

# Meeting Minutes of the Subcommittee on Disaster Reduction

2 September 2010, 10:00 a.m. to 12:00 p.m., White House Conference Center Lincoln Room

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Italics indicate absent members. "T" indicate members participating via teleconference.

## Officers

David Applegate (USGS), Chair  
Margaret Davidson (NOAA), Vice-Chair (T)  
Dennis Wenger (NSF), Vice-Chair

## NSTC Liaison

Sarah Stewart Johnson (OSTP)

## Designated Representatives

**BLM** *Edwin Roberson*

Daniel Lechefsky

**CDC** Mark Keim (T)

**DHS** Bruce Davis (T)

**DHS/FEMA** Stephen Carruth

**DHS/USCG** *Steven Cohen*

**DOD** *Al Johnson*

**DOE** *Patricia Hoffman*

**DOT** *Kelly Leone*

Sheila Duwadi

*Tim Schmidt*

**EOP/OSTP** Sarah Stewart

Johnson

**EDA** *Audrey Clarke*

**EPA** Peter Jutro

*Stephen Clark*

**FERC** Pamela Romano (T)

**HUD** *David Engel*

**NASA** Andrea Donnellan

**NGA** *Stephen Homeyer*

Christy Crosiar

**NGB** *Daniel Bochicchio*

**NIH** Allen Dearry

**NIST** William Grosshandler

**NOAA** Margaret Davidson (T)

Roger Pierce

**NSF** Dennis Wenger

**OPHS** *Sven Rodenbeck*

**State** *Fernando Echavarria*

Brian Lieke

**USACE** Steven Cary

*Dimitra Syriopoulou*

**USAID** *Sezin Tokar*

**USDA** *TBD*

**USFS** *Carlos Rodriguez-Franco*

**USGS** *Paula Gori*

## Other Attendees

**DOE** Patrick Willging

**EPA** Alona Bachi (AAAS)

Amelia McCall

Marcy Rockman (AAAS)

**NOAA** Mary Ann Kutny

**NSF** Gregory Anderson

Robert O'Connor

**USACE** Andrew Bruzewicz

**USGS** John Haines

**Secretariat** Ross Faith

Bret Schothorst

**White House National Security Staff** Ed Dolan

## Agenda

- 10:00 Welcome and Introductions
- 10:05 Administration Priorities for National Disaster Resilience
- 10:35 Report from the NSTC Liaison
- 10:45 Agency Presentations on Gulf Coast Recovery Activities
- 11:30 Approval of July Meeting Minutes
- 11:35 Report from the Chair
- 11:45 Report from the Vice-Chairs
- 11:55 Close and Next Actions

## Handouts

- Agenda
- July Meeting Minutes
- SDR-JSOST July-August Survey of Agency S&T Responses to Gulf Oil Spill
- Drought and Climate Workshop Announcement

## **I. Call to Order and Introductions**

Subcommittee on Disaster Reduction (SDR) Chair David Applegate (USGS) called the meeting to order at 10:03 a.m. and the participants introduced themselves.

## **II. Administration Priorities for National Disaster Resilience**

Applegate introduced and welcomed Ed Dolan, the Director of Preparedness Policy with the White House National Security Staff (NSS). He expressed appreciation for Dolan coming to speak with the SDR, especially given the Administration's focus on resilience, preparedness, and other aspects of disaster reduction. Applegate noted that these White House efforts dovetail very well with what SDR has been focused on from the science and technology standpoint.

Dolan thanked Applegate for the great introduction and noted that he was in fact "pitch hitting" for the Special Assistant to the President for Homeland Security and Senior Director for Resilience Policy, Richard Reed, who had been scheduled to give the presentation to the SDR at the meeting but had been detained due to Hurricane Earl bearing down on the Eastern Seaboard. Dolan noted that he worked with the agencies represented on the SDR primarily through an interagency policy committee (IPC), which in former years went under the name Domestic Readiness Group, and under the current Administration has been renamed as the Domestic Resilience Group (DRG). There is a lot of interaction between what the SDR and DRG do. Dolan stated that his office is an avid client of the reports generated by the SDR and other federal groups involved in disaster risk reduction. He noted that there is actually more expertise in different corners of the federal structure than members of his office might have been individually aware of, so expressed his great appreciation for the opportunity to connect the dots and leverage resources with the SDR.

Dolan noted that he came on board with the National Security Staff in January 2009 as a detailee from the Department of Homeland Security (DHS), where he spent four years mostly in the department's policy office. Before that he served twenty years in local government. He was a civilian deputy with the New York City Fire Department, which he left prior to 9/11. He came to federal service thereafter.

The Homeland Security Council has been recently revamped, and Dolan gave a thumbnail sketch of the new structure. He noted that there was a number of policy committees that had been operating for years. After 9/11, the Bush Administration stood up the Homeland Security Council (HSC) and consciously modeled it on the longstanding National Security Council (NSC). The HSC was always much smaller. One can argue - and there is lots of literature out there - about how effective it was vis-à-vis the National Security Council, which was always kind of the stronger, big brother. A lot of thinking both inside and outside the current Administration went into a three to six month evaluation in the aftermath of the transition about how the new White House wanted the national security structure to work.

Dolan stated that his office ultimately falls under John Brennan (EOP), who is dual hatted as a deputy national security adviser under General Jones and as Homeland Security Advisor. In this later capacity he fills what had been Fran Townsend's job in President Bush's Administration. The decision was made by June of 2009 that it was an artificial distinction to say that there is one set of issues that are homeland security issues and an entirely different set of issues that are national security issues. Updated periodically, the National Security Strategy, which came out in revised form a couple of months ago, was the first such iteration that announced and affected an integration of homeland and national security. The staffs of the councils have been merged and renamed as the National Security Staff (NSS). A very effective job was done of flattening the organization. In the last Administration, several policy groups were operating - not independently of each other per se - but as standalone groups. There was a response policy group, a preparedness policy group, a biological threat group, a chemical threat group, a nuclear threat group, and a continuity group. Dolan noted that these groups had obviously tended to proliferate.

The groups under the previous homeland security structure have been collapsed down into basically two: 1) a Transborder Security Directorate, which is headed by a special assistant to the President and oversees transportation security, border security, and the rest of the more traditional homeland security functions; and 2) the Resilience Group, under Richard Reed, which primarily oversees two policy committees that have been rebranded as interagency policy committees under the National Security Staff policy structure. They are the Domestic Resilience Group (DRG) and the Infrastructure Protection Committee.

The Domestic Resilience Group (DRG) has responsibility for all things mitigation, preparedness, response and recovery. The Infrastructure Protection Committee did not fit neatly into either the DRG or the Infrastructure Protection Group, but ultimately the decision was made to fold it into the DRG. The new National Security Strategy emphasizes security and resilience as the strategic objectives for the Administration's approach to national security, so in essence, the Infrastructure Protection Committee attacks the problem from the security angle and the DRG attacks the problem from the resilience angle. The DRG meets every other week at the assistant secretary level.

There are several groups within the DRG, including a preparedness group under Brian Kamoie (EOP); a response group, which does things like processing Stafford Declarations for the President; a continuity group; and a group which handles a portfolio of specific scenarios such as nuclear, chemical and biological threats. Each of these groups has what used to be separate, standalone policy committees which have now been collapsed and turned into subcommittees, or sub-IPCs for short, that report to the DRG. The sub-IPCs typically meet every month and sometimes a couple of times a month depending on what issues they are working on.

Dolan stated that the National Security Staff is currently looking at all of the various instruments of presidential power which are used to provide direction to the interagency process, including presidential directives, national security strategies, and executive orders. There are 26 legacy Homeland Security Presidential Directives (HSPDs), and like the National Security Directives, which have been around for much longer, they provide policy oversight across the entire spectrum of homeland security issues at the White House policy level. The National Security Staff has started by looking specifically at HSPD-8, which covers policy process for national preparedness. HSPD-8 was issued in 2003 and assigned to the Department of Homeland Security.

The NSS is looking to revise HSPD-8 in order to come up with a common yardstick to define national preparedness. If the end state is to be secure and resilient, said Dolan, then the means to the end is through a collective and coordinated effort at preparedness. The challenge involves a very broad set of issues and topics that are interconnected and interrelated in ways that make it even more complicated. The envisioned yardstick will be a mechanism to synthesize the myriad efforts and capabilities and focus on a few key policy priorities that can then be articulated and developed. Against this yardstick, progress, or lack thereof, can be measured to see what is and is not being accomplished.

In the aftermath of Hurricane Katrina, Congress took the gist of HSPD-8 and codified it into the Post-Katrina Emergency Management Reform Act of 2006 (Post-Katrina Act, a.k.a P-KEMRA). The act is one of only two of the 26 legacy HSPDs from the Bush Administration (all of which stay into effect through transitions), which was codified – though not word for word - into federal law. Among the changes made was to give FEMA the lead for national preparedness, which had previously been shared with different internal organizations at DHS. In essence, the responsibility for preparedness stayed with the DHS Secretary but made it much clearer that FEMA's reason for existence is to lead the interagency effort at national preparedness. Dolan stated that the NSS understands and supports this construction. The NSS had debated different approaches to things like federal planning and originally came up with plans that have turned out to be a little too complicated and detailed. It has subsequently re-thought coordination for national preparedness and is back to drafting a revision of HSPD-8 which is currently working its way through each of the departments and is actually under consideration at the deputies level now. While understanding the difficulties involved, the draft revision of HSPD-8 reinforces the approach

of developing a common yardstick at preparedness in order to lay out a clear set of specific, measurable, and quantifiable outcomes. The aim is to identify gaps and establish priorities, understanding that there will always be more needs than there is time or money to meet them.

The Post-Katrina Act also included a goal for national preparedness which was organized around four pillars: prevention, protection, preparedness, response and recovery. The current draft of HSPD-8, though subject to revision by the agency secretaries and deputies, includes the suggestion to expand the number of pillars to five, which would be prevention, protection, mitigation, response, and recovery. If the directive goes forward, it will serve as a blueprint from the President to the interagency structure for how the FEMA administrator is going to lead the policy process through his secretary and all the various policy committees.

Dolan stated that the DRG is working very much through its sub-IPCs process. He suggested that the NSS should share the lead agency points of contact for each of the sub-IPCs with the SDR to improve coordination and plug into experts on a wide range of issues. He stressed the importance of having access to individuals with the technical expertise for explaining very difficult to understand topics under extraordinary time constraints and challenges.

Applegate thanked Dolan for his presentation, for laying out the new structure and describing how to make those connections. He welcomed agency points of contact for the sub-IPCs. Speaking from the SDR perspective, he applauded the inclusion of mitigation as one of the 5 pillars in the draft HSPD-8 that is currently under review. One of main obstacles to long-term recovery is resilience of critical infrastructure and there are efforts underway to learn from the example of the Chile earthquake since the Pacific Northwest faces a very similar hazard.

Dennis Wenger (NSF) asked Dolan how the NSS was defining and approaching prevention as opposed to protection and where this new construct fits into previous notions of preparedness.

In the context of terrorism, Dolan stated that the NSS was approaching prevention as the ability to go find a would be terrorist and stop the plot before it takes place and protection as the ability to make the plot harder to succeed once it gets underway.

Regarding where these terms fit into the notion of preparedness, as express in the draft HSPD-8, Dolan stated that the approach was very much borrowed from the emergency management community, which for years had defined emergency management as preparedness, mitigation, response and recovery. Then DHS came along post-9/11 and reworked the approach. Under the current Administration, the NSS subsequently circled back to with the emergency management community to conduct extensive outreach with dozens of different organizations and hundreds experts around the country. The reality seems to be that 20 years ago preparedness meant response preparedness, and post-9/11 preparedness has now become broader than that, and the question is still frankly subject to wrestling and debate as to how broad preparedness is. The NSS is of the opinion that it is more useful for preparedness to span prevention, protection, mitigation, response, and recovery, than to stick to its traditional definition of response and recovery.

Wenger stated that he understood Dolan's remarks to mean that preparedness has become almost an umbrella term in reference to pre-event acts: to recover, to respond, to mitigate, to protect and to prevent. In other words, preparedness has almost lost substantive meaning and become, rather, a pre-event planning activity in general.

Steve Carruth (FEMA) commented that prevention was no longer a capital "P" organization. It's really thinking of it as a function under each of those five pillars: prepare and plan to protect; prepare and plan to mitigate; prepare and plan to prevent, etc. And all of those things are supposed to be integrated. Integration points are identified. They do not all necessarily connect with each other, but some connect

with others. The mitigation piece might not connect with the prevention piece, but it certainly connects with the response and recovery pieces.

Andrea Donnellan (NASA) commented that NASA has been struggling with how to take research projects that are designed to help the nation and translate the results into useful data products that actually do. She asked if the NSS and DRG were addressing the challenge.

Dolan stated that the ability to do that would be a kind of nirvana state. He commented that part of what the NSS and DRG are trying to do is to have a more informed discussion about a risk-based approach to preparedness. The reality of it comes out in some of the past grant awards. The Nation has rural communities and rural states that have invested Homeland Security dollars in anti-nerve gas antidotes. Nerve gas works particularly well in enclosed, densely populated spaces. So those rural communities might have more effectively provided CPR classes to everyone in the community because residents are much more likely to die from a heart attack than nerve gas attack. So the idea of pointing risk is critically important. There is no right answer to that, but the ability to use scientific monitoring tools to be able to determine how prone a community is to hurricanes, for instance, would be extraordinarily helpful for decision-makers at the state and local level in allocating resources. So there is a need to have a translatable effort that takes all the scientific work and makes it easier to digest at the consumer level.

Donnellan stated that resources at NASA that were available to translate data into products were extremely limited. She said she thought it would benefit the Nation to have a responsible entity identified.

The question was asked if there is a high level document that frames how policy decisions should translate into resource allocation at the local level.

Dolan stated that he would defer to the experts at FEMA, which is supposed to lead the interagency effort with all the experts across the federal, state, private, local sectors to collectively come up with a document. It has been a long road since the original HSPD-8 came out, but the revised directive again echoes the statutory requirement from Congress to create a document called the national preparedness goal. And the purpose of the national preparedness goal, which if the directive is signed off on, is to say what capabilities are needed in which geographic areas using risk as a filter. Using the example of an improvised nuclear device (IND), since the NSS recently had an exercise on it, Dolan stated that the Nation needs to be prepared for a terrorist successfully smuggling and detonating an IND. One could make the logical policy case for starting by preparing the largest cities first because they are the mostly likely targets. While most preparedness efforts have traditionally filtered risk in this way, Dolan noted that it would be very useful to have a document to guide officials, such as local police officers, on the things they need to be able to do in terms of prevention, protection, mitigation, response, and recovery.

Dolan cited another example from his EMT background. Every six years the American Heart Association has a big scientific conference with leading experts in the field who put their papers together in advance of the conference and at the end emerge with collectively agreed upon standards for emergency cardiac care. These standards get boiled down to things that a hospital doctor or nurse in an emergency room needs to be able to do, but they also are boiled down to the things taught to twelve year olds in an American Red Cross CPR course. While the CPR course is basic, it is based on very well, thoroughly vetted, professional best practices and best estimates of the latest thinking on the subject. At the user level for the twelve year old it is almost irrelevant that there is all the theory behind it. The only thing relevant is that it works. Dolan stated that the NSS therefore sees the issue as a spectrum of information needs and would very much like to have a portfolio of documents that did a better job of addressing this array of needs.

Mark Keim (CDC) welcomed Dolan's remarks. He pointed out that the public health community is still struggling with the idea of risk reduction and prevention. The most important and most cost-effective humane aspects of that cardiac care are prevention. So the emergency departments and the fire departments are the wrong audiences to talk to about cardiac care if the goal is to reduce the risk of heart attacks. Instead, family practice and primary care should be targeted as preventive measures, which is a paradigm shift. We know that disasters occur when hazards meet a vulnerable population. Through many years of disaster research we know that susceptibility of populations is variable to lot of health indicators. Healthy populations are less susceptible to all disaster hazards, so therefore lowering susceptibility in all communities by increasing health and socioeconomic indicators can actually help to prepare for, prevent and reduce the risk of disasters nationwide.

Applegate thanked Dolan once again for speaking with the SDR and hoped his visit would serve as the beginning of an extended dialogue.

### **III. Report from the NSTC Liaison**

Sarah Johnson (OSTP) gave an update on the reorganization of the Committee on Environment and Natural Resources (CENR). The CENR is going to become the Committee on Environment, Natural Resources and Sustainability (CENRS). The charter is in the works right now and should be going out in the next week or two. The first meeting of the full committee is currently scheduled for late October. The Subcommittee on Disaster Reduction will remain virtually unchanged. A few of the subcommittees, mainly those that are not as active, will be sun-setting, and others will be consolidated. The Arctic Research Commission will be established and formalized as a subcommittee of the CENRS as of October. Overarching within the committee there will be a climate services roundtable to link into expertise of the individual subcommittees as well as a task force for integrating science and technology into sustainability.

But it is not just the CENR that is undergoing reorganization. For instance, the Committee on Technology has undergone a similar reorganization and now has a new structure. After CENR, OSTP will proceed to reorganize the Committee on Science and the Committee on Homeland and National Security.

There is also a lot of overlap between the activities of the U.S. Global Change Research Program and the Climate Change Adaptation Task Force. So OSTP is trying to pull out where those overlaps are and enhance effectiveness by developing more cross-cuts and linkages.

The ad hoc Coastal Inundation Working Group may also be good candidate for becoming a joint subcommittee under multiple groups. Johnson requested that a one-pager be developed on what groups the Coastal Inundation Working Group might logically link to.

Johnson noted that the most recent report of the SDR and the Joint Subcommittee on Ocean Science and Technology (JSOST) on oil spill S&T response and recovery activities had been very useful to OSTP and particularly to Kate Moran of OSTP, who has been working in the Gulf Region with DOE Secretary Chu's team.

### **IV. Agency Presentations on Gulf Coast Recovery Activities**

Applegate stated that the last roll-up of agency S&T oil spill response activities was a joint effort with JSOST, which had put together a similar report of its own in early July. So this last time around the SDR and JSOST synchronized within agencies to avoid duplicate data calls and produced a joint report.

Peter Jutro (EPA) stated that historically OSTP data calls have been used to identify gaps and chart out a future research agenda. He asked if this was a direction OSTP would be taking regarding the oil spill. Johnson responded that she hoped to provide an answer in the near future.

Allen Dearry (CDC) stated that JSOST was organizing a two day meeting in early October to address the oil spill with both the federal and academic communities to identify lessons learned and gaps.

Applegate state that the first order issue with the oil spill was to get a grip on what agencies were actually doing with S&T. Now that efforts are in moving more towards recovery, there is a real risk that there will be a gap in coverage. The current issue of *Science* contains an interesting article coauthored by National Park Service science advisor Gary Machlis and USGS Director Marcia McNutt about how scenarios were used to explore potential impacts of the Deepwater Horizon oil spill. The article contains a link to a report produced by the Department of the Interior's Strategic Sciences Working Group (SSWG), which was not directly involved in the oil spill response but instead drew on approaches pioneered in the natural hazards literature to focus on how the spill may impact the ecology, economy, and people of the Gulf Region. The article points out that the stresses on these systems in the Gulf may continue to grow despite the capping of the well, and that in the transition from response to recovery a gap in coverage appears to be emerging. Those with subscriptions to *Science* can access the article at <http://www.sciencemag.org/cgi/content/summary/329/5995/1018>. The SSWG report itself is available at <http://www.usgs.gov/oilspill/> (scroll down to Publications) and a press release on the *Science* article is at <http://www.doi.gov/news/doinews/Science-Article-Describes-Scenario-Building-Technique.cfm>.

Margaret Davidson stated that there is an interagency group under Secretary Mabus (Navy) looking at the long-term recovery plan. She commented that there appeared to be a scientific discontent as the people who participated in the response are not always the ones who are participating in the recovery.

Jutro commented that the recovery effort in the Gulf could be an opportunity to balance this against the new five pillars outlined in the draft HSPD-8.

## **NOAA**

With respect to the recovery effort in the Gulf Region, Roger Pierce (NOAA) stated that NOAA has been active in several areas. NOAA continues to put together weather and hurricane forecasts, and has been involved in experimental hurricane projects such as GRIP (Genesis and Rapid Intensification Processes), PREDICT (PRE-Depression Investigation of Cloud-systems in the Tropics), and IFEX (Intensity Forecast Experiment). NOAA also has been supporting recovery efforts through activities of the National Fisheries, Sea Grants, and the National Ocean Service.

NOAA is taking a look at 5 major goal areas moving forward:

- 1) Conduct and enable science to provide environmental information to inform decision making associated with this event; continuing rescue of wildlife working with U.S. Fish and Wildlife; focus on specific recovery and restoration activities that are going on to help provide the best available science;
- 2) Ensure seafood safety working with partners, balancing the need for fishermen to do their jobs, the need for the public to have safe seafood, and NOAA's ability to ensure food safety;
- 3) Working with other agencies to protect wildlife, particularly marine mammals;
- 4) Assess injury to natural resources to ensure that the public is compensated for the damage to entrusted resources, conduct economic surveys; and
- 5) Restore ecosystem services to the region; work with co-trustees and communities in the region to guide efforts, make sure the right information is accessible, and assist with permits and monitoring activities.

On the weather side, NOAA is taking a look at societal benefits, giving the best high resolution weather forecasts but also asking if that is really what folks on the ground are looking for. With this particular event NOAA also is trying to help with social science-based research to regarding human and ecosystem health, and the linkages between them, in the region.

## **NASA**

Donnellan stated that NASA is transitioning from response to science and providing daily measurements using infrared, lidar, satellites with the MODIS, ASTER, CALIPSO instruments. The AVIRIS instrument will keep flying. The last ER-2 flight finished a few days ago. It flew at different levels to capture both extent and thickness of the oil. AVARIS will now be flown on a Twin Otter aircraft to study impacts on the terrestrial coastal ecosystem. UAVSAR flew once on a King Fisher aircraft in June to get baseline data before inundation of the marshes occurred. The plan is to go back in late October and then seasonally-to-annually thereafter.

Jutro asked whether there was a central repository of all remote sensing data on the oil spill that can be used by all the people working on the recovery. Donnellan stated that this is a bigger issue that NASA has been looking at. Satellite data all goes through the EROS (Earth Resources Observation Systems) data center and even though the UAVSAR data is coordinated with NOAA and DHS, it's kind of a systemic problem in NASA that there's no place for all the data. Jutro stated that he saw the potential for a recommendation. Donnellan concurred, stating that it would be a good one. She added that she would keep working for a while on the applications for all the missions, not just those dealing with disasters. She stated that NASA recognizes the need internally to better store the data, but a recommendation from the interagency structure would help push efforts to address this need. Pierce noted that it is often easy to make routine data available, but much harder for specific projects like responding to the oil spill.

Looking ahead to events in the fall, NASA is seeking panelists for a workshop entitled "Georeferencing Geometric Accuracy and Visualization: NASA Mission Data," which will be held on November 18 in conjunction with the broader ASPRS/CaGIS 2010 Fall Specialty Conference taking place that week. Those heading to the ASPRS/CaGIS meeting are invited to contact Andrea Donnellan ([andrea.donnellan@jpl.nasa.gov](mailto:andrea.donnellan@jpl.nasa.gov)) to discuss the NASA workshop in more detail. ASPRS/CaGIS 2010 Fall Specialty Conference will take place November 15-19, 2010, in Orlando, Florida. Program and registration information is available at <http://www.asprs.org/orlando2010/index.html>.

## **DHS**

As reported at previous SDR meets, DHS S&T provided field support and collected cloud information on 11 sites on various areas in Barataria Bay and Timbalier Bay during the actual overpass of the UAVSAR instrument. DHS built the field data into a product that Davis demoed at a previous SDR meeting. The product was distributed to seven investigators who are in the process of taking the JPL UAVSAR data and analyzing a subset of the area. They are taking the data and field notes to see exactly what the UAVSAR data can tell us about oil penetration into the wetlands. Once the results are in, DHS may convene a meeting in Baton Rouge with the Louisiana oil spill coordination groups, the Coast Guard, and others interested parties. The State of Louisiana deals with 4,000 oil spills each year and they need a better method to monitor long lasting impacts.

## **USGS**

Applegate made the point that the environmental fallout from the oil spill is larger than just the question of response to recovery, but includes the problems posed by persistent impacts from oil spills in the region. He also noted that some USGS folks who were involved in the Exxon Valdez oil spill had been sharing their wisdom and their experience. The issues that need to be addressed in the Gulf will require attention over a very significant long-term span to monitor impacts and promote recovery. One thing that is really bridging the near-term to long-term distinction is the effort that is underway to identify a way to get at the persistent oil in the water column.

The issue of pre-spill, baseline data is going to be critical for the long-term. As we move into recovery this baseline data is going to take on an increasingly important role in the formal National Resources Damage Assessment and Restoration (NRDAR) process. Another long-term issue that USGS is going to be heavily involved in are studies associated with the berms. This is a classic case of something that was done with a very short time frame and many of the impacts on shallow marine waters and coasts are still



unknown. USGS will also be looking at the issue of storm vulnerability and oil impacts on an ongoing basis.

### **USACE**

Steve Cary (USACE) stated that USACE has spent a lot of time and effort supporting baseline environmental monitoring activities. It is working with U.S. Fish and Wildlife and NOAA and a lot of the state and regional agencies from the aquatic, terrestrial and avian environmental communities. Some of this is database work, but most of it is support work, and it's been very important to the initial baseline establishment and the baseline conditions. Secondly, USACE has extensive 2D models in the shallow waters of the Gulf and has used those extensively in helping to deal with what was initially a deluge of permits for the barrier islands. And fortunately because of that work and other interests from regional and state communities USACE has been able to turn back most of that concept. The majority of the permits have been turned down either because of stability issues or because the construction of these berms would just be trapping oil once it eventually surged over. USACE is more focused now on the merit of barrier island restoration. Cary also stated that the discussion of the S&T gaps relating to the short-term and long-term issues was quite interesting and USACE has pulled together a team to develop a set of proposals addressing the impacts of unique hydrocarbons associated with the oil spill, remediation techniques, and other issues. There are dozens of people who are interested in doing additional work in these areas, so it is just a question of how to address the gaps and finding the resources to fund that work.

Andy Bruzewicz (USACE) stated that a big question going forward will be looking at the persistence of science in making strides to improve response and recovery to this and future oil spills. USACE had an R&D program that was spawned in the wake of the Exxon Valdez oil spill, but funding ran out in 1995. USACE has not had a continuous R&D program on oil spill research since then and from Bruzewicz's perspective, was suffering at the moment due to a lack of continuity in addressing issues related to oil spills. He stated that he hoped USACE and the federal agencies in general would begin making long-term commitments to ongoing R&D in this area and move away from half-life, crisis-generated programs. He encouraged an examination of the prioritization process that was used with regard to science during the response phase. Regarding the berms, he stated that while a majority of the proposal had indeed been turned down, permits were nevertheless issued for building 46 miles of berms. It is still unknown how resistant those initial berms were to the hydrodynamic conditions that existed where they had been placed. Bruzewicz noted, as previously pointed out, that there may be an opportunity to study that in more detail in the next couple of weeks. Since there is great interest in the restoration of the former barrier islands, he stressed the need to improve understanding on how the replaced material is going to respond to the dynamics in the Gulf.

### **NSF**

Wenger stated that NSF has given out to this point about 70 RAPID Awards totaling about 7 million dollars. The review process established for the RAPIDs is designed to get the awards out the door quickly to gather ephemeral data. As a result, most awards involve issues of immediate response and impact. Besides the award that NSF made to PBS NewsHour, there are a few other awards that do deal with things related to recovery. The Polar program received an award as it funded a lot of research on Exxon Valdez and certain models were developed about the impact of that event on regional economies and communities. The people who developed that model are now applying it to the Deepwater Horizon oil spill. Recovery does not really lend itself to short-term rapid response research – that's not the nature of recovery. Wenger commented that he was now starting to get involved with two and three year proposals to examine recovery from the event. (Towards the end of the meeting, Gregory Anderson (NSF) noted that he had just received an email stating that the number of awards had risen to 90 and the amount of funding had risen from 6.9 to 16 million dollars.)

## **EPA**

Jutro stated that EPA had been continuing air monitoring. Ozone and the airborne particulate matter are rising to levels that EPA considers unhealthy for sensitive groups. More details on this are available on the EPA website. EPA had been collecting surface water samples in August, most recently through the 24<sup>th</sup>. No elevated levels of chemicals usually found in oil have been detected. EPA's August 22<sup>nd</sup> samples did not show any elevated levels of the dispersant chemicals above the reported levels. Regarding sediment, EPA still feels that there are risks to aquatic life through pollutants in sediments in some locations. Those levels have a higher potential for impact to sediment dwelling organisms and are classified as unhealthy. It is unknown whether the sediment contamination resulted from the spill or was there already as there is insufficient baseline data against which to compare. There may be some good chemistry that can be undertaken to determine some of these issues, but this remains unclear.

EPA's ASPECT program (Airborne Spectral Photometric Environmental Collection Technology) employs the country's only 24/7 airborne chemical, radiological situational awareness remote sensing aircraft. It uses several sensors including an Infrared multi-spectral imager, a high speed Fourier Transform Spectrometer (FTIR), a high throughput gamma ray spectrometer, and a high resolution digital aerial camera. The aircraft was deployed for 98 day (April 28 – August 3) in the Gulf Region and made 86 survey flights to detect and determine characteristics of the oil slick. All of this data has been integrated into DHS databases to date. The data also has been posted through Google Earth, as well as EPA's website. Apparently over a million individual, separate people to date have pinged it. ASPECT is not part of EPA's R&D effort, but is an operational sensing platform. However, EPA R&d works closely with the people who operate the platform to provide information on what is worth targeting and assistance with interpretation of what the collected data actually means scientifically and societally.

Jutro stated that EPA had nothing new to report regarding dispersants except for confirmation of the fact that tests so far have shown that none of the dispersants have demonstrated biologically significant endocrine disruptor activity. Subsequent tests have shown that the dispersants themselves are less toxic than the dispersant-oil mixture.

Jutro stated that there were no new waste management issues to report. The permanent landfills do not exceed regulatory limits for the disposal of oil waste at landfill sites.

One of the major focuses is the issue of environmental justice and the Gulf Coast is a particularly diverse community. EPA is conducting a lot of multi-lingual outreach and much of its material has been translated into Vietnamese and Spanish. There have been considerable efforts by both political and staff people to visit local leaders, academics, community residents, NGOs, and workers impacted by the response, like fishermen. These are traditionally known as the underserved members of the community and EPA has attempted to be particularly aggressive in reaching out to them. EPA has been active in the interagency open houses that have been taking place in every parish along the Gulf Coast. The most recent one was in Grand Isle on August 26. EPA has produced and distributed to the public several fact sheets about odor, waste management, waste, innovative technologies, monitoring, and dispersants. EPA is currently planning for how it might proceed on longer term monitoring activities. EPA fully expects to make a long-term commitment to the environmental health of the region.

The question was raised of how 4 terabytes of data collected by the ASPECT program had been catalogued and placed online. Jutro stated that he would get the answer. Patrick Willging (DOE) stated that DOE had been accessing this data through Google Earth interface. All the information is laid out, some of it is accessible through links, and it is catalogued somewhat geographically.

## **NIH**

Allen Dearry (NIH) stated that for almost 25 years NIH has had an education and training program to provide safety training to hazardous waste workers as well as emergency and first responders. A NIH

team was on site in Louisiana two days after the explosion of the Deepwater Horizon. NIH has worked with BP and others along the Gulf Coast to provide safety training to more than 100,000 people as of July. That includes contractors for BP, community residents, and fishermen. The institute has distributed more than 8,000 copies of safety materials in English, Spanish and Vietnamese. Some of the training being provided is incident specific and some is HAZWOPER.

In June, NIH Director Francis Collins announced that NIH would devote at least an additional 10 million dollars to oil spill research in this fiscal year. This is intended to be a long-term, prospective, cohort occupational study. In plain language that means that NIH will follow clean-up workers who have worked on the oil spill for the next 10 years to assess health status over that time period. So that will be a cohort of 50,000 workers as well as a control group that they are in the process of identifying. They will collect biological samples, visit homes and collect samples of house dust and tap water, and try to carry out exposure reconstruction with help from people and many of the agencies represented on the SDR to assess what type of exposure took place during the clean-up processes. It is critical to NIH that there will be a lot of community input and engagement in developing and conducting this study, so NIH is involved in putting together community forums and webinars to obtain input from community residents, academic scientists, and state and local agencies. In about three weeks, in Tampa, the Institute of Medicine will review this protocol. Recruitment is scheduled pretty aggressively to launch in October. Federal responders will be eligible to take part. The Coast Guard is a part of this. If people from the agencies are interesting in participating, let Dearry know (dearry@niehs.nih.gov).

Recruitment will start with a household phone survey of 75,000 to 100,000 homes in order to try to recruit 50,000 people. The National Toxicology Program will be spending at least 2 million dollars this fiscal year to carry out chemical analysis of what has been in the water. They are collecting samples from agencies that have collected those water samples of oil, dispersant, and oil-dispersant mixtures. And they will analyze those samples to try to find out what is there and assess them chronologically over time as well as in terms of weathered- and bio-degradation. The National Toxicology Program is the Nation's major toxicity testing program. It is an interagency effort that is housed at NIH. They will start answering these questions of what is source material and what has been out there for the past few months and they will break down each constituent component of whatever has been in the water. They also carry out toxicity testing of a range of different samples of oil and dispersant and mixtures thereof. They will try to start examining potential toxic effects of an array of compounds.

NIH spends most of its funds, like NSF, extramurally in the form of grants and contracts. Similar to NSF's RAPID Awards, NIH has what it calls time-sensitive opportunities. The NIH process is not quite as fast as NSF because NIH will not forgo peer review, so that means it is not a four week decision, but a four month decision, which is about half the normal timeframe for NIH between time of submission of proposal and time of award. These opportunities have been available, are still open, and applications are coming in related to oil spill and potential health effects. Dearry stated that he spoke with NSF on Tuesday and would be happy to follow up with anyone here about planning an academic consortium to study health implications of the oil spill. The consortium would be a multi-disciplinary team of scientists, community members, and health care practitioners. NIH has an ongoing joint program with NSF on oceans and human health, which is an example of how this effort might be arranged. It is important to study not only health effects but exposure assessment, modeling, and community vulnerability and resiliency. The effort would try to establish the right types of measures to examine how vulnerable a given community might be as efforts are undertaken to enhance capacity to respond to future disasters. This will employ a community-based, participatory research approach and framework, which means that communities and academic scientists work together in equal partnership.

Finally, NIH has had a program in environmental justice for two decades and is very sensitive to these issues around the Gulf Coast. Many of the communities are disadvantaged socioeconomically. In terms of health status, most have a higher incidence of cardiovascular disease, of nervous disorders like

Parkinson's and Alzheimer's in senior citizens, and of asthma in children. The program, which is currently under development with other institutes and agencies, will address those health disparities. The effort is on a pretty fast track and NIH is trying to get an announcement out to the NIH extramural community, hopefully tomorrow, to give them a heads up so they can start forming their teams. The funding announcement is expected to go out in October.

#### **FEMA**

Steve Carruth (FEMA) stated that FEMA has not really been involved in the science activities, but has been involved in the Deepwater Integrated Service Team. FEMA has been coordinating efforts of federal departments and agencies with respect to issues related to support services and claims monitoring. The focus has been to monitor the claims process to coordinate the delivery of federal programs to provide social services.

#### **DOE**

Patrick Willging (DOE) stated that Secretary Chu has been very involved in this effort with a team of scientists. The Secretary and his team remain engaged with BP both in Houston, onsite in Louisiana, and also with the other federal agencies.

Applegate stated that expectations for the weeks ahead are that the SDR will be reaching out to agencies once again for updates on oil spill activities in the mid-to-late September timeframe.

#### **V. Approval of July Meeting Minutes**

The July Meeting Minutes were approved with no changes.

#### **VI. Report from the Chair**

Applegate stated that at the July meeting he had mentioned that Sheila Duwadi at the Department of Transportation had incorporated the Grand Challenges into an article looking at public roads. He praised the article as a wonderful example of making the Grand Challenges agency specific and agency relevant.

Applegate stated that the SDR is continuing to work with the Department of State and the UN International Strategy for Disaster Reduction (ISDR), which has asked the U.S. to put together a regional workshop to look at progress towards the Hyogo Framework for Action (HFA). In this case, the region is North America, so the only countries are Canada, the U.S., and Mexico. Applegate noted that he had been reaching out to Canadian and Mexican colleagues. Right now the plan is that instead of having an SDR meeting on Thursday, November 4<sup>th</sup>, the subcommittee would meet on Wednesday, November 3<sup>rd</sup>. It would be an all day meeting into which the regular SDR meeting would be rolled, since questions on progress towards the HFA relate closely to questions of progress on where the U.S. is in terms of meeting the Grand Challenges. The location will probably be at NSF Headquarters in Ballston, which is metro accessible. Participants will likely include agency representatives from the SDR, delegations from Mexico and Canada, the UNISDR, and the Disasters Roundtable.

#### **VII. Report from the Vice-Chairs**

No report was given.

#### **VIII. Adjournment**

The meeting adjourned at 12:04 p.m.

#### **IX. Future Meetings**

The SDR meets on the first Thursday of every month from 10 a.m. to 12 p.m. unless otherwise noted.

\*Note: The SDR's 2010 meetings are scheduled to be held at the White House Conference Center.

October 7, 2010

November 4, 2010

December 2, 2010

**X. Agenda Items and Other Communications with the Subcommittee**

Please send proposed agenda items and any other items intended for distribution to the full Subcommittee to Ross Faith (ross.faith@mantech.com).

**XI. Contact Information**

**SDR Leadership**

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Dennis Wenger	Vice Chair	703-292-8606	dwenger@nsf.gov

**Secretariat**

Ross Faith	703-388-0308	Ross.Faith@ManTech.com
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**XII. Summary of September Actions**

Action	Lead	By When
Let Andrea Donnellan (andrea.donnellan@jpl.nasa.gov) know if you are attending the ASPRS/CaGIS conference in Orlando and are interested in serving on a NASA workshop panel.	SDR Member	ASAP
Let Ross (ross.faith@mantech.com) know if you are interested in participating in an ad hoc Haiti-Chile Lessons Learned Working Group.	SDR Members	Standing
Let Ross (ross.faith@mantech.com) know if you are interested in participating in an ad hoc SDR International Working Group.	SDR Members	Standing
Send Sezin Tokar (stokar@usaid.gov) your ".gov" e-mail address to receive USG-only updates from USAID on global disaster response activities.	SDR Members	Standing
Contact Ross (ross.faith@mantech.com) to receive copies of the Grand Challenges for Disaster Reduction Implementation Plan packets or CD.	SDR Members	Standing
Let Dave (applegate@usgs.gov) or Ross (ross.faith@mantech.com) know how you use the implementation plans, including when you link to the plans from your agency websites. Send Ross or Dave additional distribution suggestions, including relevant contact information.	SDR Members	Standing