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2006

Preliminary Call for Papers

## 5th American Nuclear Society International Topical Meeting on Nuclear Plant Instrumentation, Controls, and Human Machine Interface Technology

November 12 - 16, 2006 • Albuquerque, NM

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The ANS Operations and Power and Human Factors Divisions

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NPIC&HMIT 2006 is the Fifth in the continuing series of International Topical Meetings on Nuclear Power Plant Instrumentation, Controls, and Human-Machine Interface Technologies.

- 1st 1993 Oak Ridge Tennessee
- 2nd 1997 State College Pennsylvania
- 3rd 2000 Washington DC
- 4th 2004 Columbus Ohio
- 5th 2006 Albuquerque, New Mexico

NPIC&HMIT 2006 will feature additional emphasis on new reactors planned for construction in the near term in the U.S., as well as a technical exhibit with vendors of I&C and HMIT equipment and products.

Schedule for Papers

500 Word Abstracts Due **May 1st 2006**  
Notification of Authors by **July 10th 2006**  
Full Papers Due **August 15th 2006**

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Papers on the following topics are invited:

I&C	HMIT
Digital System Reliability	Utility Experience with Control Room Modernization Programs
Advanced Sensors and Measurement Techniques	Current Concepts in Advanced Control Rooms
Controls in New Construction Reactors	Designing Large Information Systems
Safety Critical Software Development and Qualification	Function-Based Approaches to Control Room Design
Reactor Noise Analysis	HFE Design and Analysis Tools
Digital Upgrade Issues in and Evolving Regulatory Environment	Data Mining in Nuclear Power Plants: Applications and Methods
Acceptance of Commercial Digital Instrumentation	User Interaction with Automation
Regulatory Aspects of I&C in New Construction Reactors	Knowledge Capture and Engineering
Generic Pre-Qualification of Digital Platforms	Applications of Technology to Enhanced Maintenance Operations
Implementation of Risk Informed Regulation	Innovative approaches to Training and Training Technologies
Licensing Issues for Advanced I&C Technologies	Designing Better Alarm Systems
I&C Issues for Generation IV Plants	Applications of Risk Analysis in the Design and Evaluation of I&C and HMIT Systems
Power Upgrades Through Advanced I&C	Challenges in Conducting HRA for Advanced Reactors
Next Generation I&C Systems	Computerized Operator Decision and Support Systems
Education of NPP I&C Professionals	Human Behavioral Modeling in the Nuclear Environment
Research Reactor I&C Applications	Virtual Reality: Applications and Issues
I&C Security & Network Security	HRA Challenges in Advanced Nuclear Power Systems
Plant Safeguards and Security Systems	Approaches to HFE Verification and Validation
I&C Architecture and Protocols	Human Factors Issues in Engineering Education
Emergency Response Information Systems	Human Factors and Plant Security and Safeguards
Environmental Compatibility	Computerized Procedure Systems
Maintenance and Condition Monitoring	Regulatory Approaches to Advanced Systems
Diagnostics and Predictive Maintenance	New Approaches to Automation as a “Team Player”
Wireless Applications in Nuclear Power	
I&C Applications for Physical and Cyber Security	
Lessons Learned in Digital Upgrades	
Age Related Degradation of Instrumentation Loops	

In addition to traditional lecture sessions, the Technical Program Committee is inviting proposals for innovative sessions designed in a non-traditional format, e.g., rebates and technology demonstration sessions.

The Technical Program Committee will also consider proposals for entire sessions, consisting of approximately five papers. We ask that anyone wishing to propose an entire session contact either of the technical program chairs to discuss their proposal.

### Technical Program Committee

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