

# Meeting Minutes of the Subcommittee on Disaster Reduction

6 October 2011, 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.*

## Co-Chairs

David Applegate (USGS)  
Margaret Davidson (NOAA) (T)  
Dennis Wenger (NSF)

## OSTP Liaison

Tamara Dickinson (OSTP)

## Designated Representatives

**BLM** *Edwin Roberson*  
*Daniel Lechefsky*  
**CDC** *Mark Keim*  
**DHS** Bruce Davis  
**DHS/FEMA** *Sandra Knight*  
**DHS/USCG** *Austin Gould*  
**DOD** *Al Johnson*  
**DOT** *Kelly Leone*  
*Sheila Duwadi*  
**EOP/OMB** *Grace Hu*  
**EOP/OSTP** Tamara Dickinson

**EPA** *Peter Jutro*  
Stephen Clark  
**FERC** Pamela Romano (T)  
**HUD** *Dana Bres*  
**NASA** *Craig Dobson*  
**NGA** *Paul Lewis*  
**NGB** *Daniel Bochicchio*  
**NIH** Allen Dearry (T)  
**NIST** William Grosshandler  
**NOAA** Margaret Davidson (T)  
*Laura Furgione*

**NSF** Dennis Wenger  
**OPHS** *Sven Rodenbeck*  
**State** Nicholas Suntzeff (T)  
*Fernando Echavarria*  
**USACE** *Steven Cary*  
Dimitra Syriopoulou  
**USAID** Sezin Tokar  
**USDA** *TBD*  
**USFS** *Carlos Rodriguez-Franco*  
**USGS** David Applegate  
**USNRC** *Brian Sheron*

## Other Attendees

**DHS** Denise Kruse  
**DHS/FEMA** Rachel Sears  
**DHS/USCG** Tung Ly  
**FHWA** Phil Yen  
**EPA** Brendan Doyle  
**NOAA** Margaret McCalla

**NPS** Marcy Rockman  
**USACE** Andrew Bruzewicz  
**USGS** Bill Leith  
**USNRC** Jennifer Uhle  
Jon Ake  
**Secretariat** Ross Faith  
Barbara Haines-Parmelee

## InterAction Guests

Peter Buth  
Luke Bostian  
Tracy O'Heir  
Rod Snider

## Agenda

10:00 Welcome and Introductions  
10:10 Presentation: Global Perspectives on Disaster Risk Reduction  
10:40 Presentation: U.S. Nuclear Regulatory Commission: science and engineering for disaster reduction and post-Fukushima recommendations  
11:25 Report from the Co-Chairs and Approval of Minutes  
11:40 Report from the OSTP Liaison  
11:55 Close and Next Actions

## Handouts

- Agenda
- Draft September Meeting Minutes
- Draft Coastal Inundation Working Group Charter

## **I. Welcome and Introductions**

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

## **II. Presentation: Global Perspectives on Disaster Risk Reduction**

Stemming from the SDR's role as the U.S. National Platform for the UN International Strategy for Disaster Reduction (ISDR), the subcommittee heard from representatives of InterAction's Disaster Risk Reduction (DRR) Working Group. Established 25 years ago, InterAction now encompasses 190 dues-paying organizations, making it the largest alliance of U.S.-based international nongovernmental organizations (NGOs) focused on disaster relief and sustainable development. The alliance regularly sends representatives to the ISDR's Global Platform meetings and supports efforts to implement the Hyogo Framework for Action (HFA). Because these NGOs play an important role in U.S. disaster reduction efforts abroad, the SDR has been holding informational discussions with InterAction's DRR Working Group to explore opportunities for collaboration with the broader NGO community.

InterAction was represented by its DRR Working Group co-chair Rod Snider, who also serves as the Senior Advisor for Disaster Preparedness at the American Red Cross. Snider spoke to the SDR about global disaster trends and perspectives in disaster risk reduction. During his overview he highlighted the importance of providing federal science and technology expertise to the NGOs working at the frontlines to implement DRR abroad (as well as domestically). He also called out the transfer of such information as an area where the SDR and InterAction could potentially collaborate.

Snider outlined expectations that disaster impacts will increase over the coming years, driven by trends in global population growth, urbanization, vulnerability, and climate change. He referenced data collected by the Centre for Research on the Epidemiology of Disasters (CRED), which show that worldwide disaster events have increased from an annual average of approximately 250 events in the 1990s to roughly 350 events for the most recent years. UN projections for population growth and urbanization estimate that roughly two-thirds of the world's population will live in urban areas by 2050. Snider pointed to the difficult challenges that municipalities will face in controlling urban growth as a reason for concern that much of it will be poorly regulated, resulting in additional informal settlements in hazard-prone areas, and leading, in turn, to greater vulnerability. A 2009 Oxfam International report, *The Right to Survive*, projects, moreover, that by 2015 the average number of people affected each year by climate-related disasters may grow by over 50 percent to 375 million. Snider noted that this projected increase would severely strain resources available for international humanitarian response, and he underlined it as a scenario for which the organizations involved must better prepare.

The prospect of strained resources for disaster response lends additional weight and impetus to efforts aimed at reducing risk. Snider noted that while advances in DRR policy and legislation have been made in several countries at the national level, the effects of those policies and laws have not been translated well into reduced risk at the community and local levels. The ISDR has cited closing this gap as major ongoing challenge. With the expiration of the HFA on the horizon in 2015 and the evolution of DRR policy and practice in mind, Snider encouraged SDR members to think about what a follow-on framework to the HFA should look like. Although climate change adaptation may figure largely in a follow-on framework, Snider noted that the DRR, climate change adaptation (CCA), and environmental communities still tended to operate within their own silos, instead of tackling common challenges in an integrated, holistic fashion.

Snider pointed out that approximately 90 percent of disasters worldwide are weather-related and that current efforts to mitigate against present climate variability and extremes are falling short. He stated that the NGO community is beginning to take a more integrated view of the disaster-climate-environment nexus and is thinking about dealing with the interconnected set of challenges which arise from that nexus

in terms of “climate risk management”. He noted that the terminology rift dividing the DRR and CCA communities, in particular, tended to reinforce the disaster mitigation and climate adaptation silos, whereas thinking about climate variability and change in terms of risk management seemed to lend itself to a more meaningful dialogue about the core issue of reducing adverse impacts, irrespective of their origin.

SDR Co-Chair Margaret Davidson (NOAA) noted that the U.S. Department of Defense had begun to adopt the more holistic view of disaster risk reduction in light of what it perceived to be increasingly difficult challenges in disaster response that could be partially overcome by mitigation on the front-end. She suggested that there might be an opportunity for the NGO DRR community to engage on this set of issues with the U.S. Africa Command (AFRICOM), in particular.

### **III. Presentation: U.S. Nuclear Regulatory Commission: science and engineering for disaster reduction and post-Fukushima recommendations**

Dr. Jennifer Uhle, Deputy Director of the Office of Nuclear Regulatory Research at the U.S. Nuclear Regulatory Commission (NRC), spoke to the SDR about the NRC’s role in the development of nuclear science and engineering for disaster reduction, as well as the recommendations for nuclear plant safety that came out of the post-tsunami investigation of the meltdown at Japan’s Fukushima Dai-ichi nuclear plant. Subsequent to the event, Uhle served as the U.S. representative to the International Atomic Energy Agency (IAEA) Experts Mission to Fukushima, Japan.

The NRC’s scope of responsibility includes regulation of commercial nuclear power plants; research and test reactors; nuclear fuel cycle facilities; medical, academic, and industrial uses of radioactive materials; the decommissioning of these facilities and sites; and the transport, storage, and disposal of radioactive materials and wastes. The NRC’s regulations are designed to protect both the public and occupational workers from radiation hazards.

There are currently 104 nuclear power plants that are licensed to operate in the U.S. Combined, they produce approximately 20 percent of the Nation’s electricity. The plants are predominantly located in the Eastern and Central U.S., with an additional handful situated in Arizona, California, and Washington State. The NRC is currently considering several applications for new plants, several of which would be built on sites where existing plants presently operate. After plants reach 40 years of age, their commercial operators must submit an application to the NRC justifying that a plant is safe for continued operation. The main focus of such renewals is to ensure safety vis-à-vis age-related degradation. The plants must have an aging management program, which is reviewed by the NRC, in addition to specific testing and inspections before a license extending operation for another 20 years is granted. The NRC and the commercial nuclear industry are currently conducting research to prepare for license renewals after 60 years.

Subsequent to the partial meltdown at the Three Mile Island Generating Station in 1979, new additional requirements were imposed for all then-existing nuclear power plants through a process known in the industry as “backfitting”. The backfit requirements included plant modifications, additional instrumentation, changes in training for plant operators, and enhanced emergency planning with more rigorous inspections. Following the establishment of the new requirements, the plants were given roughly two years to come into compliance. Those additional requirements now are imposed on any new plant.

The NRC’s regulatory process is based on the “defense-in-depth” concept and takes into account both internal and external hazards. Defense-in-depth means that the plants have multiple independent and redundant layers of defense to compensate for any hazard, failure, or operator error, so that no layer is exclusively relied upon. From that standpoint, the requirements are designed to prevent an accident, and

in the case that an accident does occur, to mitigate against damage to the reactor core by preventing the initial event from inducing a set of cascading adverse impacts. If core damage were to take place, there are requirements in place for emergency preparedness. Inspections for emergency preparedness include joint exercises with FEMA and evaluations of evacuation plans for the plant and the population in the vicinity.

The seismic design criteria for existing plants are informed by deterministic analyses of historical earthquake values and geologic evidence from earlier periods in a 200 mile radius of the plant. The maximum historical event is used as the starting point, and an additional margin of safety is then added. The NRC is now starting to use probabilistic risk analysis to provide a better understanding of the probabilities of ground motion, wind speeds, and other hazard forces to inform design basis. For new plants, the requirements for seismic design basis are established to preclude probabilities of core damage of less than one in a million. Flowing from the adoption of this approach for new plants, the NRC is revisiting the seismic design bases for existing plants in light of the new information to determine if there is a need to increase the requirements at particular existing plants.

The NRC established a Near-Term Task Force to conduct a methodical and systematic review following the events in Japan. The task force concluded that there is no imminent risk from continued operation of nuclear power plants in the U.S., and that the NRC's regulatory framework would be enhanced by a more balanced application of the defense-in-depth philosophy supported by risk insights. They also concluded that requirements for increased mitigation capability for design-basis and beyond design-basis events would significantly enhance safety. The task force report (publicly available at <http://pbadupws.nrc.gov/docs/ML1118/ML111861807.pdf>) provided 12 overarching recommendations addressing principles of defense-in-depth, protection, mitigation and emergency preparedness.

On September 9, 2011, the NRC provided a paper to the Commission focusing on those Near-Term Task Force recommendations that can, and, in the staff's judgment, should be initiated in whole or in part without delay. Those near-term actions identified are the following:

- Seismic and flood hazard reevaluations
- Seismic and flood walkdowns
- Station blackout regulatory actions
- Equipment covered under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(hh)(2)
- Reliable hardened vents for Mark I containments
- Strengthening and integration of emergency operating procedures, severe accident management guidelines, and extensive damage mitigation

In a notation vote paper due to the Commission on October 3, 2011, the staff plans to provide a prioritization of the Near-Term Task Force recommendations to (1) reflect regulatory actions to be taken by the staff in response to the lessons learned from Fukushima to date; (2) identify implementation challenges; (3) include technical and regulatory bases for the prioritization; (4) identify additional recommendations, if any; and (5) include a schedule and milestones with recommendations for appropriate stakeholder engagement and involvement of the Advisory Committee for Reactor Safeguard.

As a part of the near-term report, the task force will also recommend a framework for a longer-term review. The longer-term review effort will include the development of lessons learned from the events in Japan, and will begin as soon as the NRC is able to obtain sufficient technical information. (For informational purposes in the interim regarding the tsunami hazard in the U.S.: the only known subduction fault zones in the vicinity of the U.S. are located off the Pacific Northwest and Alaskan coasts. The only nuclear power plant located in that region is the Columbia Generating Station, which is situated approximately 200 miles inland.)

#### **IV. Report from the Co-Chairs and Approval of Minutes**

SDR Co-Chair David Applegate (USGS) reported that the SDR would be formally chartering several working groups and task forces over the coming months. A draft charter for the SDR's Coastal Inundation Working Group (CIWG), which has been active during the past two years on an ad hoc basis, was distributed to the subcommittee for comments. Charters are currently being drafted for the following entities:

- International Working Group
- National Windstorm Impact Reduction Program (NWIRP) Working Group
- Task Force on Lessons Learned from Earthquakes and Tsunami
- Task Force on Hazards R&D, Synergies, and Technology Transfer

The September meeting minutes were approved subsequent to a correction by Bill Leith (USGS), who indicated that the reference to the North Anna Nuclear Power Plant on page 2 should read that the plant shut down as a result of a loss of power and not ground shaking.

#### **V. Report from the OSTP Liaison**

OSTP Liaison Tammy Dickinson reported that the two task force efforts had been requested by Steve Fetter, OSTP's Acting Associate Director for Environment. She also noted that the NIST director had endorsed the task force effort on Hazards R&D, Synergies, and Technology Transfer. One focus of this task force will be to identify the R&D efforts that apply to multiple hazards, versus the hazards that require separate, individual R&D efforts. (There is a possibility that the SDR could be charged under the Natural Hazards Risk Reduction Act of 2011, now pending before Congress. If passed in present form, the bill would require the SDR to develop a report covering these R&D issues, so the creation of the task force – in addition to being requested by OSTP – serves as a way to “get out ahead” of that potential mandate.)

#### **VI. Adjournment**

The meeting adjourned at 12:04 p.m.

#### **VII. Future Meetings**

In 2011, the SDR will meet from 10:00 a.m. to 12:00 p.m. on the first Thursday of each month in the Lincoln Room of the White House Conference Center. The meeting dates are:

Thursday, November 3, 2011

Thursday, December 1, 2011

#### **VIII. 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](mailto:ross.faith@mantech.com)).

#### **IX. Contact Information**

##### **SDR Leadership**

David Applegate	Co-Chair	703-648-6714	<a href="mailto:applegate@usgs.gov">applegate@usgs.gov</a>
Margaret Davidson	Co-Chair	843-740-1220	<a href="mailto:margaret.davidson@noaa.gov">margaret.davidson@noaa.gov</a>
Dennis Wenger	Co-Chair	703-292-8606	<a href="mailto:dwenger@nsf.gov">dwenger@nsf.gov</a>
Tamara Dickinson	OSTP Liaison	202-456-6105	<a href="mailto:tdickinson@ostp.eop.gov">tdickinson@ostp.eop.gov</a>

##### **Secretariat**

Ross Faith	703-388-0308	<a href="mailto:Ross.Faith@ManTech.com">Ross.Faith@ManTech.com</a>
Barbara Haines-Parmelee	703-388-0309	<a href="mailto:Barbara.Haines-Parmelee@ManTech.com">Barbara.Haines-Parmelee@ManTech.com</a>

**X. Summary of October Actions**

<b>Action</b>	<b>Lead</b>	<b>By When</b>
Send comments on the SDR Coastal Inundation Working Group draft charter to the Secretariat (ross.faiht@mantech.com).	SDR Members and Federal Colleagues	Friday, October 21
Contact Tammy Dickinson (tdickinson@ostp.eop.gov) to pass along issues, concerns, and information from your agency to the White House Office of Science and Technology Policy	SDR Members	Standing
Contact Tammy Dickinson (tdickinson@ostp.eop.gov) if it would be helpful for OSTP to issue a letter to your Department requesting new (or re-affirmed) designation of representatives. Ideas for other entities that should be represented on the SDR are also welcome.	SDR Members	ASAP
Contact Dennis Wenger (dwenger@nsf.gov) if your agency is able to provide funding support to the University of Colorado-Boulder's Natural Hazards Center.	SDR Members and Federal colleagues	ASAP
Contact the Secretariat (ross.faiht@mantech.com) if you are interested in participating in the SDR Coastal Inundation Working Group.	SDR Members and Federal colleagues	Standing
Contact the Secretariat (ross.faiht@mantech.com) if you are interested in participating in a task force that will be drafting a lessons learned report covering the earthquakes and tsunami in Japan, New Zealand, Chile, and Haiti.	SDR Members and Federal colleagues	Standing
Contact the Secretariat (ross.faiht@mantech.com) if you are interested in participating in the SDR International Working Group.	SDR Members and Federal colleagues	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 and Federal colleagues	Standing
Contact Ross (ross.faiht@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.faiht@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