

Dr. James A. Morman currently holds the position of Lead Principal Nuclear Engineer and Technical Project Coordinator in the Nuclear Science & Engineering Division of Argonne National Laboratory. In this position his responsibilities are divided among nuclear criticality safety for both Argonne and the DOE Nuclear Criticality Safety Program (NCSP), the research reactor conversion program, and the Proliferation Reduction Optimization Program (PRO-X) program, both of which are directed by the NNSA Office of Material Management and Minimization (M3), program. Dr. Morman received a B. S. degree in physics from Benedictine University, an M. S. degree in nuclear physics from Purdue University and a Ph. D. in nuclear physics from Iowa State University, where his thesis research was developing and using a novel technique for measuring nanosecond-scale lifetimes of nuclear levels in fission products. He has been at Argonne since in 1974.

Dr. Morman is a charter member and past Chair of the DOE Criticality Safety Support Group (CSSG). During his membership in the CSSG he has led numerous reviews and responses to tasks from the NCSP manager, including criticality safety reviews of nuclear facilities at Los Alamos National Laboratory, Oak Ridge National Laboratory and the Y-12 National Security Complex. In addition, he had the lead role in the initial development of a series of popular training modules, available on the NCSP web site, for criticality safety engineers. He has been a member of the writing groups for several DOE technical standards including STD-1134-99 STD-1135-99, STD-1158-2010 and STD-3007-2007.

At Argonne, Dr. Morman is a qualified Criticality Safety Engineer, responsible for preparing or reviewing nuclear criticality safety evaluations for fissile material operations in Argonne facilities. He serves as the Criticality Safety Representative for the Nuclear and Waste Management Division, and is a designated subject matter expert on criticality safety for Argonne National Laboratory. He was the past Chair of the Argonne Criticality Safety Committee, past Chair of the Nuclear Facility Safety Committee and past Chair of the Nuclear Safety Committee. He was the recipient of an Argonne Exceptional Performance Award in 1995 and a Pacesetter Award in 2009. He holds two patents based on research at Argonne: "Process Management Using Component Thermal-Hydraulic Function Classes," July 1999; and "Eddy Current Technique for Predicting Burst Pressure," February 2003.

Dr. Morman began his career at Argonne as an experimentalist working at the ZPR-6 and ZPR-9 critical facilities, where he was also a reactor operator and supervisor. His work in the experimental area included the development and installation of a high resolution gamma-ray counting system to process hundreds of activation foils used for reaction rate measurements in critical facilities. In addition, he performed critical mass and small sample reactivity worth measurements and was responsible for program planning, and experiment safety analyses.

Following the closure of the critical facilities, Dr. Morman directed the development, installation and testing of a rapid-response neutron activation system for real-time analysis and feed stream control at an operational coal gasifier plant. He also directed the development of a computed tomography analysis system based on neutron radiography that was used to analyze the results of destructive reactor fuel tests at the TREAT reactor. He has performed numerous safety analyses, probabilistic risk assessments, shielding analyses, and thermal-hydraulic analyses for various reactors and nuclear facilities. In addition to the ongoing criticality safety work, he currently is a project manager for the conversion of foreign research reactors from HEU fuel to LEU fuel. He has successfully led conversion of reactors in Jamaica, China, Ghana and Nigeria and is currently working on two reactor conversions in Japan. In recognition of the Ghana conversion, he was a recipient of the Secretary of Energy Achievement Award in 2018.

Dr. Morman is an active participant in the Nuclear Criticality Safety Division (NCSD) of the American Nuclear Society, serving on the NCSD Education Committee, the Fissionable Material Outside Reactors Subcommittee (ANS-8), and the standards working groups. for ANS-8.1, and ANS-8.26. In 2004 he was recipient of the NCSD Award for Technical Excellence.