

CECIL V. PARKS

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EDUCATION

- 1985** Ph.D in Nuclear Engineering, University of Tennessee. Dissertation: “Adjoint-Based Sensitivity Analysis for Reactor Safety Applications.”
- 1978** M.S. in Nuclear Engineering, N. C. State University. Thesis: “Computer Experiments on Radiation Damage in Niobium,” ERDA Fellow.
- 1976** B. S. in Nuclear Engineering, N. C. State University.
- 1976** B. S. in Mechanical Engineering, N. C. State University.

SIGNIFICANT ACCOMPLISHMENTS at ORNL (1978 - Present)

- 2000 - present** Group Leader, Nuclear Analysis Methods and Applications Group
Nuclear Science and Technology Division
- 1987 - 2000** Group Leader, Reactor and Fuel Cycle Analysis, Nuclear Engineering Applications Section,
Computational Physics and Engineering Division.
- 1980 - 1995** Project Leader for maintenance and development of the SCALE code system used worldwide for evaluation of criticality safety, radiation shielding, heat transfer, and source characterization for nuclear facilities and transport/storage packages. Initiated training programs for national and international user community.
- 1987-present** Project Leader for numerous DOE and NRC projects related to code development and analysis research related to transport, storage, and disposal of fresh and irradiated nuclear fuel and high level waste. Areas of application have included burnup credit, methods and approach for code validation, use of MOX fuel, and methods for characterization of spent nuclear fuel.
- 1991 - present** United States participant in OECD Nuclear Energy Agency Working Group on Burnup Credit Benchmarks. Consulted on problem formulation, guided technical analysis effort at ORNL, attended meetings in 1991, 1993, 1996, 1998, and 1999.
- 1992 - 1997** Consultant and US delegate to the IAEA on criticality issues related to the 1996 Revision of the IAEA Regulations on Transport of Radioactive Material (ST-1). Secretary of IAEA Revision Panel Working Groups on Criticality Safety. Participant in all related consultancies. Prepared and organized regulatory text and advisory material for 1996 Edition. Lead author of advisory material for criticality safety.
- 1994 - 1995** Author of criticality safety chapter for Handbook on Transport Package Design developed for US Department of Energy (DOE). Co-author of chapter on shielding analysis.
- 1996 - present** Editorial Board Member for the International Journal of Radioactive Materials Transport

- 1995** Invited speaker and panel member at First International Symposium on Engineering Safety of Nuclear Fuel Cycle Facilities in Japan.
- 1983 - present** Consultant to DOE on special projects related to criticality safety, radiation protection, and source characterization analyses: 1) evaluation of packages for transport of spent fuel from West Valley, 2) assessment of shielding and source term codes for use in DOE safety analyses, 3) member of DOE Technical Code Coordinating Group, 1986-1988, 4) member of DOE committee on Spent Fuel Characteristics Data Base, 1993-1994, 5) formal peer reviewer for evaluation of unresolved criticality safety issue at West Valley, and 6) annual presenter of current criticality safety issues at DOE Packaging Certification Workshop.
- 1989 - present** Consultant to NRC in area of nuclear safety evaluation for transport and storage packages. Responsible for: 1) preparation of guidance for criticality safety evaluation of transport packages; 2) resolution of criticality safety validation issues; 3) training of NRC transportation branch staff in criticality safety, shielding, and source term evaluation methods; 4) NRC-requested training of regulatory staff in Ukraine; and 5) assessment and recommendations for US regulations on fissile material general licenses and exemptions.
- 1992 - 1999** Responsible for development and leadership of projects to prepare NRC criteria for assurance of criticality safety at low-level waste sites containing fissile material and prepare technical guidance to assist emergency response teams after a criticality accident.
- 1992 - 1994** Responsible for formulation, development, and guidance of joint DOE/EPRI project for validation of shielding analysis for spent fuel storage and transport packages.
- 1987 - 1994** Responsible for formulation, development, and guidance of project to prepare technical basis of NRC Regulatory Guide on Spent Fuel Decay Heat.
- 1986 - 1992** United States representative to International OECD Nuclear Energy Agency Working Group on Shielding Codes and Methods for Transport Packages. Coordinated U.S. analyses and presented technical results at working group meetings.
- 1985 - 1992** Responsible for criticality analyses related to TMI-2 Defueling Project.
- 1978 - 1981** Active in adjoint sensitivity analysis for nonlinear thermal-hydraulic problems associated with reactor safety applications. Task leader for seed money project.
- 1978 - present** Author or co-author of nearly 160 technical papers, ORNL or NRC reports, and journal articles

AWARDS, HONORS, and PROFESSIONAL ACTIVITIES

- 1999** International Committee Chair for 1999 International Conference on Nuclear Criticality
- 1995 - 1998** Secretary, Treasurer, Vice-Chair, and Chair for Nuclear Criticality Safety Division (NCSA) of American Nuclear Society (ANS)
- 1993 - 1995** Program Chair for the NCSA of ANS
- 1993, 1997** Assistant Technical Program Chair for NCSA Topical Meetings
- 1991** Technical Achievement Award for SCALE Project, Martin Marietta Awards Night
- 1976** Outstanding Engineering Senior and Undergraduate Research Award.
- 1976 - Present** Member: American Nuclear Society (ANS), Sigma Xi, Tau Beta Pi, Phi Kappa Phi
- 1988 - Present** Session organizer and chair for technical sessions at national and international conferences.