



## Y-12 Lithium Disposition and Storage Optimization

Pro2Serve provided manufacturing subject matter experts (SMEs) to assist BWXT Y-12 in the development of a comprehensive plan for the storage and disposition of lithium for the Nuclear Weapons Complex (NWC) through the year 2025. This plan addresses (1) the determination of lithium storage and disposition requirements considering NWC stockpile needs, strategic reserves, and excess material, (2) material processing needs and/or technological approaches to accommodate storage and/or disposition requirements, and (3) a project plan, including schedule and preliminary costs, for accomplishing and maintaining the plan. Emphasis was placed upon seeking technical solutions to storage and processing issues and upon developing alternative solutions for evaluation and selection. Pro2Serve's evaluation of lithium storage and disposition included the following activities:

- Pro2Serve surveyed existing documents, including stockpile life extension program requirements, to determine the inventory of enriched lithium material and the strategic reserves and storage requirements through 2025.
- Pro2Serve developed a flow chart for the disposition and storage of lithium that considered material form, material contamination, classification, storage methodology, and disposition of excess material.
- Pro2Serve developed or clarified the storage requirements for each material form to assure that safety, security, classification, contamination, and material preservation issues are properly considered in the plan.
- Pro2Serve developed and evaluated the storage alternative that should be considered in the development of the long-term storage plan.
- Pro2Serve developed the facility requirements for the long-term storage needs for the preferred alternatives. This determination included the technical requirements for the facility as well as the capacity requirements.
- Pro2Serve developed a position paper for a long-term technology-based plan that considered:
  - a. Facility and equipment requirements
  - b. Material form and the processing required to achieve that form
  - c. Capital needs for processing and storage facilities
  - d. Operation and maintenance plan for storage
  - e. Cost and schedule for implementing the plan

