

Savannah River Nuclear Solutions: Celebrating a decade of success

SUBMITTED ARTICLE

Savannah River Nuclear Solutions (SRNS) has been making the world safer as the managing and operating contractor at the Savannah River Site (SRS) since August 2008. Ten years later, SRNS is recognized as a leader in the Department of Energy (DOE) complex in safety and security, environmental cleanup, nuclear materials management, nuclear technology, national defense and nonproliferation.

Safety and security have been fundamental values at SRS for more than 60 years, an important legacy SRNS has preserved. We recently surpassed 15 million safe hours without a lost workday for the second time in the past three years. SRNS has also been recertified as a DOE Voluntary Protection Program (VPP) Star Site three times; was awarded the DOE VPP Star of Excellence for nine consecutive years; and has been the recipient of more than 120 safety awards.

SRNS is similarly committed to protection and cleanup of the environment. During the past decade, SRNS achieved an 85 percent footprint reduction at SRS, including decontaminating and decommissioning 14 radioactively contaminated facilities. This involved insitu-decommissioning of two production reactors, the Heavy Water Components Test Reactor and 16 additional industrial facilities contaminated with hazardous materials, a massive undertaking early in the contract. Additionally, SRNS accelerated transuranic (TRU) waste remediation at SRS, repackaging more than 5,200 cubic meters of legacy TRU waste, the majority of which has been shipped to the Waste Isolation Pilot Plant in New Mexico.

For its efforts, SRNS was recognized as one of three finalists for the Project Management Institute's (PMI) International Project of the Year in 2013 for the SRS Recovery Act Project and more recently, as a finalist for the PMI Project of Excellence in 2018 for the D Area Ash Basin Project.

SRNS has also significantly strengthened nuclear materials management at SRS, including the renewal of H Canyon, the nation's only hardened nuclear chemical processing plant in operation. Today, H Canyon is processing three uranium streams for the first time. HB Line and K Area have been used to repackage plutonium oxide for off-site disposition and SRNS achieved needed vault expansion in K Area for the safe, secure storage for the nation's excess plutonium. L Area Basin modifications have allowed for ongoing receipts of both domestic and foreign research reactor fuels, including a successful campaign to receive spent nuclear fuel from Canada.

As the DOE-Environmental Management National Laboratory, Savannah River National Laboratory (SRNL) applies scientific and technical competencies to help advance the nation's legacy nuclear waste cleanup objectives safely across the DOE Complex. Collaborating with the DOE Office of Legacy Management, SRNL is using its environmental expertise to maintain the safety of DOE sites that have completed their cleanup efforts. During the past decade, SRNL has grown its business portfolio to include many national priorities. Spanning the globe to support the nation's objective to keep nuclear materials out of the hands of rogue organizations, SRNL has led important initiatives in countries including Hungary, Finland, Belgium, Italy, Jamaica, Chile and Japan. SRNL also plays a broad leadership role in ensuring effectiveness of the entire tritium supply chain and has established itself as an emerging leader in national and homeland security.

Tritium Programs (TP) is the national defense mission of SRNS. TP has continued to meet all requirements for loading and shipments of limited-life components in support of national defense over the past decade. SRNS has also performed 13 tritium extrac-



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An instructor assists new employees during a General Employee Training class. Because of improvements made by Workforce Sustainment, onboarding now takes one day as compared to two.



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The beginning of the High Flux Isotope Reactor spent nuclear fuel campaign in H Canyon marked the first time that there have been three different uranium streams feeding H Canyon simultaneously.

tions, providing the nation's only tritium supply; maintained the nuclear stockpile by supplying and testing gas transfer systems; and performed Helium-3 recovery. Significant growth efforts are underway to prepare for increased production in FY19.

Along with these successes, we have managed challenges associated with aging infrastructure. Notable improvements include replacing 60-year old power distribution equipment, upgrading facilities, road repairs and addressing future cyber risks. SRNS has also managed a significant increase in retirement-eligible employees by attracting and retaining talent while keeping pace with attrition to ensure necessary workforce sustainment. Improve-



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SRNL replaced a \$4,000 conventionally machined flow assembly part for its patented Aerosol Contamination Extractor (ACE) with this \$50 3D printed polycarbonate part. The ACE is a portable air sampler used to monitor nuclear threats by collecting microscopic particles for analysis.

ments to onboarding processes and focused efforts to make SRS a compelling place to work along with increased support to STEM (science, technology, engineering and math) initiatives and local programs to promote a steady pipeline of future employees will ensure workforce sustainment for years to come at SRS.

SRNS has also been proactive in saving the government time and money, meeting an impressive 95 percent of project-related contract milestones since 2008. Total actual costs have been 8.9 percent below budgeted costs for 70 projects completed since 2012. The current D Area Ash Risk Reduction Project is forecasted to be complete 16 months early and \$13.1 million under budget.