



TECHSOURCE[®]
A Science & Engineering Consultancy

Weapons Knowledge Preservation & Transfer

The National Security Enterprise (NSE) is facing critical shortages in the skills and qualified expertise required to carry out its forecasted weapons mission. The leading factors contributing to the gap between required and available expertise are the attrition of experienced staff with hands-on experience and the increasing demand for knowledgeable weapons experts. This gap must be addressed to enable the NSE to successfully deliver on mission.

Bridging Gaps through Knowledge Preservation & Transfer

The intervals between comprehensive modernization efforts are not optimal to establish an ongoing Weapons Knowledge transfer which has made the stockpile mission exponentially more difficult.

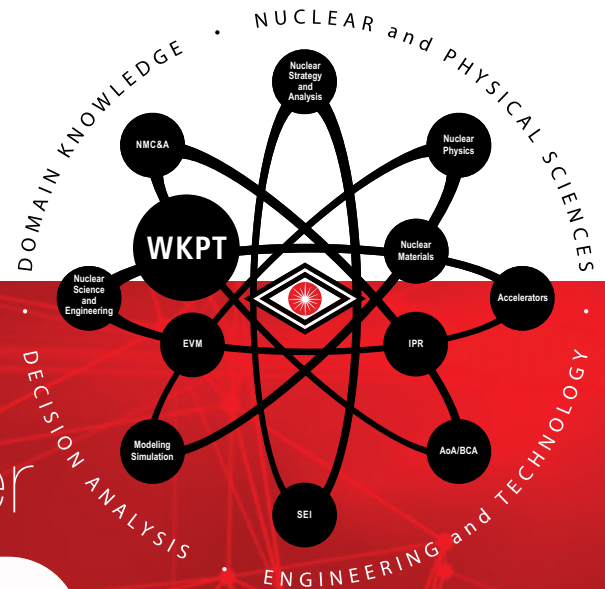
The NSE is facing major challenges that significantly impact its potential to deliver on mission, including:

- Planned Life Extension Programs (LEPs) and new Cap weapons and programs (W93) continue to strain the existing capacity and infrastructure
- Multidecade gap in significant production of pits
- Lack of comprehensive ongoing weapons acquisition from 1992–2013
- Continued loss of experienced staff
- Increased urgency to add and ramp up new staff

The NSE must preserve weapons knowledge across the lifecycle of the system, implement integrated and consistent processes, and directly manage and support the Product Realization Process (PRP) for quality delivery of current and future weapons systems to the DoD

TechSource's Weapons Knowledge Preservation and Transfer (WKPT) solution addresses these challenges by providing a formalized, comprehensive knowledge transfer and mentoring program tailored to the specific needs of each unique NSE organization that:

- Enables early- and mid-career personnel to execute responsibilities more effectively and efficiently
- Supplements existing programs by filling critical knowledge gaps regarding rationale and intent
- Assures currency with requirements and philosophy of operations
- Leverages experiences, lessons learned, and corrective actions, providing deep context for future improvements
- Adapts content for specific audiences, ensuring modules provide unique insight and enable staff to significantly improve mission delivery
- Encourages open, revealing, and vibrant discussion
- Provides extensive materials for future reference use
- Fosters trust and promotes collaboration for future problem solving
- Provides mentoring to ensure participants have access to the experts who trained them



TechSource WKPT Solutions are Key to Preparing the Next Generation of Workers

TechSource provides essential WKPT by offering a mentoring program tailored to the unique needs of organizations within the NSE.

TechSource, in concert with our clients, has created formalized WKPT pathways ensuring that embedded institutional knowledge and experience—derived from ad hoc discussions, informal practices, and lessons learned from long-term service within the NSE—is preserved and transferred in a manner to the workers of the future.

TechSource experts have both experience from decades of hands-on involvement within the NSE and the specific expertise needed to develop and deliver a sustainable, results oriented WKPT solution.

TechSource provides the crucial support our clients need to bridge the gaps in mission critical knowledge and stem the irreplaceable loss of that knowledge.

WKPT modules are currently available and have been presented to 1000+ students from the NNSA, the National Laboratories and Production Agencies, DoD, and other NNSA contractors.

Pre- and post-module assessments indicate an average of 28% overall improvement in knowledge.

Experienced-Based Knowledge Transfer

To achieve experienced-based knowledge transfer, TechSource has captured subject matter experts from DOE, NNSA, Design Labs, and Production sites.

Leveraging this wide range of experience ensures that each module works in concert to provide the critical knowledge production staff and decision makers need to meet mission requirements.

Nuclear Weapons Knowledge Preservation Curriculum

TechSource is continually assessing needs and responding to customer requests. New modules are currently being developed in the areas of pit manufacturing and weapons quality.

WKPT

Modules Currently Available

- Nuclear Security Enterprise: Mission Assignments & Technologies
- Weapons Program & Planning Requirements
- Product Realization Process
- Weapons Quality Assurance
- Weapons Surveillance
- Pantex Weapon Authorization
- Packaging & Transportation Authorization
- Aircraft Compatibility

Under Development

Weapons Knowledge

- Weapons Maintenance*
- Risk & Opportunity

Pit Manufacturing

- Pit Surveillance

Supply Chain

- Supply Chain Risk Management*

Proposed

Weapons Knowledge

- Use Control
- Directive Schedule & Integration
- Warhead Design Requirements & Technology
- Nuclear Certification & System Quality
- Nuclear Enterprise Assurance

Pit Manufacturing

- Actinide Analytical Chemistry
- Actinide Metallurgy
- Foundry Principles
- Manufacturing Conduct of Operations
- Manufacturing Metrology
- Manufacturing System Specification
- Manufacturing Systems Engineering
- Pit Design & Manufacturing Principles
- Process Improvement & Optimization
- Weapons Design & Manufacturing Constraints

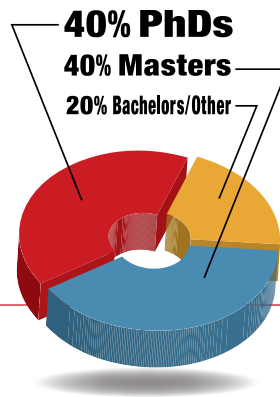
Supply Chain

- Application of Graded Approach
- Calibration & Inspection
- Continuous Improvement
- Delegation of Authority for Stamping
- Manufacturing Quality Control
- Model-Based Product Definition
- WGA Assessments

We're the Go-To Experts for Experts

Science & Engineering Expertise

TechSource is a leading high-technology science and engineering consultancy offering recognized expertise in nuclear and physical sciences, engineering and technology, domain knowledge, and decision analysis.



Complex Management Solutions

TechSource offers technical and management services, from policy to test bench, in coordination with point-of-interest expertise to organizations responsible for developing, implementing, operating, and managing high-technology programs nationwide.

Our Bench

TechSource WKPT experts have decades of experience from across the NSE covering the entirety of the nuclear weapons lifecycle.

Our experts possess the credentials and clearances essential to successfully conduct seminars and mentor staff.

Adaptable delivery allows any module to be conducted remotely as a live video presentation, in person at our facilities, or at your site.

Contact

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*Piloting Phase