William Jay (B.J.) Marshall, PhD

Business Address:

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Oak Ridge, TN 37831-6170
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EDUCATION

University of Tennessee-Knoxville
Doctor of Philosophy in Nuclear Engineering, December 2017
Dissertation: "Determination of Critical Experiment Correlations Via the Monte Carlo Sampling Technique"

Master of Science in Nuclear Engineering, August 2001
Thesis: "Power Distribution Calculations in the High Flux Isotope Reactor for Various Control Blade Tantalum Loadings"

University of Missouri-Rolla (*Now Missouri University of Science & Technology*)
Bachelor of Science in Nuclear Engineering, December 1999 (Cum Laude)

WORK EXPERIENCE

September 2024–Present
Distinguished R&D Staff
Oak Ridge National Laboratory, Radioisotope Science and Technology Division
- Lead neutronics calculations in support of radioisotope production in the High Flux Isotope Reactor
- Support safety basis for irradiation campaigns
- Develop new target designs to increase radioisotope production
- Perform software quality assurance of neutronics modeling and simulation tools

June 2010–Present
Distinguished R&D Staff (April 2023 – Present) / Senior R&D Staff (January 2017 – April 2023) / R&D Staff (June 2010 – December 2016)
Interim Group Leader, Nuclear Criticality Group (October 2020 – August 2022)
Nuclear Criticality Group; Nuclear Energy and Fuel Cycle Division
- Perform research supporting burnup credit basis for PWR and BWR SNF
- Research and expand application of sensitivity/uncertainty methods to NCS applications
- Lead SCALE criticality safety validation efforts for cross sections and covariance data
- Support development and testing of SCALE criticality safety, S/U, and nuclear data developments, including as coordinator of external user support
- Develop, maintain, and deliver SCALE training:
  - SCALE Criticality Safety Calculations (KENO V.a and KENO-VI)
  - S/U Analysis for NCS Applications and Validation (TSUNAMI)
  - SCALE Computational Methods for Burnup Credit (STARBUCS, et al.)
  - Developed scope and customized material for multiple external customers
- Instructor for Hands-on criticality safety practitioner course, February 2017 – August 2024
- Attended Cross Section Evaluation Working Group (CSEWG) meetings, particularly the Validation and Covariance Committees
- Mentor graduate and summer students

WORK EXPERIENCE (continued)

February 2018–March 2020

Lecturer

University of Tennessee-Knoxville, Nuclear Engineering Department, Knoxville, TN

- Prepare and present material related to computer code use, Monte Carlo method, computer code testing, validation, and nuclear data use in nuclear criticality safety in graduate course
- Develop and administer homework assignment and test to assess student performance

November 2008–May 2010

Product Manager/Lead Engineer

Westinghouse Electric Company

- Provided technical and business leadership to spent fuel pool criticality safety product line
- Participated in industry-wide NEI forum with NRC
- Supervised work on new analyses and licensing support for past analyses
- Developed and delivered SFP NCS training with other qualified personnel

July 2006–October 2008

Senior Core Design Engineer

Westinghouse Electric Company

- Performed and verified PWR core reload analyses, assisted improvement of core modeling
- Executed spent fuel pool criticality safety analyses
- Mentored new employees in core design and criticality safety

November 2001–July 2006

Design Engineer

Knolls Atomic Power Laboratory

- Assisted in new reactor designs
- Performed 2D and 3D Monte Carlo calculations
- Helped develop and provide RACER Monte Carlo code training

January 2000–August 2001

Graduate Research Assistant

University of Tennessee

- Performed research on High Flux Isotope Reactor, using SCALE and DORT for core modeling
- Lectured on MCNP4C at Tennessee Industries Week

June 1999–August 1999

Summer Intern

Oak Ridge National Laboratory

- Prepared experimental reports from TSF for inclusion in SINBAD database
- Developed MCNP4B model of shielding benchmark including the Yayoi reactor beam line
- Upgraded output from NRC code HABIT

September 1998–December 1999

Student Health Physics Technician

University of Missouri-Rolla (Now Missouri University of Science & Technology)

- Performed radiation and contamination surveys
- Performed meter and dosimeter calibrations
- Trained new technicians

PATENT

E.F. Eidelpes, J.J. Jarrell, R.A. Hall, W.J. Marshall, H.A. Adkins, and B.M. Hom, "Devices and Systems for Material Transportation," US Patent 11,699,534, filed September 15, 2021, and issued July 11, 2023.

PROFESSIONAL ACTIVITIES

- Involved with American Nuclear Society (ANS)
    - Nuclear Criticality Safety Division Executive Board, June 2019 – June 2022
    - Session organizer for multiple sessions
    - Invited panelist for Ethics in Nuclear Engineering and Design, November 2018
- Elected a US voting member for OECD/NEA Working Party on Nuclear Criticality Safety in 2021
- Vice Chairperson of International Criticality Safety Benchmark Evaluation Project Technical Review Group, June 2022 - Present
- Co-chair of Nuclear Criticality Safety track at PHYSOR 2022
- Reviewer for numerous conferences and several journals
- Session chair for multiple conference sessions

AWARDS

Technical Excellence Award from the ANS Nuclear Criticality Safety Division, 2024
Best paper in session at 2016 ANS Annual Meeting
ORNL Significant Event Award in 2013

PUBLICATIONS

C.W. Chapman and W.J. Marshall, "Quantifying the Impact of Isotopically Dependent Fuel TSLs on LCT Systems in VALID," *Trans. Am. Nucl. Soc.* **131**, 672-674 (2024).

T.M. Greene, W.J. Marshall, and C.W. Chapman, "Investigating Hydrogen Thermal Scattering Law Data with Critical Benchmarks," *Trans. Am. Nucl. Soc.* **131**, 711-714 (2024).

T.J. Zipperer, A.W. Prichard, T.M. Greene, W.J. Marshall, and A. Lang, "Sum-of-Fractions Method," *Trans. Am. Nucl. Soc.* **131**, 728-731 (2024).

K.B. Bekar, J. Brown, C. Celik, T.M. Greene, S.W.D. Hart, W.J. Marshall, J.D. McDonnell, U. Mertyurek, S.E. Skutnik, and W.A. Wieselquist, "SCALE Developments for the U.S. Nuclear Criticality Safety Program: Recent Achievements and Outlook," *Trans. Am. Nucl. Soc.* **131**, 736-739 (2024).

W.A. Metwally, A. Lang, V. Karriem, M.N. Dupont, W.J. Marshall, C. Celik, K.E. Fassino, and A.M. Shaw, "Burnup Credit Loading Curves for High-Burnup and Extended Enrichment Fuels," *Trans. Am. Nucl. Soc.* **131**, 746-748 (2024).

A. Lang, M.N. Dupont, A.M. Shaw, W.A. Metwally, W.J. Marshall, C. Celik, V. Karriem, and K.E. Fassino, "Bias and Bias Uncertainty for High-Burnup and Extended Enrichment Fuels in Criticality Safety Analyses Validation Studies," *Trans. Am. Nucl. Soc.* **131**, 646-649 (2024).

E. Eidelpes, J.J. Jarrell, D. Bertsch, R.A. Hall, W.J. Marshall, B. Hom, H.E. Adkins, "Technology Development of a High-Capacity High-Assay Low-Enriched Uranium Transportation Concept," *Proceedings of the Pacific Basin Nuclear Conference (PBNC) 2024*, 220-229 (2024).

PUBLICATIONS (continued)

W.J. Marshall, M.T. Brandt, L.M. Mulig, T.M. Greene, S.R. Blair, and A.M. Shaw, "Conducting MUSiC Modeling Studies," *Trans. Am. Nucl. Soc.* **130**, 806-809 (2024).

T.M. Greene, W.J. Marshall, M.T. Brandt, L.M. Mulig, S.R. Blair, and A.M. Shaw, "Investigating a Potential Hafnium Bias in SCALE," *Trans. Am. Nucl. Soc.* **130**, 822-825 (2024).

A.M. Shaw, W.A. Metwally, M.N. Dupont, W.J. Marshall, C. Celik, V. Karriem, A. Land, and K.L. Reed, "Effect of Decay Time on Criticality Safety Analyses for High-Burnup and Extended Enrichment Fuels," *Trans. Am. Nucl. Soc.* **130**, 794-797 (2024).

M.N. Dupont, K.L. Fassino, W.J. Marshall, W.A. Metwally, and W.A. Wieselquist, "Review of Available Critical Experiments and Critical Experiments Facilities to Perform High-Assay Low-Enriched Uranium Fuel Transport Validation for Advanced Reactor Deployment," *Trans. Am. Nucl. Soc.* **130**, 784-787 (2024).

I.I. Al-Qasir, K.L. Reed, W.J. Marshall, M.N. Dupont, C.W. Chapman, D. Hartanto, W.A. Metwally, and W.A. Wieselquist, "Current Overview of neutron moderator Thermal Scattering Kernels for HALEU-Fueled Advanced Reactors," *Trans. Am. Nucl. Soc.* **130**, 750-753 (2024).

K. Worrell, V. Sobes, and W.J. Marshall, "On Estimating Uncertainty in Integral Benchmarks Due to Inconsistencies in Geometrical Measurements," *Trans. Am. Nucl. Soc.* **130**, 742-744 (2024).

W.A. Metwally, M.N. Dupont, W.J. Marshall, C. Celik, V. Karriem, A. Lang, K.L. Fassino, and A.M. Shaw, "Nuclear Data-Induced Uncertainties in Criticality Safety Analyses for High-Burnup and Extended Enrichment Fuels," *Nucl. Sci. & Eng.* (2024).

W.J. Marshall, "Lost and Found Opportunities Around the Chlorine Worth Study," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

W.J. Marshall, A.M. Shaw, T.M. Greene, K.K.C. Florida, B.J. Purcell, and S.R. Blair, "The Case for and Against a Gadolinium Bias in SCALE: Round 2," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023),* Sendai, Japan (2023).

K. Worrell, G. Lentchner, J. Mihalczo, W.J. Marshall, and V. Sobes, "Preliminary Model Development in Support of a New Criticality Safety Benchmark for HEU Metal Annuli and Cylinders with Reflectors of Three- to Nineteen-Inch Thickness," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023),* Sendai, Japan (2023).

T.M. Greene and W.J. Marshall, "Investigating Similarity Differences for Light-Water-Moderated and Polyethylene-Moderated Systems," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

T.M. Greene, K. Bekar, and W.J. Marshall, "Deterministic-Monte Carlo Hybrid Methods for Eigenvalue Sensitivity Coefficient Calculations," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

T.M. Greene, A. Lang, and W.J. Marshall, "Validating Mixtures of ^{233}U, ^{235}U, and ^{239}Pu for the Sum-of-Fractions Method," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

PUBLICATIONS (continued)

M.N. Dupont and W.J. Marshall, "Neutron Absorber Plate Characterization Plan for Criticality Experiments Design," *Trans. Am. Nucl. Soc.* **129**, 612-615 (2023).

V.V. Karriem, R.A. Lefebvre, and W.J. Marshall, "Coupling SCALE with DAKOTA for Axial Burnup Profiles Assessment in Burnup Credit," *Trans. Am. Nucl. Soc.* **129**, 685-688 (2023).

M.N. Dupont, C. Celik, A. Lang, K.L. Reed, A.M. Shaw, V. Karriem, W.A. Metwally, and W.J. Marshall, "Assessment of Validation for Burnup Credit Calculations for LEU+ and High Burnup Fuel," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

W.A. Metwally, M.N. Dupont, W.J. Marshall, C. Celik, V. Karriem, A. Lang, K.L. Reed, and A.M. Shaw, "Impact of Recent ENDF Nuclear Data on Burnup Credit Criticality Safety Analyses," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

C.W. Chapman, D. Wiarda, and W.J. Marshall, "Impact of Light Water Covariance on Integral Benchmarks," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

K.B. Bekar and W.J. Marshall, "Adapting CLUTCH Methodology to Multigroup TSUNAMI-3D for Eigenvalue Sensitivity Calculations," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

T.J. Zipperer, A.W. Prichard, T.M. Greene, W.J. Marshall, and A. Lang, "Evaluation of the Sum-of-Fractions Methodology for Water and Polyethylene Moderated Systems," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

C. Percher, J.D. Bess, W.J. Marshall, J.-F. Martin, I. Hill, and T. Ivanova, "Status of the International Criticality Safety Benchmark Evaluation Project," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

A. Hoefer, M. Stuke, H.S. Abdel-Khalik, O. Cabellos, M. Chernykh, T. Eisenstecken, F. Fernex, N. Lecaire, F. Havluj, M. Hursin, H. Lee, W.J. Marshall, D. Mennerdahl, I. Nasim, T. Nicol, M.E. Rising, B. Ruprecht, D. Schulze Grachtrup, M. Sikl, A. Shama, P. Smith, F. Sommer, S. Tittelbach, A. Vasiliev, and R. Vocka, "Bias and Correlated Data, Comparison and Methods," *Proceedings of the 12th International Conference on Nuclear Criticality Safety (ICNC 2023)*, Sendai, Japan (2023).

M.N. Dupont, W.J. Marshall, and J.B. Clarity, "Preliminary Design of Critical Experiments Involving Commercially Available B_4C Neutron Absorber Plates with Low-Enriched UO_2 Fuel," *Trans. Am. Nucl. Soc.* **128**, 473-476 (2023).

T.M. Greene, W.J. Marshall, A. Lang, and T. Zipperer, "Impact of Thermal Scattering Law on Similarity Assessment in Light-water or Polyethylene-Moderated Systems," *Trans. Am. Nucl. Soc.* **128**, 482-485 (2023).

G. Lentchner, K. Worrell, N. Satvat, W.J. Marshall, and V. Sobes, "Similarity of Fast and Thermal Spectrum Graphite Moderated Systems Through the Unique Physics of n + ^{12}C," *Trans. Am. Nucl. Soc.* **128**, 463-465 (2023).

PUBLICATIONS (continued)

W.J. Marshall, E.M. Saylor, R.A Hall, and A. Lang, "Assessment of Existing Transportation Packages for Use with LEU+ and HALEU Material," *Proceedings of PATRAM2022*, Juan-les-Pins, France (2023).

J. Seo, H.S. Abdel-Khalik, U. Mertyurek, G. Arbanas, W.J. Marshall, and W.A. Wieselquist, "Comparative Analysis of Standard and Advanced USL Methodologies for Nuclear Criticality Safety," *Nucl. Sci. and Eng.* **198**(3), pp. 673-701 (2023).

W.J. Marshall, M.N. Dupont, T.M. Greene, A. Lang, A.M. Shaw, J.B. Clarity, and E.M. Saylor, "Expansion of the ORNL VALID Library," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

W.J. Marshall, A. Lang, E.M. Saylor, and R.A. Hall, "Recent Assessments of Existing Transportation Packages for Use with HALEU Material," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

W.J. Marshall and T.M. Greene, "Applicability of the ORCEF UF_4/CF_2 Experiments to Validation of 30" UF_6 Cylinders," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

W.J. Marshall and T.M. Greene, "Performance of the Initial Implementation of the Shift Monte Carlo Code in SCALE 6.3," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

A.M. Shaw and W.J. Marshall, "Analysis of SCALE Criticality and Sensitivity Calculations for Reflected HEU Cylinders," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

T.M. Greene, W.J. Marshall, and J.B. Clarity, "Impact of Increased Latent Generations on Sensitivity Calculations with SCALE," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

J. Alwin, R. Little, R. Macquigg, M. Rising, N. Leclaire, F. Fernex, L. Leal, E. Saylor, J. Clarity, B.J. Marshall, and K. Spencer, "Sensitivity/Uncertainty Comparison Study Involving IRSN, LANL, and ORNL Tools to Support Validation," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

J.B. Clarity, K. Banerjee, L.P. Miller, A.M. Shaw, and W.J. Marshall, "Validation of UNF-ST&DARDS As-Loaded Criticality Calculations," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

T.M. Greene and W.J. Marshall, "Revision to SCALE Procedure for Verified, Archived Library of Inputs and Data (VALID)," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

A. Lang and W.J. Marshall, "Multigroup Examination for Nickel-Reflected HEU System," *Proceedings of NCSD 2022*, Anaheim, CA (2022).

W.J. Marshall, O.M. Belcher, N.H. Byrne, L.E. de Leon, M.N. Solis, T.M. Greene, and S.R. Blair, "Expanded Validation of Uranium Systems with the KENO Monte Carlo Codes and SCALE 6.2.4," *Proceedings of PHYSOR 2022*, 2664-2673, Pittsburgh, PA, (2022).

W.J. Marshall and T.M. Greene, "Cumulative χ^2 Metric for ENDF/B-VII.1 and ENDF/B-VIII.0 in SCALE 6.3b9," *Trans. Am. Nucl. Soc.* **125**, 696-699 (2021).

A.M. Shaw and W.J. Marshall, "Validation of KENO Delayed Neutron Fraction Capabilities," *Trans. Am. Nucl. Soc.* **125**, 686-688 (2021).

H.S. Abdel-Khalik, D. Huang, U. Mertyurek, W.J. Marshall, and W.A. Wieselquist, "Overview of the Tolerance Limit Calculations with Application to TSURFER," *Energies* **14**(21): 7092 (2021).

PUBLICATIONS (continued)

W.J. Marshall and A. Lang, "Sensitivity Calculations for Systems with Polyethylene Reflector Materials Using CLUTCH," *Trans. Am. Nucl. Soc.* **124**, 376-378 (2021).

A. Lang, A.M. Shaw, C.W. Chapman, and W.J. Marshall, "Discovery of AMPX Thermal Scattering Law Processing Issue for Solid Moderators," *Trans. Am. Nucl. Soc.* **124**, 368-371 (2021).

T.M. Greene, W.J. Marshall, and J.B. Clarity, "Reducing Direct Perturbation Uncertainty for High-Sensitivity Coefficients," *Trans. Am. Nucl. Soc.* **124**, 372-375 (2021).

R.A. Lefebvre, S.R. Johnson, W.J. Marshall, and C. Celik, "3D Model Visual Verification and Mesh-Based Data Analysis in Fulcrum," *Trans. Am. Nucl. Soc.* **124**, 643-646 (2021).

V. Sobes, A.M. Holcomb, W.J. Marshall, T.M. Greene, D. Wiarda, and W.A. Wieselquist, "Augmented ENDF/B-VIII.0 Covariance Library for SCALE 6.3," *Annals of Nucl. Energy*, **160** (2021).

R.A. Hall, W.J. Marshall, E. Eidelpes, and B.M. Hom, "Assessment of Critical Experiment Benchmark Applicability to a Large-Capacity HALEU Transportation Package Concept," *Nucl. Sci. & Eng.* **195(3)**, 310-319 (2021).

K.B. Bekar, J.B. Clarity, M.N. Dupont, R.A. Lefebvre, W.J. Marshall, and E.M. Saylor, "KENO-VI Primer: Performing Calculations Using SCALE's Criticality Safety Analysis Sequence (CSAS6) with Fulcrum," ORNL/TM-2020/1601 (2020).

K.B. Bekar, J.B. Clarity, M.N. Dupont, R.A. Lefebvre, W.J. Marshall, and E.M. Saylor, "KENO V.a Primer: Performing Calculations Using SCALE's Criticality Safety Analysis Sequence (CSAS5) with Fulcrum," ORNL/TM-2020/1664 (2020).

W.J. Marshall, J.B. Clarity, and B.T. Rearden, "A Review of TSUNAMI Applications," *Trans. Am. Nucl. Soc.* **123**, 795-798 (2020).

W.J. Marshall and B.D. Brickner, "Improved Runtime Performance in KENO-VI Models Using Arrays and Holes," *Trans. Am. Nucl. Soc.* **123**, 937-940 (2020).

K.B. Bekar, J.B. Clarity, M.N. Dupont, R.A. Lefebvre, W.J. Marshall, and E.M. Saylor, "Updated Primers Generated for SCALE 6.2 for KENO V.a and KENO-VI," *Trans. Am. Nucl. Soc.* **123**, 934-936 (2020).

B.T. Rearden, W.J. Marshall, and W.A. Wieselquist, "Development of SCALE Tools for Sensitivity and Uncertainty Analysis Methodology Implementation (TSUNAMI) from SCALE 5 through SCALE 6.2," *Trans. Am. Nucl. Soc.* **123**, 799-803 (2020).

J.B. Clarity, W.J. Marshall, B.T. Rearden, and I. Duhamel, "Selected Uses of TSUNAMI in Critical Experiment Design and Analysis," *Trans. Am. Nucl. Soc.* **123**, 804-807 (2020).

J.B. Clarity, S.W.D. Hart, W.A. Wieselquist, and W.J. Marshall, "VADER: A Tool for Criticality Safety Validation," *Trans. Am. Nucl. Soc.* **123**, 931-933 (2020).

J. Alwin, F. Brown, J. Clarity, I. Duhamel, F. Fernex, L. Leal, R. Little, B.J. Marshall, M. Rising, E. Saylor, and K. Spencer, "S/U Comparison Study with a Focus on USLs," *Trans. Am. Nucl. Soc.* **123**, 780-783 (2020).

PUBLICATIONS (continued)

W. Wieselquist, J. Bess, D. Bowen, I. Duhamel, I. Hill, N. Leclaire, W. Marshall, C. Percher, E. Saylor, and S. Tsuda, "Initial Efforts Organizing WPNCS SG-8: Preservation of Expert Knowledge and Judgement Applied to Criticality Benchmarks," *Trans. Am. Nucl. Soc.* **123**, 895-897 (2020).

U. Mertyurek, H.S. Abdel-Khalik, and W.J. Marshall, "MAPPER – A Novel Capability to Support Nuclear Model Validation and Mapping of Biases and Uncertainties," Proceedings of PHYSOR 2020 (2020).

B.D. Hiscox, B.R. Betzler, V. Sobes, and W.J. Marshall, "Neutronic Benchmarking of Small Gas-Cooled Systems," Proceedings of PHYSOR 2020 (2020).

W.J. Marshall, T.M. Greene, B.D. Brickner, and R.A. Hall, "Description and Use of SCALE Sampler Parametric Capability for Engineering Analysis and Optimization," *Trans. Am. Nucl. Soc.* **122**, 471-474 (2020).

W.J. Marshall, J.B. Clarity, and K. Banerjee, "Performing k_{eff} Validation of As-Loaded Criticality Safety Calculations using UNF-ST&DARDS: Sensitivity Calculations," *Trans. Am. Nucl. Soc.* **122**, 479-482 (2020).

W.J. Marshall, J.B. Clarity, and K. Banerjee, "Performing k_{eff} Validation of As-Loaded Criticality Safety Calculations using UNF-ST&DARDS: Applicable Experiment Selection," *Trans. Am. Nucl. Soc.* **122**, 475-478 (2020).

W.J. Marshall, "Bias Between ENDF/B-VIII.0 and ENDF/B-VII.1 for LEU Pin Array Systems," *Trans. Am. Nucl. Soc.* **121**, 952-955 (2019).

E.M. Saylor and W.J. Marshall, "Sensitivity/Uncertainty Comparison Study: Oak Ridge National Laboratory Results," *Trans. Am. Nucl. Soc.* **121**, 948-951 (2019).

V. Sobes, W.J. Marshall, D. Wiarda, F. Bostelmann, A.M. Holcomb, and B.T. Rearden, "ENDF/B-VIII.0 Augmented Covariance Data: The First Iteration," *Trans. Am. Nucl. Soc.* **121**, 1365-1368 (2019).

F. Bostelmann, A.M. Holcomb, W.J. Marshall, V. Sobes, and B.T. Rearden, "Impact of the ENDF/B-VIII.0 Library on Advanced Reactor Simulations," *Trans. Am. Nucl. Soc.* **121**, 1369-1372 (2019).

I. Duhamel, J.L. Alwin, F.B. Brown, M.E. Rising, K.Y. Spencer, D. Heinrichs, S. Kim, W.J. Marshall, and E.M. Saylor, "International Criticality Benchmark Comparison for Nuclear Data Validation," *Trans. Am. Nucl. Soc.* **121**, 873-876 (2019).

W.J. Marshall, B.J. Ade, I.C. Gauld, G. Ilas, U. Mertyurek, J.B. Clarity, G. Radulescu, B.R. Betzler, S.M. Bowman, and J.S. Martinez-Gonzalez, "Overview of the Recent BWR Burnup Credit Project at Oak Ridge National Laboratory," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

W.J. Marshall, J.B. Clarity, J. Yang, U. Mertyurek, M.A. Jessee, and B.T. Rearden, "Initial Application of TSUNAMI for Validation of Advanced Fuel Systems," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

PUBLICATIONS (continued)

W.J. Marshall, E.M. Saylor, A.M. Holcomb, D. Wiarda, and T.M. Greene, "Validation of KENO V.a and KENO-VI in SCALE 6.3 Beta 3 Using ENDF/B-VII.1 and ENDF/B-VIII Libraries," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

F. Sommer, W.J. Marshall, and M. Stuke, "Correlation of HST-001 due to Uncertain Technical Parameters – Comparison of Results from SUnCISTT, Sampler, and DICE," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

J.B. Clarity and W.J. Marshall, "The Influence of Changes in Nuclear Covariance Data on the Calculation of c_k for Highly Enriched Uranium Solution Systems," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

M. Stuke, A. Hoefer, O. Buss, M. Chernykh, G. Dobson, J. Dyrda, T. Ivanova, N. Leclaire, W.J. Marshall, D. Mennerdahl, B.T. Rearden, P. Smith, F. Sommer, and S. Tittelbach, "UACSA Phase IV: Role of Integral Experiment Covariance Data for Criticality Safety Validation – Summary of Selected Results," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

J. B. Clarity and W.J. Marshall, "Assessment of Normality for Criticality Safety Bias and Bias Uncertainty Calculation," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

J.B. Clarity, T.M. Miller, W.J. Marshall, and D.E. Mueller, "Detailed Design of an Epithermal/Intermediate Critical Experiment using the Sandia National Laboratories Critical Facility," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

I. Duhamel, J.L. Alwin, F.B. Brown, M.E. Rising, K.Y. Spencer, D. Heinrichs, S. Kim, W.J. Marshall, and E.M. Saylor, "International Benchmarks Intercomparison Study for Codes and Nuclear Data Validation," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

K. Banerjee, J.B. Clarity, H. Liljenfeldt, W.J. Marshall, P. Miller, and J.M. Scaglione, "Criticality Safety Analysis of Spent Nuclear Fuel Canisters using As-loaded Configurations," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

T.M. Greene, W.J. Marshall, and G.I. Maldonado, "Analysis of D_2O Benchmark Criticality Experiments," *Proceedings of the 11th International Conference on Nuclear Criticality Safety (ICNC2019)*, Paris, France (2019).

W.J. Marshall, J.B. Clarity, and S.M. Bowman, "Validation of k_{eff} Calculations for Extended BWR Burnup Credit Calculations," *Trans. Am. Nucl. Soc.* **120**, 554-557 (2019).

W.J. Marshall, J. Yang, U. Mertyurek, and M.A. Jessee, "Preliminary TSUNAMI Assessment of the Impact of Accident Tolerant Fuel Concepts on Reactor Physics Validation," *Trans. Am. Nucl. Soc.* **120**, 500-503 (2019).

J.B. Clarity, W.J. Marshall, K. Banerjee, and J.M. Scaglione, "A Method for Performing k_{eff} Validation of As-Loaded Criticality Safety Calculations Using UNF-ST&DARDS," *Trans. Am. Nucl. Soc.* **120**, 504-507 (2019).

PUBLICATIONS (continued)

B.T. Rearden, W.J. Marshall, J.B. Clarity, A.M. Holcomb, F. Bostelmann, and J.M. Scaglione, "Initial Investigations of the Criticality Safety Validation Basis for HA-LEU Transportation," *Trans. Am. Nucl. Soc.* **120**, 517-520 (2019).

J.B. Clarity, W.J. Marshall, and E.M. Saylor, "User Experiences with ICSBEP Distributed Sensitivity Data Profiles with the SCALE Sensitivity and Uncertainty Methods as of Winter 2019," *Trans. Am. Nucl. Soc.* **120**, 550-553 (2019).

W.J. Marshall, J.B. Clarity, and S.M. Bowman, "Validation of k_{eff} Calculations for Extended BWR Burnup Credit," NUREG/CR-7252 (ORNL/TM-2018/797), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2018).

W.J. Marshall and A.M. Holcomb, "A Testing Trifecta: Data, Codes, and Evaluations," *Trans. Am. Nucl. Soc.* **119**, 724-727 (2018).

W.J. Marshall, J.B. Clarity, and E.M. Saylor, "Sensitivity Calculations for Systems with Fissionable Reflector Materials Using TSUNAMI," *Trans. Am. Nucl. Soc.* **119**, 787-790 (2018).

E.L. Jones, J.B. Clarity, W.J. Marshall, B.T. Rearden, and G.I. Maldonado, "A Case Study in the Application of TSUNAMI-3D – Part 3, Continuous Energy – Iterated Fission Probability Method," *Trans. Am. Nucl. Soc.* **119**, 845-848 (2018).

E.M. Saylor, W.J. Marshall, J.B. Clarity, Z.J. Clifton, and B.T. Rearden, *Criticality Safety Validation of SCALE 6.2.2*, ORNL/TM-2018/884, Oak Ridge, TN (2018).

W.J. Marshall, "The Case for and Against a Gadolinium Bias in SCALE: Opening Arguments," *Trans. Am. Nucl. Soc.* **118**, 554-557 (2018).

W.J. Marshall and E.M. Saylor, "Enhanced Engineering Analyses with Visualization of Geometry and Mesh-Based Data in Fulcrum," *Trans. Am. Nucl. Soc.* **118**, 987-990 (2018).

Z.J. Clifton, W.J. Marshall, and I. Hill, "Benchmark Model Temperatures Incorporated into DICE," *Trans. Am. Nucl. Soc.* **118**, 543-546 (2018).

E.M. Saylor, W.J. Marshall, Z.J. Clifton, J.B. Clarity, and B.T. Rearden, "Validation of KENO V.a and KENO-VI in SCALE 6.2.2 using ENDF/B-VII.0 and ENDF/B-VII.1 Libraries," *Trans. Am. Nucl. Soc.* **118**, 571-574 (2018).

C.M. Perfetti, B.T. Rearden, and W.J. Marshall, "Estimating Computational Biases for Criticality Safety Applications with Few Neutronically Similar Benchmarks," *Trans. Am. Nucl. Soc.* **118**, 561-564 (2018).

B.J. Ade, W.J. Marshall, G. Ilas, B.R. Betzler, and S.M. Bowman, "Impact of Operating Parameters on Extended BWR Burnup Credit," NUREG/CR-7240 (ORNL/TM-2017/46), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2018).

J.B. Clarity, K. Banerjee, H.K. Liljenfeldt, and W.J. Marshall, "As-Loaded Criticality Margin Assessment of Dual-Purpose Canisters Using UNF-ST&DARDS," *Nucl. Tech.*, **199**(3), 245 – 275 (2017).

PUBLICATIONS (continued)

W.J. Marshall, D.E. Mueller, J.B. Clarity, and S.M. Bowman, "Development of Criticality Safety Validation Guidance for NRC-Regulated Activities," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

W.J. Marshall, B.T. Rearden, and R.E. Pevey, "Determination of Critical Experiment Correlations for Experiments Involving Arrays of Low-Enriched Fuel Rods," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

W.J. Marshall, B.T. Rearden, and R.E. Pevey, "Determination of Critical Experiment Correlations for Experiments Involving Highly Enriched Uranium Solutions," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

B.J. Ade, W.J. Marshall, and S.M. Bowman, "The Effect of Modeling Assembly-Specific Parameters in Extended BWR Burnup Credit Analyses," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

J.B. Clarity, K. Banerjee, W.J. Marshall, and H.K. Liljenfeldt, "A Burnup Credit Approach for Margin Estimation of Loaded Boiling Water Reactor Canisters in UNF-ST&DARDS," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

A. Holcomb, D. Wiarda, and W.J. Marshall, "ENDF/B-VIII.0 Testing With AMPX and SCALE," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

R.A. Lefebvre and W.J. Marshall, "Template Engine Applied to Rapid Modeling," *Proceedings of NCSD 2017: Criticality Safety – pushing boundaries by modernizing and integrating data, methods, and regulations*, Carlsbad, NM (2017).

B.T. Rearden, B.R. Betzler, M.A. Jessee, W.J. Marshall, U. Mertyurek, and M.L. Williams, "Accuracy and Runtime Improvements with SCALE 6.2," *Proceedings of International Conference on Mathematics and Computational Methods Applied to Nuclear Science & Engineering*, Jeju, Korea (2017).

C.M. Perfetti, B.T. Rearden, and W.J. Marshall, "Diagnosing Undersampling Biases in Monte Carlo Eigenvalue and Flux Tally Estimates," *Nucl. Sci. and Eng.*, **185**(1) 139 – 158 (2017).

E.L. Jones, W.J. Marshall, B.T. Rearden, M.E. Dunn, and G.I. Maldonado, "A Case Study in the Application of TSUNAMI-3D – Part 2, Continuous Energy," *Trans. Am. Nucl. Soc.* **115**, 677-680 (2016).

W.J. Marshall, E.L. Jones, B.T. Rearden, and M.E. Dunn, "A Case Study in the Application of TSUNAMI-3D – Part 1, Multigroup," *Trans. Am. Nucl. Soc.* **115**, 673-676 (2016).

J.A. Hanna, R.A.L. Rosenthal, W.J. Marshall, D.E. Mueller, E.L. Jones, S.R. Blair, and B.T. Rearden, "Validation for ^{233}U-Fueled Systems in KENO V.a in SCALE 6.2," *Trans. Am. Nucl. Soc.* **115**, 665-668 (2016).

PUBLICATIONS (continued)

W.J. Marshall, B.J. Ade, and S.M. Bowman, "Study of Axial Burnup Profile Effects on BWR Burnup Credit," *Proceedings of the 18th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2016)*, Kobe, Japan (2016).

W.J. Marshall, B.J. Ade, S.M. Bowman, and J.S. Martinez-Gonzalez, "Axial Moderator Density Distributions, Control Blade Usage, and Axial Burnup Distributions for Extended BWR Burnup Credit," NUREG/CR-7224 (ORNL/TM-2015/544), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2016).

W.J. Marshall, B.J. Ade, and S.M. Bowman, "Apparent Monte Carlo Source Convergence Problem with BWR Fuel Depleted with Partial Control Blade Insertion," *Trans. Am. Nucl. Soc.* **114**, 475-478 (2016).

T.A. Eckleberry, W.J. Marshall, E.L. Jones, and G.I. Maldonado, "Validation of KENO Thermal Moderator Doppler Broadening Method in SCALE 6.2 Beta5 Using Continuous-Energy B-VII.1 Library," *Trans. Am. Nucl. Soc.* **114**, 484-487 (2016).

B.J. Ade, W.J. Marshall, J.S. Martinez, and S.M. Bowman, "Effects of Control Blade History, Axial Coolant Density Profiles, and Axial Burnup Profiles on BWR Burnup Credit," *Proceedings of PHYSOR 2016*, Sun Valley, ID (2016).

W.J. Marshall, B.J. Ade, S.M. Bowman, I.C. Gauld, G. Ilas, U. Mertyurek, G. Radulescu, "Technical Basis for Peak Reactivity Burnup Credit for BWR Spent Nuclear Fuel in Storage and Transportation Systems," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

W.J. Marshall and B.T. Rearden, "Determination of Critical Experiment Correlations Using the Sampler Sequence Within SCALE 6.2," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

W.J. Marshall, B.T. Rearden, and E.L. Jones, "Validation of SCALE 6.2 Criticality Calculations Using KENO V.A and KENO-VI," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

W.J. Marshall, M.L. Williams, D. Wiarda, B.T. Rearden, M.E. Dunn, D.E. Mueller, J.B. Clarity, and E.L. Jones, "Development and Testing of Neutron Cross Section Covariance Data for SCALE 6.2," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

D.E. Mueller, D.G. Bowen, and W.J. Marshall, "Addressing Fission Product Validation in MCNP Burnup Credit Criticality Calculations," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

V. Sobes, B.T. Rearden, D.E. Mueller, W.J. Marshall, J.M. Scaglione, M.E. Dunn, "Upper Subcritical Limit Calculations Based on Correlated Experimental Data," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

J.S. Martinez-Gonzalez, B.J. Ade, S.M. Bowman, I.C. Gauld, G. Ilas, W.J. Marshall, "Impact of modeling Choices on Inventory and In-Cask Criticality Calculations for Forsmark3 BWR Spent Fuel," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

PUBLICATIONS (continued)

B.J. Ade, W.J. Marshall, S.M. Bowman, I.C. Gauld, G. Ilas, and J.S. Martinez-Gonzalez, "Coolant Density and Control Blade History Effects in Extended BWR Burnup Credit," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

B.T. Rearden, K.B. Bekar, C. Celik, K.T. Clarno, M.E. Dunn, S.W.D. Hart, A.M. Ibrahim, S.R. Johnson, B.R. Langley, J.P. Lefebvre, R.A. Lefebvre, W.J. Marshall, U. Mertyurek, D.E. Mueller, D.E. Peplow, C.M. Perfetti, L.M. Petrie Jr., A.B. Thompson, D. Wiarda, W.A. Wieselquist, and M.L. Williams, "Criticality Safety Enhancements for Scale 6.2 And Beyond," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

E.L. Jones, G.I. Maldonado, W.J. Marshall, C.M. Perfetti, and B.T. Rearden, "Investigation of the Continuous-Energy Sensitivity Methods in SCALE 6.2 Using TSUNAMI-3D," *Proceedings of International Conference on Nuclear Criticality Safety*, Charlotte, NC (2015).

D.E. Mueller, W.J. Marshall, D.G. Bowen, and J.C. Wagner, "Bias Estimates in Lieu of Validation of Fission Products and Minor Actinides in MCNP k_{eff} Calculations for PWR Burnup Credit Casks," NUREG/CR-7205 (ORNL/TM-2012/544), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2015).

B.T. Rearden, L.M. Petrie, D.E. Peplow, K.B. Bekar, D. Wiarda, C. Celik, C.M. Perfetti, A.M. Ibrahim, S.W.D. Hart, M.E. Dunn, and W.J. Marshall, "Monte Carlo Capabilities of the SCALE Code System," *Annals of Nucl. Energy* **82**, 130-141 (2015).

V. Sobes, B.T. Rearden, D.E. Mueller, W.J. Marshall, J.M. Scaglione, and M.E. Dunn, "Upper Subcritical Limit Calculations with Correlated Integral Experiments," *Trans. Am. Nucl. Soc.* **112**, 467-470 (2015).

J.M. Scaglione, G. Radulescu, W.J. Marshall, and K.R. Robb, "A Quantitative Impact Assessment of Hypothetical Spent Fuel Reconfiguration in Spent Fuel Storage Casks and Transportation Packages," NUREG/CR-7203 (ORNL/TM-2013/92), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2015).

W.J. Marshall, B.J. Ade, S.M. Bowman, I.C. Gauld, G. Ilas, U. Mertyurek, and G. Radulescu, "Technical Basis for Peak Reactivity Burnup Credit for BWR Spent Nuclear Fuel in Storage and Transportation Systems," NUREG/CR-7194 (ORNL/TM-2014/240), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2015).

M.L. Williams, D. Wiarda, G. Ilas, W.J. Marshall, B.T. Rearden, "Covariance Applications in Criticality Safety, Light Water Reactor Analysis, and Spent Fuel Characterization," Nucl. Data Sheets, **123**, 92 – 96 (2015).

W.J. Marshall and B.T. Rearden, "Determination of Experimental Correlations Using the Sampler Sequence Within SCALE 6.2," *Trans. Am. Nucl. Soc*. **111**, 867-870 (2014).

W.J. Marshall and S.M. Bowman, "Validation of k_{eff} Calculations for Boiling-Water Reactor Fuel at Peak Reactivity in Transportation and Storage Casks," *Trans. Am. Nucl. Soc*. **111**, 883-886 (2014).

W.J. Marshall, B.J. Ade, and S.M. Bowman, "Evaluation of Peak Reactivity Analysis of Boiling-Water Reactor Fuel in Storage and Transportation Casks," *Trans. Am. Nucl. Soc*. **111**, 875-878 (2014).

PUBLICATIONS (continued)

E.L. Jones, G.I. Maldonado and W.J. Marshall, "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/B-VII.0 Libraries," *Trans. Am. Nucl. Soc*. **111**, 857-860 (2014).

J.M. Scaglione, G. Radulescu, K.R. Robb, and W.J. Marshall, "Consequence Assessment of Fuel Reconfiguration for Dry Storage and Transportation Packages," *Trans. Am. Nucl. Soc*. **111**, 330-333 (2014).

W.J. Marshall, S. Croft, I.C. Gauld, J. Hu, C.E. Romano, and A. Worrall, "Special Nuclear Material Inventory Processes at US Domestic Power Plants," *55th Annual Meeting of the Institute of Nuclear Materials Management*, Atlanta, GA (2014).

M.L. Williams, G. Ilas, W.J. Marshall, and B.T. Rearden, "Applications of Nuclear Data Covariances to Criticality Safety and Spent Fuel Characterization," Nucl. Data Sheets, **118**, 341 – 345 (2014).

W.J. Marshall and J.C. Wagner, "Additional Studies of the Criticality Safety of Failed Used Nuclear Fuel," Packaging, Transport, Storage and Security of Radioactive Materials, **25**(1), 1 – 7 (2014).

W.J. Marshall, D. Wiarda, C. Celik, B.T. Rearden and D.R. Wentz, "Validation of Criticality Safety Calculations with SCALE 6.2," *Proceedings of NCSD 2013: Criticality Safety in the Modern Era – Raising the Bar*, Wilmington, NC (2013).

W.J. Marshall and B.T. Rearden, "The SCALE Verified Archived Library of Inputs and Data – VALID," *Proceedings of NCSD 2013: Criticality Safety in the Modern Era – Raising the Bar*, Wilmington, NC (2013).

W.J. Marshall and J.C. Wagner, "Additional Studies of the Criticality Safety of Failed Used Nuclear Fuel," *Proceedings of the 17th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2013)*, San Francisco, CA (2013).

J.M. Scaglione, G. Radulescu, K.R. Robb, W.J. Marshall, J.C. Wagner, M. Flanagan, M. Aissa, Z. Li, "Consequence Analysis of Spent Nuclear Fuel Reconfiguration Scenarios," *Proceedings of the 17th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2013)*, San Francisco, CA (2013).

J.M. Scaglione, K.R. Robb, R.A. Lefebvre, D. Ilas, G. Radulescu, W.J. Marshall, J.C. Wagner, H.E. Adkins, T.E. Michener, D. Vinson, "Integrated Data and Analysis System for Commercial Used Nuclear Fuel Safety Assessments," *Proceedings of the 17th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2013)*, San Francisco, CA (2013).

W.J. Marshall and J.C. Wagner, "Consequences of Used Nuclear Fuel Failure on Criticality Safety," *Proceedings of International High-Level Radioactive Waste Management*, Albuquerque, NM (2013).

M.L. Williams, G. Ilas, W.J. Marshall, and B.T. Rearden, "Applications of Nuclear Data Covariances to Criticality Safety and Spent Fuel Characterization," *Proceedings of the International Conference on Nuclear Data for Science and Technology*, New York, NY (2013).

W.J. Marshall and B.T. Rearden, *Criticality Safety Validation of SCALE 6.1*, ORNL/TM-2011/450 (Revised), Oak Ridge, TN (2013).

PUBLICATIONS (continued)

D.E. Mueller, S.M. Bowman, W.J. Marshall, and J.M. Scaglione, *Review and Prioritization of Technical Issues Related to Burnup Credit for BWR Fuel*, NUREG/CR-7158 (ORNL/TM-2012/261), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2013).

W.J. Marshall and J.C. Wagner, "Impact of Fuel Failure on Criticality Safety of Used Nuclear Fuel," *Proceedings of PSAM11*, Helsinki, Finland (2012).

W.J. Marshall and B.T. Rearden, "Criticality Safety Validation of SCALE 6.1 with ENDF/B-VII.0 Libraries," *Trans. Am. Nucl. Soc*. **106**, 456-460 (2012).

B.T. Rearden and W.J. Marshall, "Examination of Validation Outlier Cases Using the Sensitivity and Uncertainty Analysis Tools of SCALE 6.1," *Trans. Am. Nucl. Soc*. **106**, 461-464 (2012).

J.M. Scaglione, D.E. Mueller, J.C. Wagner, and W.J. Marshall, *An Approach for Validating Actinide and Fission Product Burnup Credit Criticality Safety Analyses-Criticality (k_{eff}) Predictions*, NUREG/CR-7109 (ORNL/TM-2011/514), prepared for the U.S. Nuclear Regulatory Commission by Oak Ridge National Laboratory, Oak Ridge, TN (2012).

V.N. Kucukboyaci and B. J. Marshall, "Spent Fuel Pool Storage Calculations Using the ISOCRIT Burnup Credit Tool," *Annals of Nucl. Energy* **39**(1), 9-14 (2012).

B.T. Rearden, D.A. Reed, R.A. Lefebvre, D.E. Mueller, and W.J. Marshall, "Scale/TSUNAMI Sensitivity Data for ICSBEP Evaluations," in *Proceedings of ICNC 2011*, Edinburgh, Scotland (2011).

V.N. Kucukboyaci and W.J. Marshall, "ISOCRIT: A Burnup Credit Tool for Spent Fuel Pool Storage Calculations," *Proc. PHYSOR 2010*, Pittsburgh, PA (2010).

V.N. Kucukboyaci, W.J. Marshall, and M.G. Anness, "Criticality Calculations Supporting PWR Spent Fuel Pool Activities," *Trans. Am. Nucl. Soc*. **97**, 161-163 (2007).

R.E. Pevey, L.F. Miller, W.J. Marshall, L.W. Townsend, and B. Alvord, "Coarse-Mesh Adjoint Biasing of a Monte Carlo Dose Calculation," *J. ASTM International* **3**(7) (2006).

R. Pevey, L.F. Miller, B.J. Marshall, L.W. Townsend, and B. Alvord, "Shielding for a Cyclotron Used for Medical Isotope Production in China," *Radiat. Prot. Dosim*. **115,** 415-419 (2005).

R. Pevey, L.F. Miller, B.J. Marshall, L.W. Townsend, and B. Alvord, "Efficacy of Three-Dimensional Adjoint Biasing for a Cyclotron used for Medical Isotope Production in China," in *Proceedings of the 12th International Symposium on Reactor Dosimetry*, Gatlinburg, TN, (2005).

B.J. Marshall and L.F. Miller, "Power Distribution Calculations for Various Tantalum Loadings in the HFIR Control Blades," in *Tran. Am. Nucl. Soc.* **84**, 215-216 (2001).

H.T. Hunter, J. L. Parsons, W.J. Marshall, E. Sartori, and I. Kodeli, "Shielding Experimental Benchmark Storage, Retrieval, and Display System," *J. Nucl. Sci. and Tech.* **37:Sup 1**, 61-67 (2000).

H.T. Hunter, C.O. Slater, L.B. Holland, G. Tracz, W.J. Marshall, and J.L. Parsons, "Shielding Benchmark Computational Analysis," *Proceedings of Radiation Protection for Our National Priorities*, 240-247 (2000).

PUBLICATIONS (continued)

H.T. Hunter, J.L. Parsons, W.J. Marshall, E. Sartori, and I. Kodeli, “Shielding Experimental Benchmark Storage, Retrieval, and Display System,” *Proceedings of ICRS-9*, Ibaraki, Japan (1999).