



Nuclear Safety

Daniel B. Poneman
Deputy Secretary
Department of Energy



(Above) Deputy Secretary of Energy Daniel Poneman addresses the Day 1 plenary session. (Below) Workshop attendees on Day 1.

Nuclear Safety Workshop

Working Together to Enhance Nuclear Safety

On June 6-7, 2011, over 200 participants convened at the Crystal City Marriott in Arlington, Virginia, to participate in the first-of-its-kind Nuclear Safety Workshop, which brought together high ranking officials and technical experts from the Department of Energy (DOE), the



Nuclear Regulatory Commission, the Environmental Protection Agency, the National Nuclear Security Administration, the Department of Homeland Security, the Institute of Nuclear Power Operations, the Defense Nuclear Facilities Safety Board, the Chemical Safety Board, the Blue Ribbon Commission on America's Nuclear Future, and DOE contractor organizations.

Sponsored by DOE and championed by Deputy Secretary of Energy Daniel Poneman, this workshop was created to directly support and build on Secretary of Energy Steven Chu's Safety Bulletin 2011-1 of March 23, 2011, entitled *Events Beyond Design Safety Basis Analysis*. This safety bulletin outlined management's initial actions in assessing its facilities' safety characteristics under beyond-design-basis conditions. This two-day workshop was designed to bring members of the nuclear community together to discuss how the at-

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Participants on Panel Discussion on Nuclear Safety Culture:
(From left to right) Steven C. Erhart, Pamela A. Horning,
Peter B. Lyons, and Neile L. Miller.



tending organizations could learn from each other to enhance and improve nuclear safety within their respective nuclear operations.

In addition to sharing insights and actions steps, this workshop explored the recent accident at the Fukushima Daiichi nuclear power station in Japan and the organizational insights that DOE could learn from this catastrophe. The tragic occurrence in Japan demonstrated that, while unlikely, a worst-case, beyond-design-basis event is not impossible. Specifically for the Department, this workshop was intended to start the process of developing tangible recommendations that senior management will evaluate and consider for action, both from the accident in Japan and via safety assessments of its facilities. While the events in Japan have drawn the attention of the media and other key audiences to industrial and natural disasters, serving as an important backdrop for the workshop, nuclear safety has always been and will continue to be an area of great importance and concern for DOE.

Day One – June 6, 2011

The first day of the workshop involved a plenary session focused on high-level nuclear safety and technical issues related to the accident at the Fukushima Daiichi nuclear complex. DOE's Deputy Secretary of Energy, Associate Deputy Secretary, Chief Health, Safety and Security Officer, and other senior Departmental leaders shared their vision of how DOE is moving forward

to improve its nuclear safety. The morning featured a senior Department management panel discussion on nuclear safety culture and highlighted the importance of maintaining a strong, integrated safety management approach as an embedded cultural tenet within an organization. The first day also included technical presentations on the Fukushima Daiichi accident from John E. Mansfield, Defense Nuclear Facilities Safety Board; Richard T. Purcell, Senior Vice President for Industry Performance Improvement, Institute of Nuclear Power Operations; Kevin J. Coppersmith, a nationally and internationally recognized expert in natural phenomena hazards; William C. Ostendorff, Commissioner of the Nuclear Regulatory Commission; and Robert J. Budnitz, Lawrence Berkeley National Laboratory.



Vicky A. Bailey, Member of Blue Ribbon
Commission on America's Nuclear Future.

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Acting Director of the Office of Nuclear Safety, James O'Brien, addresses the audience.

The overarching themes for Day One explored the key concepts and elements for ensuring nuclear safety at Department facilities (e.g., defense in depth, natural phenomena hazard mitigation, and emergency management), as well as the actions that both the Department and the commercial nuclear industry have taken in response to Fukushima.

Additional issues raised highlighted the importance of:

- Collaboration and participation among members of the U.S. nuclear community
- The adoption of a strong organizational learning culture and the use of a systems approach in identifying areas of organizational concern, in order to create and maintain a high-reliability, high-performance organization
- The development of strong leadership and of employee empowerment and engagement through opportunities for increased decision-making, training, and feedback
- The creation of a risk management strategy within the context of beyond-design-basis events, and consideration of risk when assessing probabilities and consequences. This is particularly relevant to the safety and well-being of key stakeholders (e.g., workers and area residents).

Day Two – June 7, 2011

The second day of the workshop featured technical breakout sessions for discussion on the following three topics:

- DOE's evaluation of beyond-design-basis events
- Natural phenomena hazards
- Emergency management.

The purpose of these breakout sessions was to aggregate information and ideas for developing clear actions and a path forward for implementing safety improvements at DOE nuclear facilities.

Within these technical breakout sessions, participants discussed the importance of the following:

- Evaluating the need for emergency planning to compensate for the potential unavailability of shared infrastructure following beyond-design-basis events
- Gaining a better understanding of survivability of safety equipment in severe accident environments



William C. Ostendorff, Commissioner of the U.S. Nuclear Regulatory Commission, presents on Day 1.

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- Better integrating design basis analysis, beyond-design-basis accident analysis, and other analyses that help determine emergency response needs
- Evaluating the potential for cascading events that may result from natural phenomena hazards.

Moving Forward

The Department remains committed to ensuring nuclear safety, and senior management will continue to partner with members of the Federal and commercial nuclear community to exchange knowledge and continually strengthen organizational best practices for nuclear safety. The Department is developing recommendations for improving nuclear safety based on the assessment of its nuclear facilities resulting from the Secretary's safety bulletin and the emerging lessons learned from the accident in Japan. Furthermore, as a result of this workshop and the attendant collaboration, the Department is considering additional recommendations for further improvements. The Department will finalize these recommendations and develop a comprehensive action plan to enhance nuclear safety at its facilities. The recommendations and action plan will be released later this summer.



Dr. Robert Budnitz addresses the crowd via video feed from Lawrence Berkeley National Laboratory.



John E. Mansfield, Member of the Defense Nuclear Facilities Safety Board, with Glenn S. Podonsky, Chief Health, Safety and Security Officer of the Department of Energy.

