Summer 2014, Reno, Nevada

Technical Sessions

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

Data, Analysis, and Operations for Nuclear Criticality Safety

A Systems Engineering Approach for Implementing ANSI/ANS-8 Standards for CAAS and EP&R, Peter L. Angelo *(Y-12 Natl Security Complex)*

COG Validation for Lead and Polyethylene Reflected SILENE Criticality Excursion Benchmark Experiments, Soon Sam Kim, David Heinrichs, Rich Buck,Ed Lent, Chuck Lee *(LLNL)*

Comparison of Bounding and Realistic Models to Subcritical Measurements, J. Hutchinson, M. Mitchell, T. Cutler *(LANL),* J. Alwin *(PNNL)*

Neutron Transmission Correction using Multiplicity Analysis, J. Hutchinson, M. Smith-Nelson *(LANL)*

Unusual Behaviors Resulting from Unusual Control Schemes in Criticality Safety, Theresa E. Cutler, Mark V. Mitchell, Jesson D. Hutchinson *(LANL)*

ANS Reactor Physics Division (RPD) Session in Memory of Richard (Dick) McKnight

Dr. Richard McKnight�s Technical Contributions to the Reactor Physics Community, Temitope A. Taiwo, Robert N. Hill, Hussein S. Khalil*(ANL)*, invited

Review of the IFR Physics Analysis Database, T. Fei, B. Feng, T. K. Kim *(ANL)*

Consistent Comparison of Sensitivity Coefficients Obtained with PERSENT and ERANOS Codes, Gerardo Aliberti, Micheal A. Smith *(ANL)*

Improved ZPR Analysis with the Argonne Reactor Physics Codes, Micheal A. Smith, Richard M. Lell *(ANL)*

Initial Verification and Validation Tests of the MC2-3 ENDF/BVII.1 Library for Fast Reactor Systems, C. H. Lee *(ANL),* W. S. Yang *(Purdue Univ),* T. A. Taiwo *(ANL)*

Role of Experiment Covariance in Cross Section Adjustments (Based on Seminal Work Performed by R. D. McKnight), Invited, G. Palmiotti, M. Salvatores *(INL)*, invited

Nuclear Criticality Safety Division (NCSD) Session in Memory of Richard (Dick) McKnight

ICSBEP Criticality Calculations with ENDF/B-VII.1 Cross Sections, A. C. Kahler, R. E. MacFarlane *(LANL)*

Three Analytic Benchmarks in COG, Edward M. Lent *(LLNL)*

Results for the Intermediate-Spectrum ZEUS Benchmark Obtained with New 63,65Cu Cross-Section Evaluations, Vladimir Sobes, Luiz Leal *(ORNL)*

Revival of Criticality Safety Research in Japan Atomic Energy Agency, Kotaro Tonoike, Kazuhiko Izawa, Hiroki Sono, Miki Umeda, Yuichi Yamane *(JAEA)*

A Tribute to Richard D. McKnight, J. Blair Briggs *(INL),* Robert W. Schaefer *(ANL/INL, retired)*

Notes on Validation of Criticality Safety and Reactor Physics Calculations, Tatiana Ivanova *(IRSN)*

Correlations of Error Sources and Associated Reactivity Influences, Dennis Mennerdahl *(E M Systems)*

Critical and Subcritical Experiments

Historical Critical Experiments, Richard E. Malenfant *(Retired)*

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

Prompt Neutron Decay Constants in a Highly Enriched Uranium Copper Reflected System, George McKenzie, Travis Grove, Rene Sanchez, John Bounds *(LANL)*

Joint LANL/CEA Measurements on Godiva IV, J. Hutchinson, M. Smith-Nelson, A. Sood, J. Goda, J. Bounds, T. Cutler *(LANL),* A. Chapelle, P. Casoli *(CEA)*

Investigation of keff Versus Fraction of Critical Mass, J. Hutchinson, T. Cutler, R. Sanchez, M. Mitchell, D. Hayes *(LANL)*

Criticality Safety Program Metrics�Paper/Panel

Application of Performance Metrics in Assessing the LLNL Nuclear Criticality Safety Program, David Heinrichs, Song Huang *(LLNL),* Mark Lee *(The DOE/NNSA Livermore Site Office)*

Panel Discussion

Most criticality safety organizations use various metrics to assess the health of their programs. This session will involve a submitted paper and presentations by panel members on what criticality safety related metrics their sites use, which ones have diagnostic benefits and which have led to safety program changes. The presentations will be followed by a panel discussion on:

1. Whether metrics are worthwhile for the intended purpose

2. If worthwhile, who benefits?

3. How are metrics chosen?

4. Which metrics are of generic value?

5. Which metrics have not proven valuable?

Panelists:

� [Kevin Kimball](#) *(B&W Y-12)*

� Robert Malinoski *(URS/CH2M Hill)*

� David Erickson *(SRNS)*

� Dave Heinrichs *(LLNL)*

� [Randy Shackelford](#) *(Nuclear Fuel Services)*

� Todd Taylor *(INL)*

� [David Kupferer](#) *(DNFSB)*

ANS 8 Standards Forum