

Dr. James A. Morman currently holds the position of Lead Principal Nuclear Engineer and Technical Project Coordinator in the Nuclear Engineering Division of Argonne National Laboratory. In this position his responsibilities are divided among three primary areas - nuclear criticality safety for both Argonne and the DOE Nuclear Criticality Safety Program (NCSP), nuclear materials information organization for the DHS, and research reactor fuel conversion for the NNSA Global Threat Reduction Initiative (GTRI) 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 graduating from ISU 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 has had the lead role in the 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: STD-1134-99 (Review Guide for Criticality Safety Evaluations), STD-1135-99 (Guidance for Nuclear Criticality Safety Engineer Training and Qualification), STD-1158-2010 (Self-Assessment Standard for DOE Contractor Criticality Safety Programs) and STD-3007-2007 (Guidelines for Preparing Criticality Safety Evaluations at DOE Nonreactor Nuclear Facilities).

At Argonne, Dr. Morman is a qualified Criticality Safety Engineer, responsible for preparing or reviewing nuclear criticality safety evaluations for all of the fissile material operations in Argonne facilities, ranging from Hazard Category 2 hot cells to waste packaging and storage buildings. He serves as the Criticality Safety Representative for those divisions at Argonne whose activities involve fissile material. In this role he advises division management on safe operations with fissile materials. Dr. Morman is also the designated subject matter expert on criticality safety for Argonne National Laboratory and the primary trainer for laboratory fissile material handlers. 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 the critical facilities. In addition he performed critical mass and small sample reactivity worth measurements. As part of the work on the critical facilities he was responsible for development of program plans, pre- and post-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, his current projects include the development of databases containing information on radioactive sources and research reactor fuels, and coordinating the GTRI project to convert Miniature Neutron Source Reactors and Slowpoke reactors located around the world to low-enriched uranium fuel for the GTRI-Convert program.

Dr. Morman is an active participant in the Nuclear Criticality Safety Division (NCSD) of the American Nuclear Society, serving on the NCSD Education Committee and several consensus standards working groups. He is a member of the working groups for ANS-8.1, ANS-8.14 and ANS-8.29, and is Chair of the ANS-8.26 working group. In 2004 he was recipient of the NCSD Award for Technical Excellence.