CALL FOR PAPERS

Innovating Nuclear Power

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SUMMARY DEADLINE: JANUARY 11, 2017

OCTOBER
SUBMISSION OF SUMMARIES: October 1, 2016–January 11, 2017

FEBRUARY
SUBMISSION OF DESCRIPTION AND PANELISTS/SPEAKERS FOR PREVIEW PROGRAM: February 17, 2017

MARCH
AUTHOR NOTIFICATION OF ACCEPTANCE: February 24, 2017

APRIL
REVISED SUMMARIES DUE: March 13, 2017

ANY ADDITIONAL DESCRIPTIONS AND PANELISTS/SPEAKERS FOR OFFICIAL PROGRAM: April 28, 2017

FORMAT
Authors are now REQUIRED to use the ANS Template and Guidelines for TRANSACTIONS Summary Preparation provided on the ANS Web site. Summaries must be submitted electronically using Adobe Acrobat (PDF) files or original Microsoft Word documents and the ANS Electronic Paper Submission and Review System. Summaries not based on the ANS Template will be REJECTED.

GUIDELINES FOR SUMMARIES
Please submit summaries describing work that is NEW, SIGNIFICANT, and RELEVANT to the nuclear industry. ANS will publish all accepted summaries in the TRANSACTIONS. Papers are presented orally at the meeting, and presenters are expected to register for the meeting. Completed papers may be published elsewhere, but the summaries become the property of ANS. Under no circumstances should a summary or full paper be published in any other publication prior to presentation at the ANS meeting. It is the author’s responsibility to protect classified or proprietary information.

CONTENT
1. Introduction: State the purpose of the work.
2. Description of the actual work: Must be NEW and SIGNIFICANT.
3. Results: Discuss their significance.
4. References: If any, must be closely related published works. Minimize the number of references.
5. Do not present a bibliographical listing.

LENGTH
1. The minimum length is one full page.
2. The maximum length is four pages, including references, tables, and figures.
3. Limit title to ten words; limit listing authors to three or fewer if possible.

PAGE CHARGE
ANS charges $100 per final printed page in the TRANSACTIONS. Authors should be prepared to provide their purchase order numbers when submitting their summaries electronically.

REQUIRED TEMPLATE AND GUIDELINES FOR TRANSACTIONS SUMMARY PREPARATION
www.ans.org/pubs/transactions

SUBMIT A SUMMARY
www.ans.org/meetings

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2017 ANNUAL MEETING: SESSION TITLES BY DIVISION

1. ACCELERATOR APPLICATIONS (AAD)
   1a. Accelerator Applications: General

2. AEROSPACE NUCLEAR SCIENCE AND TECHNOLOGY (ANSTD)
   2a. Aerospace Nuclear Science and Technology: General

3. BIOLOGY AND MEDICINE (BMD)
   3a. Biology and Medicine: General

4. DECOMMISSIONING AND ENVIRONMENTAL SCIENCES (DESD)
   4a. Decommissioning and Environmental Sciences: General
   4b. Five Decades of the California Environmental Quality Act (CEQA): So What Have We Learned?
   4c. Advancements in the Decommissioning of Commercial Nuclear Power Plants: An Executive Panel (P)
   4d. Executive Stakeholder Involvement in Decommissioning Planning and Execution: Impacts on Project Performance and Environmental Outcomes (P)

5. EDUCATION, TRAINING, AND WORKFORCE DEVELOPMENT (ETWDD)
   5a. Education, Training and Workforce Development: General
   5b. Focus on Communications—I (P)
   5c. Focus on Communications—II (P)

6. FUEL CYCLE AND WASTE MANAGEMENT (FCWMD)
   6a. Economics of Recycling/Reprocessing
   6b. Fuel Cycle Scenario/Transition Studies
   6c. Backend of the Fuel Cycle for Small Modular Reactors (P)
   6d. Integrated Used Fuel Storage Sites
   6e. The Waste Isolation Pilot Plant
   6f. Fixed Neutron Absorber Materials for Wet and Dry Used Fuel Storage
   6g. Long-Term Once-Through Fuel Cycles—From Seawater Uranium to Breed and Burn
   6h. Recycle and Reuse of Used Nuclear Fuel Resources
   6i. University Research in Fuel Cycle and Waste Management
   6j. Innovation Opportunities in Future Fuel Cycles (P)
   6k. Electrochemical Separation for Used Nuclear Fuels
   6l. Waste Management, Ethics, and Resilience: Professor Joonhong Ahn’s Legacy
   6m. Fuel Cycle and Waste Management: General

7. FUSION ENERGY (FED)
   7a. Magnetic and Inertial Confinement Fusion —Common Technology Development Needs (P)
   7b. Fusion Energy: General

8. HUMAN FACTORS, INSTRUMENTATION, AND CONTROLS (HFICD)
   8a. Supporting the Nuclear Workforce with Electronic Workpackages and Computer-Based Procedures
   8b. Instrumentation and Controls —Cyber Influence
   8c. Human Factors, Instrumentation, and Controls: General

9. ISOTOPES AND RADIATION (IRD)
   9a. Isotopes and Radiation: General

10. MATERIALS SCIENCE AND TECHNOLOGY (MSTD)
    10a. Nuclear Fuels and Materials in Fast Reactors
    10b. Accident Tolerant Fuels
    10c. Nuclear Science User Facilities: Experimental Results
    10d. Welding and Joining
    10e. Advanced Measurement Techniques
    10f. Post-Irradiation Examination
    10g. Advanced Manufacturing
    10h. Transient Fuel Performance
    10i. Nuclear Fuels
    10j. Neutron Scattering and Imaging

11. MATHEMATICS AND COMPUTATION (MCD)
    11a. Current Issues in Computational Methods—Roundtable
    11b. Uncertainty Quantification and Sensitivity Analysis Methods
    11c. Transport Methods
    11d. Computational Methods and Mathematical Modeling

12. NUCLEAR CRITICALITY SAFETY (NCSD)
    12a. Criticality Accident Alarm Systems
    12b. Sharing of Good Industry Practices and/or Lessons Learned in Nuclear Criticality Safety (P)
    12c. Nuclear Criticality Safety Division Pioneer Discussion (P)
    12d. ANS-8 Standards Forum
    12e. Data, Analysis and Operations in Nuclear Criticality Safety

13. NUCLEAR INSTALLATIONS SAFETY (NISD)
    13a. Nuclear Safety R&D at the Department of Energy
    13b. Risk Aspects of Integrated Hybrid Energy Systems
    13c. Risk Aspects of Gateway for Accelerated Innovation in Nuclear (GAIN)
    13d. Zero Emergency Planning Zone 10 MW NPP Remote Monitoring (ARPA-E)
    13e. Emergent Topics in Consensus Standards
    13f. Nuclear Installations Safety: General
    13g. Current Topics in Probabilistic Risk Analysis

14. NUCLEAR NONPROLIFERATION POLICY (NNPD)
    14a. Nuclear Nonproliferation Policy: General
    14b. Advancing Global Nuclear Energy and Strengthening National Security (P)

15. OPERATIONS AND POWER (OPD)
    15a. Hybrid Energy Systems (P)
    15b. New Nuclear Construction Around the World (P)
    15c. Cyber Security (P)
    15d. Thermal Energy Storage Systems and Their Integration with NPPs
    15e. Water Chemistry of Nuclear Reactor Systems
    15f. Advanced/Gen-IV Reactors

16. RADIATION PROTECTION AND SHIELDING (RPSD)
    16a. Radiation Protection and Shielding: General
    16b. Computation Tools for Radiation Protection and Shielding
    16c. Radiation Protection and Shielding—Roundtable

17. REACTOR PHYSICS (RPD)
    17a. Reactor Physics: General
    17b. Reactor Physics Design, Validation and Operational Experience
    17c. Reactor Analysis Methods
    17d. Research and Test Reactors
    17e. Recent Advancements in Liquid and Solid Fuel Molten Salt Reactors
    17f. Reactor Innovation Resurgence in 21st Century—Gen. IV Outdated or are we Circling Back to 1940s
    17g. DOE Nuclear Engineering University Program (NEUP) Sponsored Student Research
    17h. Load Follow, Nuclear Power Plants Flexible Power Operation

18. ROBOTICS AND REMOTE SYSTEMS (RRSD)

19. THERMAL HYDRAULICS (THD)
    19a. Current Verification and Validation Efforts of Multiphysics Packages [MCD]
    19c. Multi-Physics Multi-Scale Modeling and Simulation
    19d. Advances in Severe Accidents Modeling
    19e. Advancements in Thermal-Hydraulic System Scaling Techniques
    19f. Thermal-Hydraulics Development and Challenges in Fluoride Salt-Cooled High-Temperature Reactors
    19g. Two Phase Flow and Heat Transfer Fundamentals
    19h. Experimental Thermal-Hydraulics
    19i. Thermal-Hydraulics: General
    19j. Computational Thermal-Hydraulics
Embedded Topical
June 11–15, 2017 | San Francisco, CA | Hyatt Regency

CALL FOR PAPERS
10th International Embedded Topical Meeting on Nuclear Plant Instrumentation, Control and Human Machine Interface Technologies (NPIC & HMIT 2017)

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David Desaulniers—HFE Tracks, U.S. Nuclear Regulatory Commission
Johanna Oxstrand—HFE Tracks, Idaho National Laboratory

SEPTEMBER
ABSTRACTS DUE: September 30, 2016 (less than 1000 words)

OCTOBER
REVIEW NOTIFICATION: October 15, 2016

FEBRUARY
FULL PAPERS DUE: February 28, 2017

MARCH
REVIEW NOTIFICATION: March 30, 2017

APRIL
FINAL PAPERS DUE: April 15, 2017

ABSTRACT GUIDELINES
Maximum of one page identifying title, authors, affiliations, and three paragraphs (total less than 1000 words) describing the key concepts of the paper. A wide range of topic areas are highlighted on the second page of this call. Authors are encouraged to submit papers on these proposed topics as well as others. Authors of accepted abstracts will be notified by October 15, 2016.

FULL PAPER SUBMISSION
Full papers must describe work that is new, significant, and relevant to the nuclear industry and the subject of the conference. Authors of accepted papers must agree to register and attend the conference and present their papers in person. Papers that are not presented in person at the conference will not appear in the final conference publication. Authors of accepted full papers will be notified by March 30, 2017.
SUBMISSION WEBSITE
http://npic-hmit2017.org/
Detailed information and announcements regarding the conference will be posted on the website.

ABOUT THE MEETING
This embedded topical is the tenth in a series organized by ANS Human Factors, and Instrumentation and Controls Division (HFICD). Authors are invited to participate in the International Topical Meeting on Nuclear Plant Instrumentation, Control, and Human-Machine Interface Technologies (NPIC & HMIT).

Sponsored by American Nuclear Society (ANS), NPIC & HMIT builds upon the successes of previous meetings. The meeting welcomes the submission of full-length technical papers, which will be peer reviewed and published as conference proceedings. Submitted papers must be presented.

INSTRUMENTATION AND CONTROLS (I&C)
- Latest Trends in Digital I&C
- Management of I&C Aging and Obsolescence
- Electromagnetic Compatibility (EMC) and EMI/RFI Issues
- Nuclear Energy R&D in I&C Area
- Next Generation I&C Systems
- Safety Critical Software Development, Qualification, and V&V
- I&C and OLM Considerations for Life Beyond 60 Years
- Wireless Technologies for Nuclear Facilities
- Education and Training of I&C Professionals
- Diversity and Defense in Depth (D3)
- Modeling Digital I&C Systems in PRA/PSA
- Advanced Surveillance, Diagnostics, and Prognostics
- Field Programmable Gate Array (FPGA)
- I&C Modernization Experience
- SMR Instrumentation and Control
- I&C for Advanced Reactors
- On-line Monitoring for Maintenance Optimization
- Hazard and Failure Mode Analysis for Digital Systems
- I&C Regulations, Standards, and Guidelines
- Digital System Reliability
- Light Water Reactor Sustainability (LWRS)
- On-Line Monitoring of Rod Control Systems
- Cyber Security in Digital I&C
- Managing and Preserving I&C Knowledge and Competence
- Advanced Sensors and Measurement Technologies
- Cable Aging and Cable Condition Monitoring
- Research Reactor I&C
- In-Pile Instrumentation
- I&C Lessons Learned from Fukushima
- Productivity/Efficiency Improvement
- Digital Control System Applications
- General Sessions in I&C

HUMAN FACTORS (HF)
- Current Concepts in Advanced Control Rooms
- Experience with Control Room Modernization
- Lessons Learned from the Design and Operation of Generation III and III+ Reactors
- Nuclear Energy R&D in HMI Areas
- Applications of Technology to Enhance O&M
- Design and Development of Group-View, Wall-Panel Displays
- Visualization Techniques to Improve Human Decision Making
- Computerized Procedure Systems
- Use of Virtual Reality to Support Design and O&M
- Use of Simulation for Design, Engineering, Maintenance and Verification Activities
- Emerging Concepts of Operations for Advanced Reactors
- Innovative Human Interface Technologies
- HFE Use of PRA/PSA Insights and Results for Design and Operations
- Computerized Operator Decision and Support Systems
- Innovative Solutions to Alarm Overload
- HFE Verification and Validation: Approaches and Methods
- Designing Control Rooms for Small Modular Reactors
- HFE Education and Training
- Lessons Learned from Soft Controls in Plant Operations
- Human Factor Lessons from Fukushima
- HFE Contributions to Productivity and Efficiency
- Human Factors Aspects of SMRs
- HFE Standards and Guidelines Update
- Workstation and Control Room Layout Design for Computer-Based Control Rooms
- Use of Work-Domain and Cognitive Task Analysis for Human-System Interface Design
- Human Reliability Issues in Digital Systems and Computer-Based Control Rooms
- Operation of Hybrid Control Room
- General Sessions in Human Factors
- Advances in HFE Design and Analysis Tools
- Advances in Human-Automation and Human Performance Assessment

Note: The topics listed above are not session titles; they are provided just as a guide for paper topics. The technical program committee will be happy to expand the areas and include new sessions into the program. Please contact the Technical Program Chairs for suggestions.