

HAND CALCULATION METHODOLOGY AND USE—PANEL

Session Organizer: James C. Bunsen (LANL)

A workshop on hand calculations for those interested in criticality safety will be given at the ANS 2018 Winter Meeting in conclusion to the Nuclear Criticality Safety Division's annual Membership Challenge. Solutions to the challenge and suggested methods on best completing the challenge will be discussed. Hand calculations have been used in the criticality safety profession for years to analyze processes with fissionable material to ensure subcriticality. There are multiple methods of hand calculations to use, with two main categories dependent upon the situation: single unit methods and array methods. Single unit methods include diffusion theory, core density conversions, and buckling. The primary array methods used are surface density, density analog, limiting surface density, and solid angle methods.

Panelists: James Bunsen (*LANL*)
Jerry Hicks (*DOE, retired*)