Winter 2014, Anaheim, CA

Technical Sessions

Listed below are the sessions and papers that were presented at the meeting.

Recent Nuclear Criticality Safety Program Technical Accomplishment

Steady State Neutron and Gamma Measurements of the Godiva Reactor, David P. Hickman, Jennifer G. Burch, Rebecca R. Hudson, Gary W. Slavik, Scott Richardson, John Scorby, Radoslav Radev, Nathaniel Bowden, David P. Heinrichs *(LLNL),*Joetta Goda, John Bounds, Tom Mclean, Jesson Hutchison, Travis Grove *(LANL),* Dann C. Ward *(SNL),* Chris Wilson, Leo Clark *(Atomic Weapons Establishment)*

ORNL Nuclear Data Evaluation Accomplishment for FY 2013, L. Leal, V. Sobes, M. Pigni, K. Guber, G. Arbanas, D. Wiarda, M. Dunn *(ORNL),* E. Ivanov, T. Ivanova, E. Letang *(Institut de Radioprotection et de Surete Nucleaire)*

Nuclear Data Advisory Group Technical Support for the U.S. Nuclear Criticality Safety Program, Michael E. Dunn *(ORNL)*

Godiva IV Startup at National Criticality Experiments Research Center (NCERC): Delayed Critical Through Prompt Critical, J. Goda, J. Bounds, D. Hayes, R. Sanchez *(LANL)*

MCNP Sensitivity/Uncertainty Accomplishments for the Nuclear Criticality Safety Program, Brian C. Kiedrowski, Forrest B. Brown, Jeffrey S. Bull, Albert C. Kahler, D. Kent Parsons *(LANL),* Matthew A. Gonzales, Anil K. Prinja *(Univ of New Mexico)*

Management Perspective on Recent Accomplishments and Future Plans for NCERC, Steven D. Clement, William L. Myers*(LANL),* Jerry N. McKamy *(National Nuclear Security Administration),* Nichole Ellis *(Ellis Engineering LLC)*

A Review of Recent R&D Efforts in Sub-Critical Multiplication Measurements and Simulations, Avneet Sood, C. J. Solomon, J. D. Hutchinson, Rian Bahran *(LANL)*

Data Analysis in Nuclear Criticality Safety-I,

List-Mode Simulations of the Subcritical Thor Core Benchmark Sensitivity Experiments, R. Bahran, J. Hutchinson, B. Richard, Avneet Sood *(LANL)*

Artificial Neural Network Representation of Criticality Excursion Experiment Data, Peter L. Angelo *(Y-12 NSC)*

Challenges Associated with the Current Demand for UK Criticality Safety Assessors, Ben Webborn *(UK Nuclear National Lab)*

Generation of Thermal Scattering Laws for YH2 using Ab Initio Methods, Michael L. Zerkle *(BAPL)*

Reevaluation of Room Return Corrections for Two ORCEFHEUMetal-Cylinder Benchmark Evaluations, John D. Bess *(INL)*

Benchmark Specifications and Results for α and Λ in a HEU Metal System Using ORSphere, Margaret A. Marshall, John D. Bess *(INL)*

Data Analysis in Nuclear Criticality Safety-II

A Computational Approach to the Dissolver Paradox, Alyssa R. Kersting *(LANL)*

New Critical Experiment Design to Investigate Composite Reflection Effect, C. Percher, S. Kim, D. Heinrichs *(LLNL)*

Nuclear Data Adjustment with SAMMY Based on Integral Experiments, Vladimir Sobes, Luiz Leal, Goran Arbanas *(ORNL)*

Deciphering the Binning Method Uncertainty in Neutron Multiplicity Measurements, Theresa Cutler, Mark Smith-Nelson, Jesson Hutchinson *(LANL)*

Assessment of the Need for a Criticality Accident Alarm System, James S. Baker, Robert Newnam, Steve Kessler, David Erickson *(Savannah River Nuclear Solutions, LLC)*

Fire, Seismic, and other Ex-Process Events and Criticality Safety Risk Acceptance, Shean P. Monahan *(SNL),* T. P. McLaughlin *(Private Consultant),* Mark V. Mitchell, D. K. Hayes *(LANL)*

Mixed Uranium-Plutonium Solution Validation of KENO V. a and KENO-VI in SCALE 6.1.2 and 6.2b3 Using Multigroup and Continuous-Energy ENDF/BVII.0 Libraries, E. L. Jones *(Univ of Tennessee),* W. J. Marshall *(ORNL),* G. I. Maldonado *(Univ of Tennessee, ORNL)*

Characterization of the NPOD3 Detectors in MCNP5 and MCNP6, Kimberly Clark, Jesson Hutchinson, C. J. Solomon, Theresa Cutler, Avneet Sood *(LANL)*

Data Analysis in Nuclear Criticality Safety-III

Determination of Experimental Correlations Using the Sampler Sequence Within SCALE 6.2, W. J. Marshall, B. T. Rearden*(ORNL)*

Non-Parametric, Extreme-Value Method for Estimating Bias and Bias Uncertainty in Nuclear Criticality Safety, Brian C. Kiedrowski *(LANL)*

Evaluation of Peak Reactivity Analysis of Boiling-Water Reactor Fuel in Transportation and Storage Casks, W. J. Marshall, B. J. Ade, S. M. Bowman *(ORNL)*

Nickel-Reflected Plutonium Metal Sphere Subcritical Measurements, Benoit Richard, Jesson Hutchinson, Theresa Cutler, Avneet Sood, Mark Smith-Nelson *(LANL)*

Validation of keff Calculations for Boiling-Water Reactor Fuel at Peak Reactivity in Transportation and Storage Casks, W. J. Marshall, S. M. Bowman *(ORNL)*

Reconstructing Double-Differential and Energy-Differential Resonance Cross Sections Using the R-Matrix Limited Formalism in the AMPX Code, Andrew Holcomb *(Georgia Tech),* Luiz Leal *(ORNL),* Farzad Rahnema *(Georgia Tech),* Dorothea Wiarda, Goran Arbanas *(ORNL)*

Critical and Subcritical Data for the Revision of ANS 8.12 Standard, Debdas Biswas, Dennis Mennerdahl, Christopher Tripp, Scott Revolinski, Kermit Bunde, Jason Huffer, Michael Shea, Dominic D. Winstanley *(LLNL)*

ANS Standards Forum