

## Daniel F. Hollenbach

### Publications

#### 1991

D. F. Hollenbach, W. Newmeyer, B. Basoglu, H. L. Dodds, N. F. Landers, and L. M. Petrie, “Vectorization of the KENO V.a Criticality Safety Code,” *Trans. Am. Nucl. Soc.* **64**, 348–49 (1991).

W. D. Newmeyer, B. Basoglu, D. F. Hollenbach, and H. L. Dodds, “Analysis of a Hypothetical Criticality Accident Involving Dry Highly Enriched Uranium Powder,” *Trans. Am. Nucl. Soc.* **64**, 344 (1991).

D. F. Hollenbach, K. H. Reynolds, H. L. Dodds, N. F. Landers, and L. M. Petrie, “An Improved Method for Storing and Retrieving Tabulated Data in a Scalar Monte Carlo Code,” *Trans. Am. Nucl. Soc.* **61**, 191 (1991).

K. H. Reynolds, D. A. Tollefson, D. F. Hollenbach, and H. L. Dodds, “Criticality Safety Studies of a Proposed Uranium-Zirconium Alloy Fuel Fabrication Facility,” *Trans. Am. Nucl. Soc.* **61**, 185 (1991).

#### 1992

D. F. Hollenbach, H. L. Dodds, and L. M. Petrie, “Improvements in the Vectorization of the KENO V.a Criticality Safety Code,” in *Proc. American Nuclear Society 1992 Annual Meeting*, Boston, MA, June 7–12, 1992. *Trans. Am. Nucl. Soc.* **65**, 241–42 (1992).

C. F. Haught, B. Basoglu, R. W. Brewer, D. F. Hollenbach, A. D. Wilkinson, H. L. Dodds, and D. D'Aquila, “Criticality Safety Analysis and Design Modifications of a Calciner Exit Chute,” in *Proc. American Nuclear Society 1992 Annual Meeting*, Boston, MA, June 7–12, 1992. *Trans. Am. Nucl. Soc.* **65**, 243 (1992).

R. W. Brewer, B. Basoglu, C. F. Haught, D. F. Hollenbach, A. D. Wilkinson, H. L. Dodds, and J. C. Ingram, “Excursion Analysis of a Hypothetical Array Criticality Accident Involving Units of Aqueous Uranyl Fluoride,” in *Proc. American Nuclear Society 1992 Annual Meeting*, Boston, MA, June 7–12, 1992. *Trans. Am. Nucl. Soc.* **65**, 247 (1992).

B. Basoglu, R. W. Brewer, C. F. Haught, D. F. Hollenbach, A. D. Wilkinson, H. L. Dodds, and P. F. Pasqua, "Analysis of a Hypothetical Criticality Accident Involving Damp, Low-Enriched UO<sub>2</sub> Powder," in *Proc. American Nuclear Society 1992 Annual Meeting*, Boston, MA, June 7–12, 1992. *Trans. Am. Nucl. Soc.* **65**, 248 (1992).

## 1993

D. F. Hollenbach, L. M. Petrie, and N. F. Landers, "KENO VI: A Monte Carlo Criticality Program with Generalized Quadratic Geometry," pp. 58–63 in *Proc. Top. Meet. on Physics and Methods in Criticality Safety*, September 19–23, 1993, Nashville, TN (1993).

## 1994

D. F. Hollenbach, N. F. Landers, and L. M. Petrie, "KENO Developments," LA-13277-C, p. 103–104, *Proc. of the Nuclear Criticality Technology Safety Project*, May 10–11, 1994, Williamsburg, VA (1994).

D. F. Hollenbach, L. M. Petrie, and H. L. Dodds, "Vectorization Methods Development for a New Version of the KENO V.a Criticality Safety Code," *Nucl. Sci. Eng.* **116**(3), 147–164 (1994).

D. F. Hollenbach and C. M. Hopper, "Criticality Safety Study of the MSRE Fuel Drain Tank Cell," in *Proc. American Nuclear Society 1994 Annual Meeting and the 11<sup>th</sup> Topical Meeting on The Technology of Fusion Energy*, June 19–23, 1994, New Orleans, LA. *Trans. Am. Nucl. Soc.* **70**, 213–215 (1994).

D. F. Hollenbach and C. M. Hopper, *Criticality Safety Study of the MSRE Fuel Drain Tank Cell in Building 7503*, ORNL/TM-12642, Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, January 1994.

C. F. Haught, B. Basoglu, R. W. Brewer, D. F. Hollenbach, A. D. Wilkinson, H. L. Dodds, and R. L. Oxenham, "Criticality Safety Analysis of a Calciner Exit Chute," *Nucl. Technol.* **105**, 3 (1994).

B. Basoglu, R. W. Brewer, C. F. Haught, D. F. Hollenbach, A. D. Wilkinson, H. L. Dodds, and P. F. Pasqua, "Simulation of Hypothetical Criticality Accidents Involving Homogeneous Damp Low-Enriched UO<sub>2</sub> Powder Systems," *Nucl. Technol.* **105**, 14 (1994).

## 1995

D. F. Hollenbach, S. M. Bowman, L. M. Petrie, and C. V. Parks, “New Enhancements to SCALE for Criticality Safety Analysis,” in *Proc. of Fifth International Conference on Nuclear Criticality Safety, ICNC’95*, September 17–21, 1995, Albuquerque, NM (1995).

D. F. Hollenbach and L. M. Petrie, “Assurances Associated with Monte Carlo Code Results,” presented at *Nuclear Criticality Technology and Safety Project Embedded Topical Meeting*, May 17, 1995, San Diego, CA (1995).

D. F. Hollenbach, “New Enhancements to SCALE for Criticality Safety Analysis,” in *Proc. of 5th Int. Conf. on Nuclear Criticality Safety, ICNC’95*, September 17–21, 1995, Albuquerque, NM (1995).

C. M. Hopper, W. C. Jordan, and D. F. Hollenbach, “Calculated Neutron Spectra for Heterogeneous U(93) and CH<sub>2</sub> Critical Assemblies,” in *Proc. of American Nuclear Society 1995 Winter Meeting*, October 29–November 2, 1995, San Francisco, CA. *Trans. Am. Nucl. Soc.* **73**, 220–222 (1995).

D. F. Hollenbach, L. M. Petrie, and N. F. Landers, “KENO-VI: A General Quadratic Version of the KENO Program,” Sect. F17 of *SCALE: A Modular Code System for Performing Standardized Computer Analyses for Licensing Evaluation, Vols. I-III*, NUREG/CR-0200, Rev. 4 (ORNL/NUREG/CSD-2/R4), April 1995. Available from Radiation Shielding Information Center as CCC-545.

D. F. Hollenbach and L. M. Petrie, “CSAS6: Control Module for Enhanced Criticality Safety Analysis with KENO VI,” Sect. C6 of *SCALE: A Modular Code System for Performing Standardized Computer Analyses for Licensing Evaluation, Vols. I-III*, NUREG/CR-0200, Rev. 4 (ORNL/NUREG/CSD-2/R4), April 1995. Available from Radiation Shielding Information Center as CCC-545.

B. Basoglu, C. Bentley, M. Dunn, S. Goluoglu, L. Paschal, H. Dodds, and D. Hollenbach, “Evaluation of Several Parallel Algorithms for KENO V.a,” in *Proc. of American Nuclear Society 1995 Winter Meeting*, October 29–November 2, 1995, San Francisco, CA. *Trans. Am. Nucl. Soc.* **73**, 183–184 (1995).

## 1996

D. F. Hollenbach and C. M. Hopper, *Criticality Safety Study of the MSRE Auxiliary Charcoal Bed*, ORNL/M-5450, Lockheed Martin Energy Systems, Inc., Oak Ridge National Laboratory, September 1996.

## 1997

D. F. Hollenbach and C. M. Hopper, “Criticality Safety Considerations for MSRE Fuel Drain Tank Uranium Aggregation,” pp. 23–30 in *Proc. of the Topical Meeting on Criticality Safety Challenges in the Next Decade*, September 7–12, 1997, Chelan, WA (1997).

S. M. Bowman, B. L. Broadhead, D. F. Hollenbach, and L. M. Petrie, Jr., *Joint Report of Foreign Travel to Rez (near Prague), Czech Republic*, ORNL/FTR-6399, Lockheed Martin Energy Research Corp., Oak Ridge National Laboratory, October 9–18, 1997 (November 12, 1997).

## 1998

D. F. Hollenbach and L. M. Petrie, “Assurances Associated with Monte Carlo Code Results,” LA-13439-C, pp. 71–73 in *Proc. of the Nuclear Criticality Technology Safety Workshop*, May 16–17, 1995, San Diego, CA (April 1998).

D. F. Hollenbach and L. M. Petrie, “Comparison of the CENTRM Resonance Processor to the NITAWL Resonance Processor in SCALE,” June 7–11, 1998, Nashville, TN. *Trans. Am. Nucl. Soc.*, **78**, 158 (June 1998).

## 1999

D. F. Hollenbach and W. C. Jordan, “An Analysis of the HEU-MET-FAST-035 Problem Using CENTRM and SCALE,” pp. 828–834 in *Proc. of ICNC'99, Sixth International Conference on Nuclear Criticality Safety*, Vol. II, Palais des Congrès, Versailles, FRANCE, September 20–24, 1999. [Paper]

D. F. Hollenbach and B. L. Broadhead, *Joint Report of Foreign Travel to Paris, France, September 17–25, 1999*, XA 108390, XA 108019, Lockheed Martin Energy Research Corp., Oak Ridge National Laboratory (October 1999).

M. E. Dunn, N. M. Greene, and D. F. Hollenbach, “Development and Testing of a New AMPX Cross Section Processing System for Criticality Safety Applications,” in *Proc. American Nuclear Society 1999 Winter Meeting and Embedded Topical Meetings*, November 14–18, 1999, Long Beach, CA. *Trans. Am. Nucl. Soc.*, **81**, 160–161 (1999).

## 2000

D. F. Hollenbach and P. B. Fox, *Neutronics Benchmarks of Mixed-Oxide Fuels using the SCALE/CENTRM Sequence*, ORNL/TM-1999/299, Lockheed Martin Energy Research Corp., Oak Ridge National Laboratory, February 2000.

D. F. Hollenbach and S. M. Bowman, *Joint Report of Foreign Travel to Paris, France*, May 10–20, 2000, XA 119910 and XA 120254, UT-Battelle, LLC, Oak Ridge National Laboratory (May 25, 2000).

Margaret B. Emmett and D. F. Hollenbach, “Current Status of the Oak Ridge Monte Carlo Codes: MORSE/SAS4 and KENO,” in *Proc. of Monte Carlo 2000 – Advanced Monte Carlo Radiation Physics, Particle Transport Simulation Applications*, October 23–26, 2000, Lisbon, Portugal. [Paper]

## 2001

C. M. Hopper, L. M. Petrie, and D. F. Hollenbach, *Results and Interpretations for Establishing Criticality Indexes for Material Handling and Storage Configurations*, ORNL/CF-01/28, UT-Battelle, LLC, Oak Ridge National Laboratory, May 2001 (Letter Report to M. Brady Raap).

D. F. Hollenbach, “Benchmark Analysis of the MIX-COMP-THERM-02 Experiments Using the SCALE/CENTRM Sequence,” *Trans. Am. Nucl. Soc.* **84**, 278–279 (June 2001).

D. F. Hollenbach and J. M. Herndon, “Deep-Earth Reactor: Nuclear Fission, Helium, and the Geomagnetic Field,” *PNAS* **98**, 11085–11090 (September 25, 2001).

D. F. Hollenbach, L. M. Petrie, P. B. Fox, and K. R. Elam, “SCALE 5: New Cross-Section Processing Features and Capabilities,” 35390.pdf in *Proc. of 2001 ANS Embedded Topical Meeting on Practical Implementation of Nuclear Criticality Safety*, November 11–15, 2001, Reno, NV. [ANS Order No.: 700284; ISBN: 0-89448-659-4]

## 2002

D. F. Hollenbach and I. C. Gauld, *Joint Report of Foreign Travel to Mexico City, Mexico, January 26–February 2, 2002*, TA#153803 & TA#153802, February 2002.

J. M. Herndon and D. F. Hollenbach, “Foundations of Nuclear Geophysics,” in *Proc. of 2002 Spring American Geophysical Union Meeting*, May 28–31, 2002, Washington, D.C. (2002).

S. M. Bowman, D. F. Hollenbach, M. D. DeHart, B. T. Rearden, I. C. Gauld and S. Goluoglu, "An Overview of What's New in SCALE 5," in *Proc. of American Nuclear Society 2002 Winter Meeting "Building the World Nuclear Community -- Strategies for the Deployment of New Nuclear Technologies*, November 17–21, 2002, Washington, DC. *Trans. Am. Nucl. Soc.* **87**, 265–268 (2002).

D. F. Hollenbach, L. M. Petrie, B. T. Rearden, and S. M. Bowman, "KENO Postprocessor Analysis and Plotting Capabilities," in *Proc. of American Nuclear Society 2002 Winter Meeting "Building the World Nuclear Community -- Strategies for the Deployment of New Nuclear Technologies"*, November 17–21, 2002, Washington, DC. *Trans. Am. Nucl. Soc.* **87**, 270–272 (2002).

## **2003**

D. F. Hollenbach, *Report of Foreign Travel to Port Hope, Ontario, Canada, March 30–April 5, 2003*, TA#168308, May 5, 2003.

S. M. Bowman, D. F. Hollenbach, M. D. DeHart, B. T. Rearden, I. C. Gauld, and S. Goluoglu, "SCALE 5: Powerful New Criticality Safety Analysis Tools," pp. 447-453 in *Proc. of The 7<sup>th</sup> International Conference on Nuclear Criticality Safety (ICNC2003)*", October 20-24, 2003, Tokai-mura, Japan.