Management Section
Alaska Outer Continental Shelf (OCS) Regions

Dr. Williams is Chief of the Environmental Studies Management Section for the BOEMRE Alaska OCS Region. He is responsible for managing and directing the activities of a multi-disciplinary staff in the planning, design, procurement, and conduct of environmental research and study products to serve BOEMRE environmental information needs. He earned a Ph.D. in anthropology from Columbia University and previously worked in academics and resource management consulting. He has a broad international and intercultural background in development impact studies, with many publications in various academic journals and book presses. He sits on Technical Review committees for multiple federal/state agencies in Alaska.

ATTENDEES

OCS Scientific Committee Members

Dr. Ralph Browning Brown, Brigham Young University
Dr. Kenneth H. Dunton, The University of Texas at Austin
Dr. D. Michael Fry, American Bird Conservatory
Dr. Richard Hildreth, University of Oregon
Dr. Richard B. Howarth, Dartmouth College
Dr. Mark Johnson, University of Alaska Fairbanks
Dr. Michael Kosro, Oregon State University
Dr. Tyler Priest, University of Houston
Dr. Lorrie Rea, University of Alaska Fairbanks/Alaska Department of Fish and Game
Dr. Mary I. Scranton, University of Stony Brook
Dr. Eugene A. Shinn, University of South Florida
Dr. Joseph Smith, Exxon Mobile Upstream Research Company
Dr. John Trefry, Florida Institute of Technology

Minerals Management Service

Mr. Andrew Archer, Leasing Division
Dr. Guillermo Auad, Environmental Sciences Branch
Ms. Carolyn Beamer, Offshore Energy and Minerals Management
Mr. David Bennett, Environmental Sciences Branch
Mr. James Bennett, Environmental Assessment Branch
Dr. David Bigger, Office of Alternative Energy Programs
Dr. Brad Blythe, Environmental Sciences Branch
Mr. Michael Bromwich, BOEMRE (via telephone)
Ms. Beth Burkhard, Environmental Sciences Branch
Ms. Phyllis Clark, Environmental Sciences Branch
Dr. Rodney Cluck, Chief, Environmental Sciences Branch
Ms. Cathy Coon, Environmental Studies Management Section, Alaska OCS Region
Dr. Heather Crowley, Environmental Studies Management Section, Alaska OCS Region
Dr. Melanie Damour, Environmental Sciences Section, Gulf of Mexico OCS Region
Mr. Winston DeMonsabert, Environmental Division
Dr. Amardeep Dhanju, Environmental Sciences Branch
Dr. Jennifer Ewald, Environment Sciences Branch
Dr. Norman Froomer, Environmental Assessment Branch
Mr. Lars Herbst, Regional Director, Gulf of Mexico OCS Region
Mr. Brian Hooker, Office of Offshore Alternative Energy Programs
Dr. Jeff Ji, Environmental Sciences Branch
Dr. Walter Johnson, Environmental Sciences Branch
Dr. Brian Jordon, Environmental Assessment Branch
Dr. James Kendall, Chief, Environmental Division
Mr. Bob LaBelle, Offshore Energy and Minerals Management
Mr. Herb Leedy, Environmental Sciences Section, Gulf of Mexico OCS Region
Ms. Jill Lewandowski, Environmental Assessment Branch
Dr. Harry Luton, Environmental Sciences Section, Gulf of Mexico OCS Region
Ms. Angel McCoy, Office of Offshore Alternative Energy Programs
Ms. Jully McQuilliams, Leasing Division
Dr. Margret Metcalf, Environmental Sciences Section, Gulf of Mexico OCS Region

Mr. Kyle Moorman, Leasing Division
Mr. Douglas Nedrich, Leasing Division
Ms. Karen Osborne, Economics Division
Dr. James Price, Environmental Sciences Branch
Dr. John Primo, Environmental Sciences Branch
Dr. Mike Rasser, Environmental Sciences Branch
Ms. Blossom Robinson, Office of Public Affairs
Mr. Steve Schwartz, Leasing Division
Dr. Ann Scarborough-Bull, Environmental Studies Section, Pacific OCS Region
Ms. Kim Skrupky, Environmental Assessment Branch
Mr. Harold Syms, Resource Evaluation Division
Dr. Alan Thornhill, BOEMRE
Ms. Jean Thurston, Office of Offshore Alternative Energy Programs
Mr. Doug Vandegraft, Leasing Division
Dr. Sally Valdes, Environmental Assessment Branch
Ms. Lynette Vesco, Office of Leasing and Environment, Pacific OCS Region
Dr. Robert Vohden, Leasing Division
Ms. Barbara Wallace, Environmental Sciences Branch
Dr. Dee Williams, Chief, Environmental Studies Management Section, Alaska OCS Region
Mr. James Woehr, Environmental Assessment Branch
Dr. Zen Zi, Environmental Sciences Branch

Invitees

Dr. Susan Finger, U.S. Geological Survey
Dr. Robert Haddad, National Oceanic and Atmospheric Administration

Public

Dr. Louis Brzuzy, Shell
Mr. James Cimato
Mr. Bill Key, Bluefin Robotics
Dr. Alan Hart CSA International, Inc.
Ms. Emily Lindow, National Oceanic and Atmospheric Administration
Dr. Sarah Ryker, Science and Technology Institute
Ms. Sarah Rees, Science and Technology Institute

Outer Continental Shelf Scientific Committee

Charter

1. **Committee's Official Designation (Title).** Outer Continental Shelf (OCS) Scientific Committee.

2. **Authority.** This Committee is in the public interest in connection with the responsibilities of the Department of the Interior (DOI) under the OCS Lands Act, as amended (43 U.S.C. 1331 *et. seq*.) and as provided in Section 9 (a)(2) of the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C., App.

3. **Objectives and Scope of Activities.** The Committee will provide advice to the Secretary of the Interior (Secretary), through the Director of the Minerals Management Service (MMS), on the feasibility, appropriateness, and scientific value of the OCS Environmental Studies Program. The Committee will review the relevance of the research and data being produced to meet MMS scientific information needs for decisionmaking and may recommend changes in scope, direction, and emphasis.

4. **Description of Duties.** The duties of the Committee are solely advisory and are stated in Objectives and Scope of Activities above.

5. **Agency or Official to Whom the Committee Reports.** The Committee will report to the Secretary through the Director of the MMS.

6. **Support.** The MMS will be responsible for providing necessary support for the Committee.

7. **Estimated Annual Operating Costs and Staff Years.** The estimated annual operating costs associated with supporting the Committee's functions, including all direct and indirect expenses, are estimated to be $75,000 plus the support of one full-time employee.

8. **Designated Federal Officer.** Associate Director for Offshore Energy and Minerals Management (ADOEMM), or the ADOEMM's designee.

9. **Estimated Number and Frequency of Meetings.** The Committee will meet at the request of the Director of the MMS, but not less than once annually.

10. **Duration.** The Committee's charter may be renewed in 2-year increments by the Secretary as long as the Offshore Energy and Minerals Management Program of the MMS requires the expertise and advice of the Committee.

11. **Termination.** The Committee is subject to biennial review and will terminate 2 years from the date the charter is filed, unless renewed prior to that date. The Charter is renewed in compliance with section 14(a) (2) of the FACA. The Committee is subject to the provisions of the FACA, 5 U.S.C. Appendix 2, and shall take no action unless in compliance with the charter filing requirements of section 9 of FACA.

12. **Membership and Designation**. The Secretary will appoint fifteen non-Federal members to the Committee to serve a 3-year term. There will be no alternates. These members have been designated as Special Government Employees (SGEs). Non-Federal members may not serve more than two consecutive terms. However, after a 2-year break in service, any such non-Federal member will again be eligible for appointment. The DFO may recommend that the Secretary revoke the appointment of the member if the appointed member fails to attend two consecutive meetings. All members serve at the discretion of the Secretary.

Non-Federal Members: To ensure fair and balanced representation in terms of technical skills and geographic location with consideration for the efficiency and fiscal economy of the Committee, the Secretary may appoint members based on the following criteria:

- Scientific competence,
- Reputation within their field of expertise, and
- Ability to represent important elements of the MMS's research and science information efforts.

Federal Members: The Director of the MMS, or the Director's designee, is a nonvoting, ex officio member of the Committee.

13. **Ethics Responsibility.** The Committee's non-Federal members are designated SGEs and will comply with applicable ethics rules and regulations. The DOI will provide materials to members who are appointed as special government employees, which will explain their ethical obligations. Consistent with the ethics requirements, members will endeavor to avoid any actions that would cause the public to question the integrity of the Committee's operations, activities, or advice. The provisions of this paragraph do not affect any other statutory or regulatory ethical obligations to which a member may be subject.

14. **Subcommittees.** The MMS may establish subcommittees or workgroups as it deems necessary, upon recommendation of the Committee or its Chair, for the purposes of compiling information or conducting research. However, such subcommittees or workgroups must act only under the direction of the Committee and must report their recommendations to the full Committee for consideration. The Committee Chair, with the approval of the DFO, will appoint subcommittee or workgroup members. Subcommittees or workgroups will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.

15. **Recordkeeping.** The records of the Committee, formally and informally established subcommittees, or other subgroups of the Committee, shall be handled in accordance with General Records Schedule 26, Item 2 or other approved agency records disposition schedule. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.

SIGNED/KEN SALAZAR **MARCH 3, 2010**

Secretary of the Interior Date Signed

MARCH 10, 2010

Date Filed

Billing Code: 4310-MR

DEPARTMENT OF THE INTERIOR

Bureau of Ocean Energy Management, Regulation and Enforcement

Outer Continental Shelf (OCS) Scientific Committee (SC); Announcement of Plenary Session

AGENCY: Bureau of Ocean Energy Management, Regulation and Enforcement **(BOEM),** Interior.

ACTION: Notice of Meeting

SUMMARY: The OCS Scientific Committee will meet at the Embassy Suites Dulles North in Ashburn, Virginia.

DATES: Tuesday, September 14, 2010, from 9:00 am. to 5:00 p.m.; Wednesday, September 15, 2010, from 8:00 a.m. to 4:30 p.m.; and Thursday, September 16, 2010, from 10:00 am. to 4:00 p.m.

ADDRESS: Embassy Suites Dulles North, 44610 Waxpool Road, Ashburn, Virginia, 20147, telephone (703) 723-5300.

FOR FURTHER INFORMATION CONTACT: A copy of the agenda may be requested from BOEM by emailing Ms. Carolyn Beamer at carolyn.beamer@boemre.gov. Other inquiries concerning the OCS SC meeting should be addressed to Dr. James Kendall, Executive Secretary to the OCS SC, Bureau of Ocean Energy Management, Regulation and Enforcement, 381 Elden Street, Mail Stop 4043, Herndon, Virginia 20170-4817, or by calling (703) 787-1656 or via email at james.kendall@boemre.gov.

SUPPLEMENTARY INFORMATION: The OCS SC will provide advice on the feasibility, appropriateness, and scientific value of the OCS Environmental Studies Program to the Secretary of the Interior through the Director of the BOEM. The SC will review the relevance of the

research and data being produced to meet BOEM scientific information needs for decision making and may recommend changes in scope, direction, and emphasis.

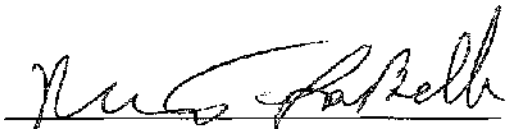
The Committee will meet in plenary session on Tuesday, September 14. The Director will address the Committee on the general status of the BOEM and its activities. There will be a presentation from the National Oceanic and Atmospheric Administration on the Natural Resource Damage Assessment process and U. S. Geological Survey science with respect to the Deepwater Horizon incident. Following these presentations BOEM regional officials will discuss their most pertinent and current issues.

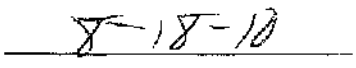
On Wednesday, September 15, the Committee will meet in discipline breakout sessions (i.e., biology/ecology, physical sciences, and social sciences) to review the specific studies plans of the BOEM regional offices for Fiscal Years 2011-2013.

On Thursday, September 16, the Committee will meet in plenary session for reports of the individual discipline breakout sessions of the previous day and to continue with Committee business.

The meetings are open to the public. Approximately 30 visitors can be accommodated on a first-come-first-served basis at the plenary session.

AUTHORITY: Federal Advisory Committee Act, P.L. 92-463, 5 U.S.C., Appendix I, and the Office of Management and Budget's Circular A-63, Revised.





Robert P. LaBelle

Acting Associate Director for Offshore

Date

Energy and Minerals Management

OUTLINE OF TRANSCRIPTS

September 14, 2010

OUTLINE OF TRANSCRIPTS

September 16, 2010