

September 28, 2001

Professor Michael W. Golay  
Professor of Nuclear Engineering  
Massachusetts Institute of Technology  
MIT, 24-223  
Cambridge, MA 02139-4307

Dear Professor Golay:

Thank you for agreeing to present a paper at the Nuclear Safety Research Conference (NSRC). I am writing to you as Chair of the NSRC technical session titled, "Advanced Reactors." You will be presenting your paper in that session on October 22, 2001. The session runs from 1:45 p.m. to 5:00 p.m. An advance copy of the NSRC program is enclosed for your information. Based on past evaluations of this meeting and analyses of feedback from RES staff and internal and external stakeholders, RES has once again designed this year's conference to provide for dialogue between the presenters of the research and the NSRC attendees. In that light, RES is refining the technical session format and is requesting that your presentation

1. Relate to the technical session objective, which is "To communicate specific research activities related to preparing the Agency to review an advanced design."
2. Clearly link the material reported on to regulatory outcomes
3. Take no more than 25 minutes including 5 minutes for questions and answers. We will be following a strict time frame. You will have an opportunity to respond to additional questions during the facilitated discussion at the conclusion of the technical session.

If you are preparing a paper, your full paper for publication is due no later than November 12, 2001 (see enclosed "Instructions for Authors"). Additionally, if you have any audio visual aides other than the typical equipment (e.g., overhead, 35mm projector, LCD projector) or if there are problems in scheduling or with preparing the written material, please contact Susan Monteleone at (631) 344-7235.

To ensure that a sufficient number of copies of your visual aids of your presentation are available for distribution at the beginning of the technical session, please submit an electronic copy of your presentation to Sandra R. Nesmith (e-mail [srn@nrc.gov](mailto:srn@nrc.gov)) by October 12, 2001, to be used in your introduction. I will need a short biographical sketch to be used in your introduction.

I appreciate your participation as a presenter.

Sincerely,

**/RA/**

Thomas L. King, Director  
Division of Systems Analysis and Regulatory Effectiveness  
Office of Nuclear Regulatory Research

Enclosures:

1. Agenda, Nuclear Safety Research Conference
2. Instructions for Authors

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**Identical letters with enclosures sent to: See attached list**

Distribution w/enclosure: See attached list

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OFFICE	D:DSARE	
NAME	TKing:mmk	

DATE	09/28/01*
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Letter dated September 28, 2001

Subject: Invitation to participate in upcoming Nuclear Regulatory Commission's Nuclear Safety Research Conference

**Identical letters with enclosures sent to:**

Mr. Steven Floyd  
Nuclear Energy Institute  
1776 I Street NW  
Washington DC 20006-3708

Mr. Edward Rodwell  
Electric Power Research Institute  
3412 Hillview Avenue  
Palo Alto, CA 94304

Dr. Mario Carelli  
1340 Beulah Road  
Pittsburg, PA 15235-5082

Distribution w/o enclosures:

DSARE R/F  
SNesmith  
ASzukiewicz  
AHsia

**AGENDA** - October 1, 2001  
**Nuclear Safety Research Conference (NSRC)**  
*(formerly known as the Water Reactor Safety Meeting (WRSN))*  
**October 22-24, 2001**  
**Marriott at Metro Center**  
**(775 12<sup>th</sup> St. NW, Washington DC)**

**Monday, October 22, 2001**

8:00-8:15am	<b>Opening Remarks - Ashok Thadani, Director, Office of Nuclear Regulatory Research</b>	
8:15-9:00am	<b>Keynote Speaker - Richard Meserve, Chairman, NRC</b>	
9:00-9:30am	<b>Recent Accomplishments - Roy Zimmerman, Deputy Director, Office of Nuclear Regulatory Research</b>	
9:30-11:30am	<b>Overview of International/U.S. Research Programs - Panel Discussion  (Coordinators: A. Hsia/A. Szukiewicz/ Chair: A. Thadani)</b>  <u>Objective:</u> The panel will provide an overview of other safety research programs in the U.S. and overseas.  <u>Panel Members Include:</u> M. Livolant (IPSN), W. Magwood (DOE), T. Marston (EPRI), and K. Soda (JAERI)	
11:30-12:15pm	<b>Plenary - Commissioner Greta J. Dicus (Topic - TBD)</b>	
12:15-1:45pm	<b>LUNCH</b>	
1:45-5:00pm	<b><u>Advanced Reactors Session</u></b> <b>Chair: T. King, NRC</b> <b>Co-Chair: S. Floyd, NEI</b>  <u>Objective:</u> To communicate specific research activities related to preparing the Agency to review an advanced design.  <u>Presentations</u> 1. NRC Pre-application Activities on HTGR, J. Flack (NRC)  2. NRC Preparation for Future Reactor Licensing, J. Lyons (NRC)  3. A New Risk-Informed Design and Regulatory Process , M. Golay (MIT)  4. The Need for a New Regulatory Framework, S. Floyd (NEI)  5. HTGR Research Programs and Needs, T. King (NRC)  6. Industry View on R&D Needs for New Plants, E. Rodwell (EPRI)  7. Pre-application Activities for IRIS and Related Research Needs, M. Carelli, S. Ritterbusch (Westinghouse)	<b><u>Dry Cask Research Session</u></b> <b>Chair: M. Cunningham, NRC</b> <b>Co-Chair: J. Guttman, NRC</b>  <u>Objective:</u> To communicate recent accomplishments and future plans in the Office of Research's work to assess key safety and risk issues relating to the licensing of dry cask fuel storage devices.  <u>Presentations</u> 1. The Package Performance Study - A Study of Spent Fuel Transportation, A. Murphy, R. Lewis (NRC), J. Sprung, K. Sorenson (SNL)  2. A Risk Analysis of Spent Nuclear Fuel in Dry Casks, C. Ryder, E. Rodrick, J. Guttman (NRC)  3. Seismic Behavior of Spent Fuel Storage Cask Systems, S. Khalid Shauket (NRC)  4. An Analysis of a Spent Fuel Transportation Cask Under Rail Tunnel Fire Conditions , C. Bajwa (NRC)

**Tuesday, October 23, 2001**

8:15-10:30am

**Waste and Decommissioning - Panel Discussion**  
**(Coordinator: C. Trottier/Moderator: Edward McGaffigan, Jr., Commissioner, NRC)**

Objective: The panel will discuss current research initiatives in addressing issues in human and environmental health risk assessment.

Panel Members Include: A. Wallo (DOE), M. Boyd (EPA), T. Cardwell (CRCPD), C. Paperiello (NRC), and L. Baekelandt (Federal Agency for Nuclear Control in Belgium)

10:45-12:45pm

**Advanced Reactors - Panel Discussion**  
**(Coordinator: T. King/Moderator: Jeffrey S. Merrifield, Commissioner, NRC)**

Objective: The panel will give an overview of ongoing programs and discuss the following: safety attributes of advanced designs, key issues with respect to licensing, key issues with respect to development, research needs/priorities, and the outlook for the future.

Panel Members Include: R. Simard (NEI), T. Marston (EPRI), W. Magwood (DOE), V. Asmolov (KI), E. Lyman (NCI), P. Lyons (U.S. Senate Staff (Senator Pete Domenici))

12:45-2:15pm

**LUNCH**

2:15-6:00pm	<p><b>Fuel Research Session</b>  <b>Chair: R. Meyer, NRC</b>  <b>Co-Chair: R. Yang, EPRI</b></p> <p><u>Objective:</u> To communicate recent accomplishments in NRC's fuel research program and related programs that are used by NRC through cooperative agreements.</p> <p><u>Presentations</u></p> <ol style="list-style-type: none"> <li>1. Study of High Burnup Fuel Behavior Under LOCA Conditions at JAERI - Hydrogen Effects on the Failure-bearing Capability of Cladding Tubes, F. Nagase, H. Uetsuka (JAERI)</li> <li>2. Overview of Test Results on Mechanical Properties of Unirradiated and Irradiated Zr-1%Nb E110 Alloy Cladding, L. Yegorova, E. Kaplar, K. Lioutov (RRC), V. Smirnov, A. Goryachev (Russian State Research Center)</li> <li>3. High Temperature Oxidation of Irradiated Limerick BWR Cladding, Y. Yan, R. Strain, M. Billone (ANL)</li> <li>4. Status of the CABRI International Programme and Preparation for the CIP0 Test Series, J. Papin, C. Margaie, F. Lemoine, M. Faury, J. C. Melis (IPSN)</li> <li>5. FRAPTRAN Fuel Rod Code and its Coupled Transient Analysis with the GENFLO Thermal Hydraulic Code, K. Valtonen (STUK), A. Hamalainen (VTT), M. Cunningham (PNNL)</li> </ol>	<p><b>Age Related Issues and Research Session</b>  <b>Chair: N. Chokshi, NRC</b>  <b>Co-Chair: W. Bateman, NRC</b></p> <p><u>Objective:</u> To provide information on NRC's current research activities related to aging and age related degradations, and how these activities relate to some of the current operating experiences and other emerging issues. In part, this session will also provide information on aging management activities in other industries.</p> <p><u>Presentations</u></p> <ol style="list-style-type: none"> <li>1. Stress Corrosion Cracking and non-Destructive Examination of Dissimilar Metal Welds and Alloy 600, D. Jackson</li> <li>2. Regulatory Activities Related to Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles, A. Hiser (NRC)</li> <li>3. Aging Evaluation of Cables in Japan, A. Yamaguchi (Japan Power Engineering Corporation)</li> <li>4. FAA Enhanced Airworthiness Program for Managing Aging in Airplane Systems, M. Sadeghi (FAA)</li> <li>5. Methods to Integrate Aging Effects into Probabilistic Risk Assessments, A. Buslik (NRC)</li> <li>6. Age-Related Degradation of Structures and Passive Components at Nuclear Power Plants, J. Braverman (BNL), B. Ellingwood (Georgia Inst. of Tech.), D. Naus (ORNL), T.Y. Chang (NRC)</li> </ol>
Wednesday, October 24, 2001		
8:00-10:00am	<p><b>Communicating the RES Role and Program - Panel Discussion</b>  <b>(Coordinator: J. Johnson/Moderator: Patricia Norry, Deputy Executive Director for Management Services, NRC)</b></p> <p><u>Objective:</u> The panel will explore and seek innovative ways to communicate the role and the scope and content of the RES program, with particular emphasis on objectives, products, and regulatory applications.</p> <p><u>Panel Members Include:</u> D. Cates (Committee on Energy and Commerce, U.S. House of Representatives), M. Conley (Inside N.R.C.), A. Howard (NEI), A. Kadak (MIT), D. Lochbaum (Union of Concerned Scientists), T. Okkonen (STUK), and Margaret Federline (NRC)</p>	

10:15-11:30am	<b><u>Fuel Research Session (Cont'd)</u></b>  <u>Presentations</u>  6. Pulse Width Variations in a Rod Ejection Accident, D. Diamond (BNL)  7. The Industry-Proposed New RIA Criteria for Burnup Extension, N. Waeckel (Electricite de France), R. Montgomery (Anatech Corporation), R. Yang (EPRI)  Poster Paper: Needs for Experimental Programmes on LOCA Issues Using High Burnup and MOX Fuels, A. Mailliat, M. Schwarz (IPSN)	<b><u>Risk Informing Regulatory Practices Session</u></b> <b>Chair: M. Cunningham, NRC</b> <b>Co-Chair: C. Carpenter, NRC</b>  <u>Objective:</u> To communicate recent accomplishments and future plans in the Office's work to risk-inform agency regulatory practices, showing the breadth and value of such activities as well as describe key technical issues.  <u>Presentations</u> 1. An Overview of NRC Research Activities in PRA, S. Newberry, P. Baranowsky, M. Cunningham (NRC)  2. Pressurized Thermal Shock Risk Assessment, D. Whitehead, V. Dandini (SNL), A. Kolaczowski (Science Applications International Corp.), E. Thornsby, H. Woods (NRC)
11:30-1:00pm	<b>LUNCH</b>	
1:00-3:30pm	<b><u>Fuel Issues - Panel Discussion</u></b> <b>Chair: R. Meyer</b> <b>(Coordinator: R. Meyer)</b>  <u>Objective:</u> What issues should be addressed in an NRC safety research program, and is the current spectrum of research projects adequate?  <u>Panel Members Include:</u> T. King (NRC), R. Yang (EPRI), R. Reynolds (Framatome), G. Holahan (NRC), W. Shack (ACRS)	<b><u>Risk Informing Regulatory Practices Session (Continued)</u></b>  3. Circuit Analysis in Fire Risk Assessment , S. Nowlen, F. Wyant (SNL), N. Siu, H. Woods (NRC)  4. Risk-Based Performance Indicators and the Inspection Process, P. Baranowsky (NRC)  5. EPRI Strategic Action Plan for Risk Technology, J. Gaertner, J. Haugh (EPRI)
3:45-4:15pm	<b>Closing Remarks/Audience Feedback - Ashok Thadani, Director, Office of Nuclear Regulatory Research</b>	



# Instructions for Authors

for the

## **NUCLEAR SAFETY RESEARCH CONFERENCE INFORMATION MEETING**

October 22-24, 2001

The **full papers** presented at the NSRC are published as a NUREG report by the NRC Office of Nuclear Regulatory Research. The full papers presented will be published as a Proceedings Report after the meeting and mailed to meeting registrants.

### ***To prepare papers:***

- First page, centered: Title, Author(s), name of organization where the work was performed (Do not refer to the NSRC in the title since this information will appear on the cover of the published NUREG report.)
- Single-spaced, single-sided
- **White bond paper, 8 ½ x 11 INCHES (NO A-4 PAPER PLEASE. IF NO ALTERNATIVE TO A-4 IS POSSIBLE, BE CERTAIN THE IMAGE SIZE IS NO LARGER THAN 6½ INCHES WIDE BY 8½ INCHES LONG)**
- Two pages maximum
- Times Roman, Arial or Universal type face (11 point)
- Margins: 1 inch top and side, 1½ inches on bottom
- An abstract of about 150 words should precede the text on the first page, "double indented" one inch from each side.
- Tables and figures should be clearly labeled, referenced and incorporated into the text.
- Maximum text length, 25 single sided pages including tables and figures
- **8½ x 11" bond paper (NO A-4 PAPER PLEASE. IF NO ALTERNATIVE TO A-4 IS POSSIBLE, BE CERTAIN THE IMAGE SIZE IS NO LARGER THAN 6½ INCHES WIDE BY 8½ INCHES LONG)**
- **NO STAPLES, PLEASE!**
- No page numbers (you may, however, write numbers on the back of each page using light blue, non-reproducing pencil)



- **DEADLINE ... by November 12, 2001**, to submit original of your **full paper** to:

**PLEASE SUBMIT FULL PAPERS TO:**

Susan Monteleone, Meeting Coordinator  
Brookhaven National Laboratory  
Building 130, 32 Lewis Rd.  
Upton, New York 11973-5000 USA

If you have any questions or problems, Susan can be reached by phone at (631) 344-7235, by e-mail at **[susanm@bnl.gov](mailto:susanm@bnl.gov)**, or by fax at (631) 344-3957.