



FORGING A NEW NUCLEAR SAFETY CONSTRUCT WORKSHOP

*December 3–5, 2012
Willard InterContinental Hotel
Washington, DC*

FINAL PROGRAM

KEYNOTE AND PLENARY SPEAKERS

George Apostolakis, Commissioner, US Nuclear Regulatory Commission, USA

Nils Diaz, Chair, ASME Presidential Task Force, USA

Luis Echavarri, Director General, OECD/Nuclear Energy Agency (NEA)

Admiral James Ellis (Ret), Former President and CEO, Institute for Nuclear Power Operations, USA

Denis Flory, Deputy Director General, International Atomic Energy Agency

Marc Goldsmith, President, ASME, USA

Llewellyn King, Host and Executive Producer, “White House Chronicle”, USA

Andre-Claude Lacoste, Former President, Autorité de Sûreté Nucléaire (ASN), France

Thomas Loughlin, Executive Director, ASME, USA

Allison MacFarlane, Chair, US Nuclear Regulatory Commission, USA

Richard Meserve, President, Carnegie Institution for Science, USA

Dominique Miniere, Executive Vice President, Electricite de France

Osamu Oyamada, Former Commissioner, Nuclear Safety Commission, Japan

James Scarola, Chief Nuclear Officer, Progress Energy and Chair, NEI Fukushima Task Force, USA

SESSION LEADERS AND PANELISTS

Greg Ashley, President, Bechtel Nuclear Power, USA

Kenneth R. Balkey, Senior VP, ASME Standards & Certification, and Consulting Engineer, Westinghouse Electric Company, USA

Leonid Bolshov, Director, Russian Academy of Sciences, Nuclear Safety Institute (IBRAE), Russia

R. William Borchardt, Executive Director for Operations, US Nuclear Regulatory Commission, USA

Eliot Brenner, Director, US Nuclear Regulatory Commission Office of Public Affairs, USA

Jackie Clark, President, Clark Communications, USA

Michael Corradini, Member, US NRC Advisory Committee on Reactor Safeguards, and President, American Nuclear Society, USA

John (Jack) Devine, Jr., Executive Consultant, USA

Romney B. Duffey, Principal, DSM Associates, USA

Luis E. Echávarri, Director General, OECD Nuclear Energy Agency (NEA)

Juan Eibenschutz, Director General, The National Commission on Nuclear Safety and Safeguards, Mexico

Antoni Gurgui, Commissioner, Consejo de Seguridad Nuclear (CSN), Spain

Thomas R. Hafera, Principal Member of Technical Staff, Worley Parsons, USA

Norman Harrison, Director of Strategic Development, Babcock International Group, UK

Francois Hedin, Vice President, Nuclear Engineering, Electricite de France

David Hembree, Vice President, Emergency Response, Institute for Nuclear Power Operations (INPO), USA

Lars Högberg, Former Member, International Nuclear Safety Advisory Group, and Former Director General, Swedish Nuclear Power Inspectorate, Sweden

Maria Korsnick, Senior Vice President, Nuclear Operations, Constellation Energy Nuclear Group, USA

Thomas Koshy, Head of Nuclear Power Technology Development Section, International Atomic Energy Agency

Jukka Laaksonen, Vice President, Rusatom Overseas, Vice Chair, International Nuclear Safety Advisory Group, and Former Director General, Finnish Radiation and Nuclear Safety Authority, Finland

David E. W. Leaver, Senior Vice President, Worley Parsons, USA

Hee-Yong Lee, Senior Vice President, Overseas Nuclear Power Projects, Korea Electric Power Corporation, Korea

Peter Lyons, Assistant Secretary of Nuclear Energy, U.S. Department of Energy, USA

Shojiro Matsuura, Chairman, Japan Nuclear Safety Institute (JANSI)

Roger J. Mattson, Nuclear Safety Consultant, USA

Regis A. Matzie, Vice Chair, ASME Presidential Task Force, and Executive Consultant, Westinghouse Electric Company, USA

Masaki Morishita, Deputy Director General, Japan Atomic Energy Agency, Japan

Kenneth Mossman, Professor, Arizona State University, USA

Olena Mykolaichuk, Chair, State Nuclear Regulatory Inspectorate of Ukraine

Shigeo Nomura, President, Atomic Energy Society of Japan

Anthony R. Pietrangelo, Senior Vice President and Chief Nuclear Officer, Nuclear Energy Institute, USA

Xavier Pouget-Abadie, Safety International Delegate, Electricite de France

Duncan Robinson, Engineering Supervisor, Constellation Energy Nuclear Group, and North American Young Generation Network Past President, USA

Shinsuke Sakai, Professor, University of Tokyo, and Member, Executive Board of Directors, Engineering Activities, Japan Society of Mechanical Engineers, Japan

Richard R. Schultz, Distinguished Research Engineer, Idaho National Laboratory, and Professor of Practice, Department of Nuclear Engineering, Texas A&M University, USA

Michael J. Slobodien, Director, Emergency Programs, Entergy Nuclear, USA

Kenji Tateiwa, Manager, Nuclear Power Programs, Tokyo Electric Power Company, Japan

Douglas E. True, President, ERIN Engineering and Research, USA

John (Jack) Tuohy, Executive Director – Nuclear, Hitachi Power Systems America, Ltd., USA

George Vayssier, Director, Nuclear Safety Consultancy (NSC), Netherlands

Jingquan Yan, Vice President and Chief Engineer, Shanghai Nuclear Engineering Research & Design Institute, China

Forging a New Nuclear Safety Construct Workshop



Nils J. Diaz, PhD
Chair

ASME Presidential Task Force on Response to Japan Nuclear Power Plant Events

MESSAGE FROM THE CHAIR

It is my distinct pleasure to confirm your participation in the above-mentioned workshop in Washington, DC, on December 3-5, 2012. We have organized the workshop agenda to provide leaders of the international nuclear community an opportunity to discuss and develop a framework of activities addressing the recommendations contained in the recently issued ASME report, “Forging a New Nuclear Safety Construct”, as well as companion relevant issues. It is our intent that the workshop discussions will lead to concrete plans for a roadmap inclusive of those key actions that should be incorporated into a comprehensive safety construct for a post-Fukushima nuclear power complex, with worldwide applicability.

The ASME Presidential Task Force on Response to Japan Nuclear Power Plant Events is hosting this invitation-only workshop, chaired by Marc Goldsmith, ASME president. The participants will discuss the report, seek consensus on the need for a new nuclear safety construct based on existing and emerging safety constructs, and obtain agreement on future actions that are needed to advance its essential elements. The principal tenet is to foster ownership by responsible organizations to implement future actions worldwide. In order to limit the program to two days, we have compressed the schedule to essential meetings, while maintaining time for meaningful discussion.

We are pleased to have confirmed the attendance of a very distinguished group of participants, speakers and panelists from across the globe; about 100 key policymakers, regulators and nuclear industry executives have been confirmed. The task force members are convinced that the widespread international participation, and their diversity of opinions, will contribute to the consideration and planning for global implementation of a new nuclear safety construct.

On behalf of the task force and the ASME president, I want to thank you in advance for your contribution to the workshop. I personally look forward to having the pleasure of your company in Washington.

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Dr. Diaz is the former chair of the U.S. Nuclear Regulatory Commission. He has more than 40 years of nuclear experience. Dr. Diaz currently is managing director of the ND2 Group, an expert policy advisor group focused on national and international nuclear power development and deployment.

ASME PRESIDENTIAL TASK FORCE MEMBERS

Chair – Nils J. Diaz
Vice Chair – Regis A. Matzie

Kenneth R. Balkey	Thomas R. Hafera	Richard R. Schultz
John D. Bendo	James A. Lake	J. Robert Sims
John C. Devine, Jr.	David E. W. Leaver	Douglas E. True
Romney B. Duffey	Robert Lutz, Jr.	John M. Tuohy, Jr.
Robert W. Evans	Roger J. Mattson	

PROGRAM

MONDAY, DECEMBER 3

ASME Registration Desk opens at 4pm in the Ante Lobby (behind the Hotel Front Desk)

6:00pm–7:00pm WELCOMING RECEPTION The Nest, Mezzanine Level

TUESDAY, DECEMBER 4

ASME Registration Desk opens at 7am in the Ballroom Lobby, Lower Level

7:30–8:30am BREAKFAST The Crystal Room, Lobby Level

8:30–10:00am OPENING PLENARY SESSION Ballroom, Lower Level

Chair: Marc Goldsmith, President, ASME, USA

- Thomas Loughlin, Executive Director, ASME, USA
- Nils Diaz, Chair, ASME Presidential Task Force, USA
- Osamu Oyamada, Former Commissioner, Nuclear Safety Commission, Japan
- Andre-Claude Lacoste, Former President, Autorité de Sûreté Nucléaire (ASN), France
- Denis Flory, Deputy Director General, International Atomic Energy Agency

10:00–10:30am COFFEE BREAK Ballroom Foyer

10:30–12:00pm OPENING PLENARY SESSION (cont’d) Ballroom, Lower Level

Chair: Nils Diaz, Chair, ASME Presidential Task Force, USA

- Luis Echavarri, Director General, OECD Nuclear Energy Agency
- James Scarola, Chief Nuclear Officer, Progress Energy / Chair, NEI Fukushima Task Force, USA
- Dominique Minière, Executive Vice President / Electricite de France
- Richard Meserve, President, Carnegie Institution for Science, USA

12:00–1:00pm LUNCH – sponsored by Westinghouse Electric Company The Willard Room, Lobby Level

1:00–1:30pm KEYNOTE ADDRESS: Risk Management Regulatory Framework Ballroom, Lower Level

Chair: Ken Balkey, Senior Vice President, ASME Standards & Certification, and Consulting Engineer, Westinghouse Electric Company, USA

- George Apostolakis, Commissioner, US Nuclear Regulatory Commission, USA

1:30–3:00pm PLENARY PANEL WORKING SESSION 1 Ballroom, Lower Level

The Development and Implementation of a New Nuclear Safety Construct

Chair: Regis Matzie, Vice Chair, ASME Presidential Task Force, and Executive Consultant, Westinghouse Electric Company, USA

Rapporteur: Richard Schultz, Distinguished Research Engineer, Idaho National Laboratory, and Professor of Practice, Department of Nuclear Engineering, Texas A&M University, USA

Reporting:

- Juan Eibenschutz, Director General, The National Commission on Nuclear Safety and Safeguards, Mexico
- Hee-Yong Lee, Senior Vice President, Overseas Nuclear Power Projects, Korea Electric Power Corp., Korea
- Antoni Gurgui, Commissioner, Consejo de Seguridad Nuclear (CSN), Spain
- Anthony Pietrangelo, Senior Vice President and Chief Nuclear Officer, Nuclear Energy Institute, USA

The purpose of this session is to describe the essential elements of the New Nuclear Safety Construct, obtain a broader perspective from the workshop participants, and to move toward consensus agreement on these elements. In addition, the session should identify the set of key steps needed for its development and implementation.

– Open Discussion –

3:00–3:30pm

COFFEE BREAK

Ballroom Foyer

3:30–5:30pm

BREAKOUT SESSIONS 1 AND 2 (Concurrent Sessions)

Session 1: Extending and Standardizing the Design Basis for Severe Events Taft Room, 2nd Floor

Chair: Roger J. Mattson, Nuclear Safety Consultant, USA

Rapporteur: Romney B. Duffey, Principal, DSM Associates, USA

Reporting:

- R. William Borchardt, Executive Director for Operations, US Nuclear Regulatory Commission, USA
- Lars Högberg, Former Member, International Nuclear Safety Advisory Group, and Former Director General, Swedish Nuclear Power Inspectorate, Sweden
- Jingquan Yan, Vice President and Chief Engineer, Shanghai Nuclear Engineering Research and Design Institute, China
- Jukka Laaksonen, Vice President, Rusatom Overseas, Vice Chair, International Nuclear Safety Advisory Group,and Former Director General, Finnish Radiation and Nuclear Safety Authority, Finland

The purpose of this session is to discuss how should the design basis of nuclear power plants be extended to accommodate additional aspects of severe accidents. The issue is focused on which additional accidents or design features should be considered for operating plants and new plants. Session participants will address the ASME Task Force premise that an “all risk” approach should address the issue in a manner that includes avoiding undue socio-political and economic consequences of severe accidents. Participants will incorporate into the discussions the progress made by the global nuclear industry with the safety improvements realized in advanced designs and with Fukushima-related initiatives.

– Open Discussion –

Session 2: The Role of Risk-Informed Regulation and an All-Risk Approach Hughes Room, 2nd Floor

Chair: Ken Balkey, Senior Vice President, ASME Standards & Certification, and Consulting Engineer, Westinghouse Electric Company, USA

Rapporteur: Doug True, President, ERIN Engineering and Research, USA

Reporting:

- Leonid Bolshov, Director, Russian Academy of Sciences Nuclear Safety Institute (IBRAE), Russia
- Shinsuke Sakai, Professor, University of Tokyo, and Member, Executive Board of Directors, Engineering Activities, Japan Society of Mechanical Engineers, Japan
- Greg Ashley, President, Bechtel Nuclear Power, USA
- Michael Corradini, Member, US NRC Advisory Committee on Reactor Safeguards, and President, American Nuclear Society, USA

The purpose of this session is to address the role of risk-informed regulation and an all-risk approach in supporting the elements of a New Nuclear Safety Construct. Risks from both natural and man-made events, including rare yet credible events, are to be considered by defining appropriate risk metrics. The role of risk management standards across all nuclear power plant operating modes will also be explored.

– Open Discussion –

Breakout Sessions 1 and 2 Reporting and Summary Ballroom, Lower Level

5:30–6:00pm

6:00–7:30pm

NETWORKING RECEPTION – sponsored by AREVA

Ballroom Foyer



WEDNESDAY, DECEMBER 5

7:00–8:00am	BREAKFAST	Buchanan, Lower Level
8:00–8:10am	Day 2 In Perspective	Pierce Room, Lower Level
8:10–8:30am	KEYNOTE ADDRESS: Public Acceptance	Pierce Room, Lower Level
	Chair: John (Jack) Tuohy, Executive Director-Nuclear, Hitachi Power Systems, USA	
	• Llewellyn King, Host and Executive Producer of “White House Chronicle”	
8:30–10:00am	BREAKOUT SESSIONS 3 – 5 (Concurrent Sessions)	
	Session 3: Accident Management and Human Performance	Brandeis Room, 2nd Floor
	Chair: Doug True, President, ERIN Engineering and Research, USA	
	Rapporteur: Tom Hafera, Principal Member of Technical Staff, Worley Parsons, USA	
	Reporting:	
	• Kenji Tateiwa, Manager, Nuclear Power Programs, Tokyo Electric Power Company, Japan	
	• David Hembree, Vice President, Emergency Response, Institute for Nuclear Power Operations, USA	
	• George Vayssier, Director, Nuclear Safety Consultancy (NSC), Netherlands	
	• Maria Korsnick, Senior Vice President, Nuclear Operations, Constellation Energy Nuclear Group, USA	
	The purpose of this session is to address the role of accident management and human performance as elements of a New Nuclear Safety Construct. This role is focused on creating a robust capability to deal with design basis events as well as rare beyond-design basis events. This session will also address individual and organizational human performance efforts during accidents to ensure adequate core cooling and preventing the release of large amounts of radioactivity.	
	– Open Discussion –	
	Session 4: Public Protection	Taft Room, 2nd Floor
	Chair: David Leaver, Senior Vice President, Worley Parsons, USA	
	Rapporteur: Regis Matzie, Vice Chair, ASME Presidential Task Force, and Executive Consultant, Westinghouse Electric Company, USA	
	Reporting:	
	• Shigeo Nomura, President, Atomic Energy Society of Japan	
	• Xavier Pouget-Abadie, Safety International Delegate, Electricite de France	
	• Olena Mykolaichuk, Chair, State Nuclear Regulatory Inspectorate of Ukraine	
	• Michael Slobodien, Director, Emergency Programs, Entergy Nuclear, USA	
	• Kenneth Mossman, Professor, Arizona State University, USA	
	The purpose of this session is to address key elements for public protection from accidents, including the need for state-of-the-art technical basis for emergency planning zone size and emergency response training and exercises based on more realistic accident scenarios. The Linear-No-Threshold debate in radiation protection in terms of science vs. economic and social dimensions will also be reviewed. All of these key elements need to be addressed on a globally coordinated and integrated basis. In addition, the session should identify the set of key steps needed for implementation of the necessary elements.	
	– Open Discussion –	



Session 5: Public Trust		Stone Room, 2nd Floor
Chair: John (Jack) Tuohy, Executive Director-Nuclear, Hitachi Power Systems, USA		
Rapporteur: Duncan Robinson, Engineering Supervisor, Constellation Energy Nuclear Group, and North American Young Generation Network Past President, USA		
Reporting:		
<ul style="list-style-type: none">• Masaki Morishita, Deputy Director General, Japan Atomic Energy Agency, Japan• Norman Harrison, Director of Strategic Development, Babcock International Group, UK• Eliot Brenner, Director, U.S. Nuclear Regulatory Commission Office of Public Affairs, USA• Jackie Clark, President, Clark Communications, USA		
The purpose of this session is to identify and discuss the factors that engender Public Trust and the actions that can be taken to achieve it, in particular the importance of effective communications between the technical community and the general public both for everyday occurrences and during accidents.		
– Open Discussion –		
COFFEE BREAK		
BREAKOUT GROUPS 3–5 (cont’d)		
BREAKOUT SESSIONS 3–5: Reporting and Summary		Pierce Room, Lower Level
LUNCH		
KEYNOTE ADDRESSES: Regulatory Framework and Operational Safety		Ballroom, Lower Level
Chair: Dr. Peter Lyons, Assistant Secretary of Nuclear Energy, US Department of Energy, USA		
<ul style="list-style-type: none">• Allison MacFarlane, Chair, US Nuclear Regulatory Commission, USA• Admiral James Ellis (Ret), Former President and CEO, Institute for Nuclear Power Operations, USA		
PLENARY PANEL WORKING SESSION 2		Ballroom, Lower Level
The Globalization of the New Nuclear Safety Construct		
Chair: Jack DeVine, Executive Consultant, USA		
Rapporteur: Roger J. Mattson, Nuclear Safety Consultant, USA		
Reporting:		
<ul style="list-style-type: none">• Luis Echavarri, Director General, OECD/Nuclear Energy Agency• Shojiro Matsuura, Chair, Japan Nuclear Safety Institute (JANSI), Japan• Thomas Koshy, Head of Nuclear Power Technology Development Section, International Atomic Energy Agency• Francois Hedin, Vice President, Nuclear Engineering, Electricite de France		
The purpose of this session is to address the challenge of achieving consistent application of the proposed New Nuclear Safety Construct, worldwide. Group discussions will address principles, priorities, prospective approaches and initial steps.		
– Open Discussion –		
COFFEE BREAK		
PLENARY PANEL WORKING SESSION 2 (cont’d)		Ballroom, Lower Level
The Globalization of the New Nuclear Safety Construct		
CLOSING PLENARY: NEXT STEPS IN FORGING A NEW NUCLEAR SAFETY CONSTRUCT		Ballroom, Lower Level
<ul style="list-style-type: none">• Nils Diaz, Chair, ASME Presidential Task Force, USA• Regis Matzie, Vice Chair, ASME Presidential Task Force, USA		
CLOSING REMARKS: Marc Goldsmith, President, ASME, USA		
ADJOURN		



About ASME

ASME helps the global engineering community develop solutions to real world challenges. Founded in 1880 as the American Society of Mechanical Engineers, ASME is an international not-for-profit professional organization that enables collaboration, knowledge sharing and skill development across all engineering disciplines, while promoting the vital role of the engineer in society. For over 130 years, ASME codes and standards, publications, conferences, continuing education and professional development programs have provided a foundation for advancing technical knowledge and a safer world. For more information visit: www.asme.org.