

Dr. Hans Toffer is a consultant in nuclear criticality safety and other nuclear disciplines. In 2006, he retired from the Fluor Company as manager of Criticality and Shielding after a successful career spanning 47 years as an expert in nuclear criticality safety and with 32 years in technical management of criticality safety, shielding, applied physics and reactor physics. Dr. Toffer obtained his Doctorate in Nuclear Engineering from the University of Washington in 1974 (Dissertation: Ultrasonic Holography Through Metal Slabs), a Master of Science degree in Physics from Iowa State University in 1962 (Thesis: Design of Curved Crystal Gamma Ray Spectrometer), and a Bachelor of Science degree in Physics in 1959 from Muhlenberg College, Allentown, PA (Research: Velocity of Sound in Low Pressure Gases).

His work has received extensive recognition. In 2004, he was selected as Fluor Functional Technical Expert in Nuclear Engineering, the highest technical recognition in the Fluor Corporation. Only 12 of 30,000 employees have received this recognition. In 2005, he was awarded the American Nuclear Society Criticality Safety Division Distinguished Service Award and was elected as a Fellow of the American Nuclear Society. He recently received the Department of Energy Career Achievement Award for outstanding accomplishments in the support of DOE objectives.

Dr. Toffer's expertise covers the extent of the nuclear criticality safety discipline. He worked at Hanford (1963-1995) and (1999-2006) and four years at Rocky Flats (1995-1999). His assignments covered the introduction of new computer codes and their verification and validation; preparation of program manuals and other required documentation; performing criticality safety analysis for low enriched uranium fuel cycle components at Hanford, highly enriched uranium configurations for UNC Naval Operations, and plutonium systems at Hanford and Rocky Flats. One set of unique experiments involved the comparison of critical masses for spent and fresh fuel of the same type of N Reactor fuel. The results had a significant impact on controls and limits.

In addition to managing technical organizations in criticality, reactor and applied physics, he has been active in standards development. Dr. Toffer participated in consensus standards writing and is a member of numerous working groups, chairman of American Nuclear Society ANS 8.21 until 2007, "Use of Fixed Neutron Absorbers in the Design of Nuclear Facilities Outside Reactors" working group, and a member of ANS 8 (American Nuclear Society Standards Development Group).

With the shutdown of the Hanford N Reactor in 1987, Dr. Toffer's organization faced a major challenge. His main source of funding had disappeared. Fortunately, he was able to use the skills of his engineers to prepare software quality assurance for the Savannah River Site computer codes. Subsequently, new customers in waste management and tank farms were identified.

Dr. Toffer has participated in internal and external audits and assessments and served on review teams at Los Alamos National Laboratory, Lawrence Livermore National Laboratory, Oak Ridge Y-12 plant, the Savannah River Site and Hanford. During this

process he became familiar with the nuclear criticality safety programs at those facilities.

His contributions to the technical fields have been presented at numerous conferences resulting in 3 best paper awards and printed in over 100 publications. For five years he participated as a lecturer for the Department of Energy on the "Prevention of Significant Nuclear Events and Potential Safety Impacts of New Technologies on the Operation of DOE Nuclear Facilities".

As an active Emeritus Member of the Criticality Safety Support Group he provides advice to the Department of Energy pertaining to nuclear criticality safety implementation and administration. During the last six years he has provided consulting services to TRS- Fluor and the Department of Energy for Nuclear Criticality Safety Program tasks assigned to Hanford. He continues to work on the efforts to revise ANS Standard 8.21. Furthermore, he participated in organizing the highly successful 2009 Nuclear Criticality Safety Division Topical meeting held in Richland, WA. In his spare time, he works on projects for his private business "Tops in Wood".