

The NCSP and the TPR

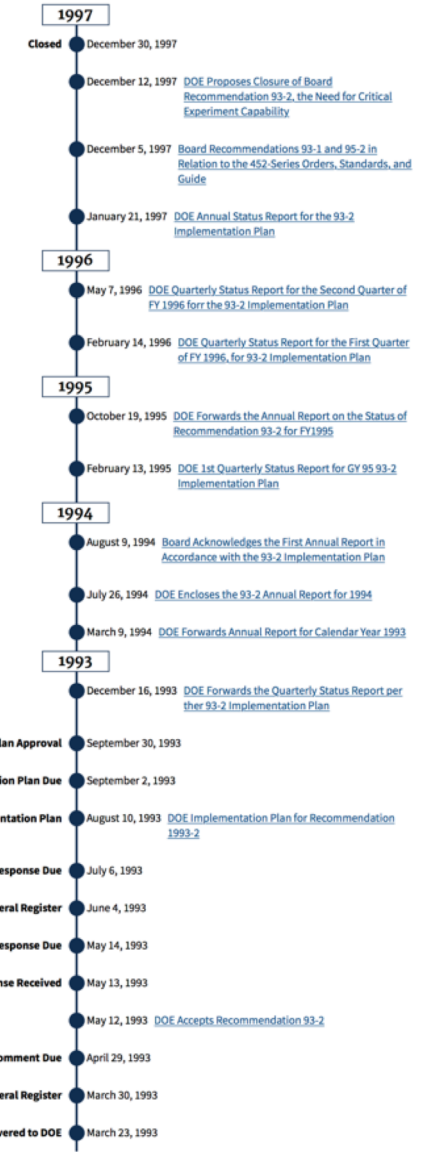
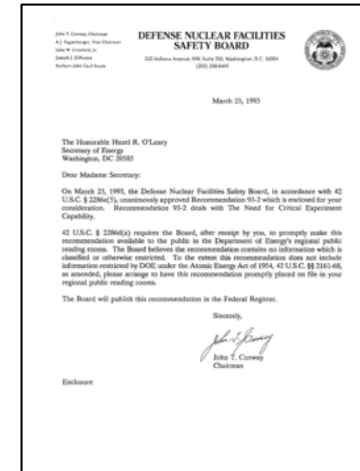
Douglas G. Bowen

NCSP Execution Manager
Oak Ridge National Laboratory

March 26, 2019
2019 NCSP Technical Program Review

Background / History

- Defense Nuclear Facilities Safety Board (DNFSB) Recommendations 93-2 and 97-2:
 - 93-2 (3/23/1993): Need for a general-purpose critical experiment capability that will ensure safety in handling and storage of fissionable material.
 - 97-2 (5/19/1997): Need for improved criticality safety practices and programs to alleviate potential adverse impacts on safety and productivity of DOE operations.
- 97-2 encompassed ongoing DOE activities of 93-2 while broadening scope to address important cross-cutting safety activities needed to ensure NCS throughout the Complex.
- DOE Implementation Plan for Board Recommendation 93-2 and 97-2 resulted in establishment of the US Nuclear Criticality Safety Program (NCSP)



NCSP Organization and Overview

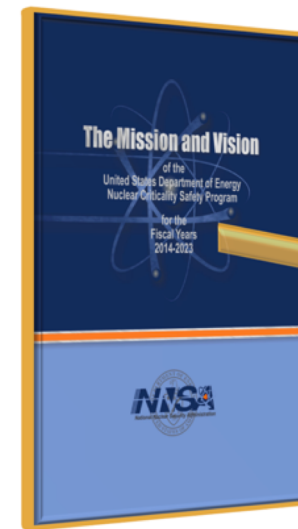
- Mission

- Provide sustainable expert leadership, direction and the technical infrastructure necessary to develop, maintain and disseminate the essential technical tools, training and data required to support safe, efficient fissionable material operations within the Department of Energy.

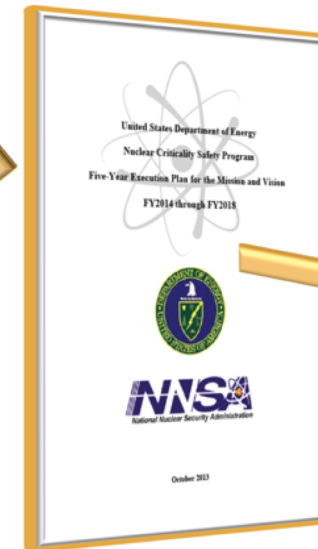
- Vision

- Continually improving, adaptable and transparent program that communicates and collaborates globally to incorporate technology, practices and programs to be responsive to the essential technical needs of those responsible for developing, implementing and maintaining nuclear criticality safety.

10 Year Mission & Vision



5 Year Plan

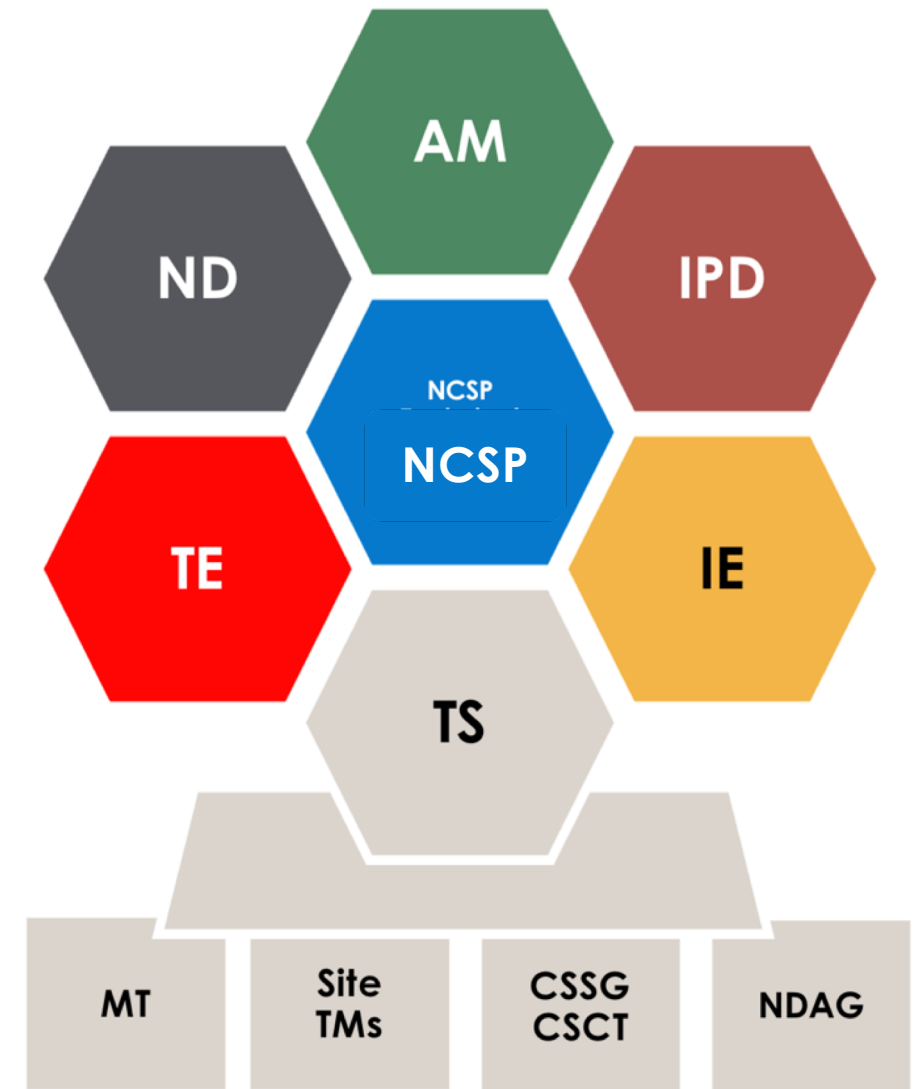


Work Tasks



NCSP Technical Program Elements

- **Analytical Methods (AM) – 15% of budget**
 - Maintain and improve the Production Codes and Methods for Criticality Safety Engineers (MCNP/SCALE, NJOY/AMPX)
- **Nuclear Data (ND) – 13% of budget**
 - Perform Measurements of Basic Nuclear (Neutron) Physics Cross-Sections and Generate New Evaluated Cross-Section Libraries and Covariance Data for Use in Production Criticality Safety Codes
- **Information Preservation and Dissemination (IPD) – 4% of budget**
 - Protects Valuable Analyses and Information Related to Criticality Safety (includes ICSBEP)
- **Integral Experiments (IE) – 52% of budget**
 - Critical and Subcritical Experiments at the Critical Experiments Facility (CEF) at the Device Assembly Facility (DAF) in Nevada and Sandia National Laboratory Pulse Reactor Facility– provides integral tests of codes and data
- **Training and Education (TE) – 6% of budget**
 - Web-based training modules and 1- & 2-week Hands-On Criticality Safety courses for Criticality Safety Engineers, Line Management, and Oversight Personnel



TS – Technical Support
MT – Management team
TMs – Task managers
CSSG – Criticality Safety Support Group
CSCT – Criticality Safety Coordinating Team
NDAG – Nuclear Data Advisory Group

FY2019 NCSP Budget: \$26.8 million

Current NCSP Work Sites



Technical Program Review

- The purpose of the annual Technical Program Review
 - To gather
 - To collaborate and discuss projects in progress
 - AM working group, ND/NDAG meetings, CSSG meeting, and sidebar meetings
 - To visit a different site each year
 - To initiate the NCSP budget process for the next FY
 - Most of all, for tasks in each technical program element:
 - To communicate progress made on NCSP-funded tasks the previous fiscal year (FY2018) and to communicate plans for the current year to the NCSP Manager, Dr. Angela Chambers



2018 Technical Program Review, ORNL