

RESET OF U.S. NUCLEAR WASTE MANAGEMENT STRATEGY AND POLICY
February 17-19, 2015

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Workshop Information

Stanford Workshop Location

Encina Hall

616 Serra Street, Stanford, CA 94305

Feb. 17 & Feb. 18: CISAC Central Conference Room (2nd floor)

Feb. 19: Policy Implementation Lab (ground floor)

Hotel Information

Dinah's Garden Hotel

Address: 4261 El Camino Real, Palo Alto, CA 94306

Hotel Phone Number: 650-493-2844

Contact Information

Aparna Surendra

- Cell #: 650-796-7197

Rod Ewing

- Cell #: 734-255-7160

Steering Committee Agenda, Feb. 17-19

Tuesday, February 17

7:40: Yellow Cab will be at the hotel, to take the steering committee to Stanford

<p>Car service will be provided between the hotel and Stanford.</p> <p>CONTINENTAL BREAKFAST 8:00-8:30</p> <p>INTRODUCTION 8:30 - 9:00 35 mins - presentation 15 mins – Q&A</p>	<p>CISAC Central Conference Room, Encina Hall, second floor</p> <p>Introduction to meeting and goals Rod Ewing Stanford University</p> <p>Welcome to Stanford Michael McFaul Stanford University</p>
Chair of morning sessions: Rod Ewing	
<p>9:00 - 9:45 35 mins - presentation 15 mins – Q&A</p>	<p>The management of radioactive waste as a socio-technical challenge Dan Metlay Nuclear Waste Technical Review Board</p>
<p>9:45 – 10:00</p>	<p><i>Coffee break</i></p>
<p>10:00 -10:50 35 mins - presentation 15 mins – Q&A</p>	<p>U.S. experience with WIPP Peter Davies Sandia National Laboratories</p>
<p>10:55 - 11:45 35 mins - presentation 15 mins – Q&A</p>	<p>U.S. experience with Yucca Mountain Mark Peters Argonne National Laboratory</p>
<p>11:45 - 13:00</p>	<p><i>Lunch</i></p>
Chair of afternoon sessions: Dan Metlay	
<p>13:00 - 13:50 35 mins - presentation 15 mins – Q&A</p>	<p>The Swedish program in granite Saida Laârouchi Engström SKB, Sweden</p>

13:55 - 14:45 35 mins - presentation 15 mins – Q&A	The French program in clay Christophe Poinssot French Atomic and Alternatives Energy Commission (CEA) National Institute of Nuclear Science and Technology (INSTN)
14:45 - 15:00	<i>Coffee break</i>
15:00 - 15:50 35 mins - presentation 15 mins – Q&A	Nuclear waste disposal – safety and public debate in France Bernd Grambow Ecole des Mines de Nantes and SUBATECH Laboratory
15:50 - 16:00	<i>Coffee break</i>
16:00 – 17:00	Open discussion

The open sessions are conducted under the Chatham House Rule. Participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

17:00: Yellow Cab will take the steering committee back to Dinah’s hotel

18:45: Yellow Cab will take the group to Estrellita’s Mexican Bistro
Address: 971 N San Antonio Rd, Los Altos, CA 94022

21:30: Yellow Cab will return the group to Dinah’s hotel (please note: Rod has the cab company’s number, should you wish to return earlier. In addition, the restaurant is a 15 minute walk from the hotel).

Wednesday, February 18

8:15: Yellow Cab will be at the hotel, to take the group to Stanford.

Car service will be provided between the hotel and Stanford. CONTINENTAL BREAKFAST 8:30 - 9:00 OVERVIEW 9:00 - 9:15	CISAC Central Conference Room, Encina Hall, second floor Overview and plan for the day Rod Ewing Stanford University
Chair for morning sessions: Mark Peters	
9:15 - 10:00 30 mins - presentation 15 mins – Q&A	Impact of different fuel cycle options on disposal options Christophe Poinssot French Atomic and Alternatives Energy Commission (CEA) National Institute of Nuclear Science and Technology (INSTN)
10:00 – 10:45 30 mins - presentation 15 mins – Q&A	Role of national laboratories in the U.S. program Sally Benson Stanford University
10:45 - 11:00	<i>Coffee break</i>
11:00 - 11:45 30 mins - presentation 15 mins – Q&A	Role of review bodies, such as the NAS, EEG, NEA and NWTRB, in the U.S. waste management program Chris Whipple ENVIRON
11:45 - 13:00	<i>Lunch</i>
13:00 -14:30	Roundtable discussion: What does “safe” mean? Bernd Grambow , Ecole des Mines de Nantes, SUBATECH Laboratory Jason Reinhardt , Stanford University Peter Swift , Sandia National Laboratories Chair: Rod Ewing
14:30 - 14:45	<i>Coffee break</i>
14:45 – 16:45	Roundtable discussion: Issues that need to be addressed in the U.S. nuclear waste program Chair: Dan Metlay

The open sessions are conducted under the Chatham House Rule. Participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

16:45: Yellow Cab will take the steering committee back to Dinah’s hotel

18:45: Yellow Cab will take the group to Amber Indian Restaurant

Address: 2290 West El Camino Real #9, Mountain View, CA 94040

21:30: Yellow Cab will return the group to Dinah's hotel (please note: Rod has the cab company's number, should you wish to return earlier. In addition, the restaurant is a 20-25 minute walk from the hotel).

Thursday, February 19

For those departing Thursday afternoon, please check out of the hotel in the morning and bring your luggage to Stanford.

For those being reimbursed by Stanford, please give all receipts to Aparna before you leave the workshop.

8:40: Yellow Cab will be at the hotel, to take the group to Stanford.

CONTINENTAL BREAKFAST 9:00-9:30 COMMITTEE DISCUSSION 9:30-15:00	Policy Implementation Lab Conference Room, Encina Hall, Ground Floor Committee discussion. Breakfast and lunch provided.
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15:00: Committee members who are departing on Friday return to the hotel on Thursday afternoon. Yellow Cab will take the steering committee back to Dinah's hotel

17:45: Yellow Cab takes the steering committee to the home of Rod Ewing and Helga Fuchs (home phone #: 650-521-0148; cell phone #: 734-255-7160)

Address: 1100 Sharon Park Drive, Bldg. 2 (Unit #35)
Menlo Park, CA 94025
Access code: #1859

19:00: Group travels to Bonsai Japanese Cuisine
Address: 3401 El Camino Real, Atherton, CA 94027

21:30: Yellow Cab returns the group to Dinah's hotel

Reset of U.S Nuclear Waste Management Strategy and Policy

The United States' nuclear waste management program is under extreme stress, with the Department of Energy (DOE) faced with substantial challenges across the country. In Hanford, Washington, the facility intended to solidify high-level waste is plagued with significant design challenges and significant cost overruns. In South Carolina, the construction of a Mixed Oxide Fuel Fabrication facility has exceeded its budget to the extent that development may be halted and alternative strategies pursued. In New Mexico, two accidents have led to the closure, for at least two years, of the Waste Isolation Pilot Plant. Yet, amidst these many challenges, the most demanding remains the siting and development of a deep-mined geologic repository for high-level radioactive waste and spent nuclear fuel, as evidenced by the stalemate in the Yucca Mountain project.

In 2002, Congress approved President George W. Bush's decision to site the nation's repository at Yucca Mountain in Nevada and, in 2008, the DOE submitted a construction application to the Nuclear Regulatory Commission. The process came to a standstill in 2010, when the Obama administration declared the repository "unworkable" and established the Blue Ribbon Commission on America's Nuclear Future (BRC) to recommend next steps. The BRC has since issued its report, the DOE has responded favorably, and there have been Senate hearings on bi-partisan legislation to implement the BRC's recommendations. Yet the measure never came to vote, and the stalemate is unlikely to end soon.

The current stalemate has overwhelmed serious discussion of technical and policy issues. Any new legislation must be informed by a thorough understanding and analysis of the history of the U.S. nuclear waste management program, and by the scientific, technical, social science, and policy challenges that beset it.

Purpose of this meeting: To inform efforts to reset the U.S. nuclear waste program, Stanford University's Freeman Spogli Institute for International Studies (FSI), Precourt Institute for Energy, and Center for International Security and Co-operation (CISAC) will sponsor a series of meetings over a two-year period, beginning in Fall 2015. Each meeting will focus on a critical issue for the formulation of a new legislative roadmap, and produce a white paper framing the critical issues that are likely to underpin any policy discussion. Taken as a whole, the white papers could be a "handbook" for Congress and the Executive as they fashion new legislation and restructure the federal agencies involved in nuclear waste management.

A preliminary meeting will take place in February 2015, when a steering committee of experts in nuclear waste management will guide a discussion (Chatham House Rules) of nuclear waste management strategies in the United States and abroad, and identify the critical topics for discussion in subsequent meetings.

Although no final determination has been made about the topics for future meetings, they may include:

•**The creation of a new waste management organization:** *Although recommended by the BRC, there has been only limited discussion of the structure, characteristics and funding of such a new organization.*

•**Definition of a consent-based process for siting nuclear facilities:** *A consent-based process requires the blending of social and technical criteria, but there has been no effort to design a technically-based, legal process that is compatible with the needs of a community, states, and federal government.*

•**Alternatives to a mined geologic repository for SNF and HLW:** *Because of the stalemate in siting a repository, there have been a number of new proposals on possible, alternative, disposal strategies (e.g., extended on-site storage or deep bore hole disposal), but there has been very limited discussion of how alternatives should be evaluated and compared.*

•**Standards and regulations:** *The regulatory framework in the U.S. places heavy demands on science and engineering (e.g., predictions of repository performance out to one million years). The revision of the regulations and standards may open the way to a more straightforward siting process for nuclear facilities and generate greater public acceptance. The fundamental question is how do we determine whether the repository is safe?*

Each of these issues has a generally unappreciated level of complexity. The discussion of each requires input across the broadest range of disciplines – science, engineering, social science, political science and law. Also, it is important to insure the participation of concerned members of the public, state governments, federal agencies, national laboratories, and universities, as well as members of the Executive and Congress.

Stanford's FSI and CISAC, as distinguished, policy-oriented organizations, offer a unique opportunity to address these difficult and controversial issues on neutral ground. Although broad participation is welcome, invited presentations from knowledgeable experts, in the U.S. and abroad, are absolutely necessary. There will be ample opportunity for Stanford faculty, FSI and CISAC fellows and Stanford graduate and undergraduate students to participate in the meeting.

The program committee for each future meeting will clearly state the purpose and issues to be addressed. After the meeting, the organizers will publish a white paper on the critical issues raised and proposed strategies for addressing those issues. The topical meetings would occur over two years, beginning in the fall, 2015. Taken as a whole, the white papers could be a "handbook" for Congress and the Executive as they fashion new legislation and restructure the federal agencies involved in nuclear waste management.