

Bryan L. Broadhead
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EDUCATION: Ph.D. Nuclear Engineering, University of Tennessee, 1983
M.S. Nuclear Engineering, University of Tennessee, 1979
B.S. Nuclear Engineering, Mississippi State University, 1977

WORK

EXPERIENCE: Employed at Oak Ridge National Laboratory since 1981.

Directed a task that analyzed measured dose rates for five storage cask configurations loaded with PWR spent fuel assemblies. Also, analyzed a number of benchmark shielding experiments to determine the validity of SCALE shielding modules.

Directed research on application of sensitivity and uncertainty analysis techniques to the validation of criticality safety studies.

Presented the shielding portion of many SCALE workshop/training courses in Europe, Japan, and the United States.

Participated in analyses for United States contribution to International OECD NEA Working Group on Shielding Codes and Methods for Transport Casks.

Performed study to investigate the feasibility of applying burnup credit to the transport analysis of Boiling Water Reactor Fuel Elements.

Reviewed the suitability of increasing the maximum enrichments in 2-, 10-, and 14-ton UF₆ cylinders from 4.5 wt% to 5.0 wt%.

Involved in calculations using ORIGEN-S to predict measured burnup and fission product values for a series of 20-25 high actinide capsules irradiated in the Prototype Fast Reactor in Dounreay, Scotland.

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Participated in project to reduce uncertainties in the calculated fluence values in the pressure vessel of operating LWR's by applying a least squares unfolding technique.

Performed Sensitivity/Uncertainty analysis on the free-in-air tissue doses at both Hiroshima and Nagasaki as a part of the Dose Re-evaluation Effort undertaken by the National Academy of Sciences and the Department of Energy.

Performed a series of criticality calculations with XSDRNPM and KENO-V on the degraded core at TMI-2.

Principal analyst for NRC-funded project to characterize radiation source and subsequent radiation dose from potential criticality events.

PUBLICATIONS AVAILABLE UPON REQUEST