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Track Themes
1. Meeting Theme: A Brilliant Future: Nexus of Public Support in Nuclear Technology
2. Technology, Management, Operations, and New Construction of Nuclear Systems
3. Nuclear Fuel Cycle Technologies
4. Nuclear and Criticality Safety Technologies
5. Environmental Science and Technologies
6. Waste Management and Decommissioning Technologies
7. Nuclear Science and Engineering
8. Emerging Nuclear Technologies

Deadlines—NO EXCEPTIONS
SUBMISSION OF SUMMARIES: November 1, 2005–January 6, 2006
AUTHOR NOTIFICATION OF ACCEPTANCE: By February 21, 2006
REVISED SUMMARIES DUE: March 7, 2006

Length
1. Use at least 450 words, excluding tables and figures.
2. Use no more than 900 words, including tables and figures.
3. Count tables and figures as 150 words each. Use no more than three tables or figures.
4. Limit title to ten words; limit listing authors to three or fewer if possible.
5. Exclude references from word count.

Page Charge
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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.

Formatting
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 and original Microsoft Word documents and the ANS Electronic Submission 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.

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### Track 2. Technology, Management, Operations, and New Construction of Nuclear Systems

- **2a.** Reactor Research Technology (OPD) (I/C)
- **2b.** Control Room Integrity Program (OPD) [NISD] (I/C)
- **2c.** New Plant Construction (OPD) (I/C)
- **2d.** Automated Technologies for License Renewal and Beyond (OPD) (I/C)
- **2e.** Issues Related to Manufacturing and General Procurement Including Printed Circuit Boards (OPD) (I/C)
- **2f.** Alternative Source Term Lessons Learned (OPD) (I/C)
- **2g.** Training, Human Performance, and Workforce Development (ETD) (I/C)
- **2h.** Emergency Preparedness and Response (ESD) (I/C)
- **2i.** Human Factor Applications for Radiological Emergency Response (HFD) (I/C)
- **2j.** Loss of the Professional Engineering Exam in Nuclear Engineering: A Call to Action (ETD) (I/C)
- **2k.** Education and Training: General (ETD) (I/C)
- **2l.** New Tools or Concepts for Evaluating the Human and Computer Interface in Advanced Nuclear Technologies (HFD) (I/C)
- **2m.** Cross-Cutting Human Factor Concepts Related to Overall Safety Culture of Facilities that Use Nuclear/Radiological Material (HFD) (I/C)
- **2n.** Human Factors Lessons Learned to be Applied to Newly Licensed Facilities/Utilities (HFD) (I/C)
- **2o.** Maintenance and the Dynamics of Human Factors (HFD) (I)
- **2p.** Human Factors: General (HFD) (I/C)

### Track 3. Nuclear Fuel Cycle Technologies

- **3a.** Separations Technologies for Advanced Fuel Separations (FCWMD) (I/C)
- **3b.** A Different Paradigm for the Global Fuel Cycle-Cradle-to-Grave Supply and Take Back (FCWMD) (I/C)
- **3c.** Implementing the Spent Fuel Recycling Initiative: Fuel Cycle Requirements and the Role of the Nuclear Power Utilities (FCWMD) (P)
- **3d.** Evaluation of Recent Transmutation Scenarios for Partitioning/Transmutation of Actinides and Heat-Generating Fission Products (FCWMD) (I/C)
- **3e.** Accelerator-Based Experiments for Advanced Fuel Cycle Research (AAD) (I/C)
- **3f.** Advanced Head-End Improvements for Processing Spent Nuclear Fuels (FCWMD) (I/C)
- **3g.** Development of Oxide Conversion Processes and Remote Fuel Fabrication Capabilities for Transmutation Fuels (FCWMD) (I/C)
- **3h.** Nuclear Issues in Southeast Asia (FCWMD) (I/C)
- **3i.** International Issues in Surplus Plutonium (FCWMD) (I/C)
- **3j.** Nuclear Material Storage: Current Standards, Past Experience, and International Practices (FCWMD) (I/C)
- **3k.** Fuel Cycle: General (FCWMD) (I/C)

### Track 4. Nuclear and Criticality Safety Technologies

- **4a.** Reactor Power Uprates: Unanticipated Safety Issues (NISD) (I/C)
- **4b.** New Regulatory Approaches for Pressurized Thermal Shock Analysis and Licensing (NISD) (I/C)
- **4c.** Consideration and Integration of the Six ASME and ANS Probabilistic Risk Assessment Methodology Standards (NISD) (P)
- **4d.** Transitioning a Plant from the 0350 Process Back into the Reactor Oversight Process (NISD) (I/C)
- **4e.** Risk Informing 10 CFR Part 50 (NISD) (I/C)
- **4f.** Radioactive Source Accountability (NISD) (I/C)
- **4g.** Clad Embrittlement Criterion for Revised 10 CFR 50.46 Design Basis Accidents (NISD) (I/C)
- **4h.** Alternative Source Term Applications to Improve Power Reactor Safety Analysis (NISD) (I/C)
- **4i.** Mathematical Fire Modeling and Its Application to Nuclear Power Plants (NISD) (I/C)
- **4j.** Nuclear Installations Safety: General (NISD) (I/C)
- **4k.** Reactor Safety: General (NISD) (I/C)
- **4l.** Probabilistic Safety Applications (NISD) (I/C)
- **4m.** Emerging Topics in Nuclear Installations Safety (NISD) (I/C)
- **4n.** Integrating New Technology and Innovation Within Nuclear Criticality Safety (NCSD) (I/C)
- **4o.** Data, Analysis, and Operations for Nuclear Criticality Safety (NCSD) (I/C)
- **4p.** Nuclear Criticality Safety Related to TA-18 Relocation (NCSD) (I/C)
- **4q.** Validation of Nuclear Criticality Safety Computer Codes (NCSD) (Tutorial)
- **4r.** Nuclear Criticality Safety Standards Forum (NCSD) (P)

### Track 5. Environmental Science and Technologies

- **5a.** Environmental Sciences: General (ESD) (I/C)
- **5b.** Environmental Monitoring at Nuclear Facilities: Monitoring Results and Advances in Techniques (ESD) (I/C)
- **5c.** Biological Monitoring (ESD) (I/C)
- **5d.** Current Issues in Environmental Restoration and Decommissioning (ESD) (I/C)
- **5e.** Environmental Aspects of New Site Selection (ESD) (I/C)
- **5f.** Applications of Geographic Information Systems to Enhance Environmental Evaluations (ESD) (I/C)
- **5g.** Modeling the Transport of Radioactive and Hazardous Materials in the Environment (ESD) (I/C)
- **5h.** Environmental Aspects of Transportation of Radioactive Materials (ESD) (I/C)
- **5i.** Environmental Aspects of Accidental Release and Malevolent Act Dispersion of Radioactive Materials (ESD) (I/C)
- **5j.** Environmental Impacts and External Costs of Energy Technologies (ESD) (I/C)
- **5k.** Environmental Benefits of Sustainable Nuclear Energy (ESD) (I/C)
- **5l.** Contributions of Nuclear Science and Technology to Sustainable Development (ESD) (I/C)
- **5m.** Environmental Aspects of Homeland Security (ESD) (I/C)
- **5n.** Twenty Years After the Accident at Chernobyl: A Review of the Environmental and Public Health Consequences (ESD) (I/C)

### Track 6. Waste Management and Decommissioning Technologies

- **6a.** Progress in the Yucca Mountain Licensing Program (NISD) (P)
- **6b.** Transport and Storage of Commercial Spent Nuclear Fuel (NCSD) (I/C)
- **6c.** Environmental Aspects of Spent Fuel Storage (ESD) (I/C)
6d. Environmental Aspects of the Management of Low-Activity and Transuranic Radioactive Waste (ESD) (I/C)
6e. State and Federal Interactions Relative to Radioactive Materials Transportation (FCWMD) (I/C)
6f. Waste Management: General (FCWMD) (I/C)
6g. Project Closeout Lessons Learned (Commercial, U.S. Department of Energy, Others) (DDRD) (P)
6h. U.S. Department of Energy Cleanup Program Update (DDRD) (P)
6i. Decommissioning, Decontamination, and Reutilization Technological Advancements (DDRD) (P)
6j. Decommissioning, Decontamination, and Reutilization Hot Topics and Emerging Issues (DDRD) (P)
6k. Clearance of Solid Materials: Federal and Industry Update (DDRD) (P)
6l. Decommissioning, Decontamination, and Reutilization: General (DDRD) (I/C)

Track 7. Nuclear Science and Engineering
7a. Roundtable on Current Issues in Computational Methods (MCD) (I)
7b. Student/Professional Collaborations in Reactor Physics (RPD) (I/C)
7c. Gas-Cooled Reactor Physics Methods (RPD) [MCD] (I/C)
7d. Reactor Physics: General (RPD) (I/C)
7e. Reactor Analysis Methods (RPD) (I/C)
7f. Reactor Physics Design, Validation, and Operating Experience (RPD) (I/C)
7g. Current Topics for Reactor Engineers (RPD) (P)
7h. Thermal Hydraulics in Generation IV Systems (THD) (I/C)
7i. Young Professional Thermal Hydraulics Research Competition (THD) (I/C)
7j. General Thermal Hydraulics (THD) (I/C)
7k. Research by U.S. Department of Energy–Sponsored Students (ETD) (I/C)
7l. Mathematical Modeling: General (MCD) (I/C)
7m. Computational Methods: General (MCD) (I/C)
7n. Transport Methods: General (MCD) (I/C)
7o. Computational Medical Physics Benchmarks (CMPWG) [MCD, BMD, RPSD] (I/C)
7p. Neutron Beam Techniques for Materials Research (IRD) (I/C)
7q. Impact of Innovations in Nuclear Infrastructure and Education on University Research Reactors (IRD) (I/C)
7r. Isotopes and Radiation: General (IRD) (I/C)
7s. Radiation Protection and Shielding: General (RPSD) (I/C)

Track 8. Emerging Nuclear Technologies
8a. Use of Nuclear Energy for Hydrogen Production: Interface of Nuclear and Chemical Plants, Safety, Materials, and Storage (ESD) (I/C)
8b. Thermal Hydraulics of Nuclear Hydrogen Systems (THD) (I/C)
8c. The Use of Nuclear Energy for Desalination (ESD) (I/C)
8d. Fusion Energy Using Lunar-Mined Helium (ANST) (I/C)
8e. Current Space Reactor Design Issues (ANST) (I/C)
8f. Fuels and Materials for Space Power and Propulsion (ANST) (I/C)
8g. General Space Technology Interests (ANST) (I/C)
8h. Thermal-Fluid Physics of Space Nuclear Power Systems (ANST) (I/C)
8i. Thermal-Hydraulic Physics of Space Nuclear Power Systems (ANST) (I/C)
8j. Accelerator Applications: General (AAD) (I/C)

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Accelerator Applications (AAD)
  Tracks 3e, 8j
Erik B. Iverson, iverson@nns.gov

Biology and Medicine (BMD)
Computational Medical Physics Working Group (CMPWG)
  Track 7o
William D. James, wd-james@tamu.edu

Decommissioning, Decontamination, and Reutilization (DDRD)
  Tracks 6g, 6h, 6i, 6j, 6k, 6l
J. Mark Price, pricemj@songs.sce.com

Education and Training (ETD)
  Tracks 1d, 1e, 1f, 2g, 2j, 2k, 7k
Mike Robinson, roblinmj@capslock.net

Environmental Sciences (ESD)
  Tracks 2h, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, 5l, 5m, 5n, 6c, 6d, 6a, 8c
Maurice Ades, maurice.ades@srs.gov

Fuel Cycle and Waste Management (FCWMD)
  Tracks 3a, 3b, 3c, 3d, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 6f
Stephan L. Turner, stephan.l.turner@saic.com

Fusion Energy (FED)
James P. Blanchard, blanchard@engr.wisc.edu

Human Factors (HFD)
  Tracks 2i, 2l, 2m, 2n, 2o, 2p
Jack Crawford, crawfordw@missouri.edu

Isotopes and Radiation (IRD)
  Tracks 7p, 7q, 7r
Stephen LaMont, lamont@lanl.gov

Materials Science and Technology (MSTD)
Kenneth J. Grelhood, kenneth.grelhood@pnl.gov

Mathematics and Computation (MCD)
  Tracks 7a, 7c, 7l, 7m, 7n, 7o (CMPWG)
Todd Palmer, palmer@ne.orst.edu

Nuclear Criticality Safety (NCSD)
  Tracks 4n, 4o, 4p, 4q, 4r, 6b
Robert Frost, robert.l.frost@nuclearassociates.com

Nuclear Installations Safety (NISD)
  Tracks 2b, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4l, 4m, 6a
Dana A. Powers, dapower@sandia.gov

Operations and Power (OPD)
  Tracks 2a, 2b, 2c, 2d, 2e, 2f
Don Eggert, dreggett@aesengineering.com

Radiation Protection and Shielding (RPSD)
  Tracks 7o, 7r
John Hendricks, jsh@lanl.gov

Reactor Physics (RPD)
  Tracks 7b, 7c, 7d, 7e, 7f, 7g
Ivan Maldonado, ivan.maldonado@uc.edu

Robotics and Remote Systems (RRSD)
Carl D. Crane, ccrane@ufl.edu

Thermal Hydraulics (THD)
  Tracks 7h, 7i, 7j, 8b, 8i
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Aerospace Nuclear Science and Technology Technical Working Group (ANST)
  Tracks 8d, 8e, 8f, 8g, 8h
Thomas K. Larson, tkl@inel.gov
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Paper Deadlines
ABSTRACTS DUE: November 15, 2005
DRAFT PAPERS DUE: January 15, 2006
FINAL PAPERS DUE: March 15, 2006

Electronic Submission of Abstracts
By November 15, 2005, authors should submit a one-page 400-word abstract (text only) with name, affiliation, address, phone, fax, and E-mail information to icapp@ans.org or at www.ans.org/goto/icapp06.

EMBEDDED TOPICAL MEETING: Nuclear Fuels and Structural Materials for the Next Generation Nuclear Reactors

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Paper Deadlines
SUMMARIES DUE: January 6, 2006
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