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For Immediate Release

SRS and LANL Maintain Strong Partnerships Through Knowledge Transfer, Mutual Support Programs

AIKEN, S.C., (September 12, 2023) – In August 2020, the Savannah River Site (SRS) and Los Alamos National Laboratory (LANL), located in Los Alamos, New Mexico, launched the Knowledge Transfer Program (KTP). This marked the first official joint training effort between the two sites, both designated by the National Nuclear Security Administration (NNSA) to produce the plutonium pits needed for restoring the nation's nuclear weapons modernization program capabilities.

As part of NNSA's two-site implementation strategy, the Savannah River Plutonium Processing Facility (SRPPF) at SRS will be required to produce a minimum of 50 war reserve (WR) pits per year (ppy), while LANL will be required to produce 30 WR ppy. A multidisciplinary workforce with a variety of skills is crucial for the startup and operation of SRPPF. SRS has existing training programs in place to prepare employees for future assignments and opportunities within these specific disciplines; however, pit production will require a number of unique and highly specialized skill sets.

"The new production mission at SRS will be a long-term enduring mission and will provide tremendous career opportunities for the workforce," said Jimmy Angelos, Senior Vice President of the Plutonium Modernization Program. Having worked on many line-item projects and established several new programs at SRS, Angelos knows firsthand that "having the opportunity to work on a new mission is an exciting adventure and a rewarding experience."

Since the program's inception, nearly 25 SRS employees have signed up to participate in the KTP, which involves a two-year assignment working in LANL's pit production facility. Upon return to SRS, participants embark on an additional two-year assignment on-site, putting the skills and knowledge they've learned at LANL to use.

According to Lisa Lee, Knowledge Transfer and Engineering Competency Development Manager, the partnership between the two sites is a natural fit, due to LANL's pit production experience. Lee said KTP assignments are intended to provide Savannah River Nuclear Solutions (SRNS) engineers an opportunity for in-depth learning.

“Participants receive specialized training for pit production operations, work closely with experienced pit production subject matter experts and develop a working knowledge of current production requirements, constraints and capabilities,” Lee said. “The KTP has been very successful in its support of the pit production mission. Participants return to SRS throughout their rotations at LANL to present technical information and answer questions in their respective areas of focus. Upon completion of the two-year rotation at LANL, KTP returnees continue to support the SRPPF pit production mission through active participation in various project and program activities including design reviews, equipment development and testing and training and procedure development.”



The first group of SRPPF Knowledge Transfer participants and managers at LANL in 2020

Wallace “Eddie” Brown, Design Authority Engineer in Plutonium Modernization, was one of the first KTP employees from SRS to accept an assignment at LANL in September 2020. “I was working locally when I heard about the program through an acquaintance who was working on-site,” he said. “I was open to new opportunities, and the chance to work with nuclear weapons and support the nation’s security was very appealing.” While Brown was able to develop a deeper understanding of assembly operations through observation and shadowing in the plutonium facility, he says the soft skills he gained are what stood out most. “Relationship building and interpersonal skills were probably more important in this assignment than they had been at any other point in my career. I really honed my ability to communicate effectively, build rapport and use relationships effectively to achieve business goals.”

Adam Schnell, Subassembly Design Authority Engineer in SRPPF's Final Product Design Authority Group, began his assignment at LANL through the KTP in April 2021, seeking a "new adventure and a career accelerant." Schnell said, "Working at LANL gave me firsthand experience in a facility with new hazards and to better understand how those hazards are mitigated. I also learned a lot about the efforts that go into engineering evaluations and meeting product requirements for WR pits and the partnership between a Production Agency and a Design Agency."

SRPPF Electrical Engineer Talbot Westhoff began his rotation at LANL in February 2023. "Given SRPPF needs qualified personnel who understand the process as well as the idiosyncrasies of working with plutonium, getting firsthand experience at LANL will allow me to contribute significantly to the engineering of SRPPF in a multitude of ways," he said. And while Westhoff admits the experience is not without its challenges, he encourages other employees to consider the opportunities it presents. "Plutonium experience is seriously needed for SRPPF to flourish and accomplish the goal it has set for itself. We can only advance our mission and improve our skillsets by working together and learning from each other."

Calvin Smith, Senior Engineer assigned to the SRPPF Project Data Management System Team, echoed Westhoff's advice. "Seize the opportunity," said Smith, who began his assignment at the end of August 2023. "It is a great experience that not many are going to be offered. The people that I have worked with for the move and transition to LANL have been super helpful. Moving can be stressful, but the knowledge and skills you could gain are going to help throughout the rest of your professional career."

Drawing from the skills and experience of both sites, the Mutual Support (MS) Program was established in 2022 to complement and build upon the success of the KTP. Much like the KTP, the MS Program allows participants to gain expertise in key areas of LANL's nuclear operations and also bring back lessons learned from their current pit production mission; however, while the KTP requires a two-year commitment on-site at LANL, MS participants take on assignments through remote work and/or on-site visits via short-term business travel, establishing a mutually beneficial collaboration for both sites.

Both programs were designed as components of the SRNS Plutonium Modernization Program, whose responsibilities include the start-up, commissioning and operations of SRPPF. While the KTP focuses exclusively on Engineering, the MS Program has grown from its original area of focus - Information Technology - to include areas such as Weapons Quality, Training & Procedures, Weapons Technology, 24/7 Operations, Environmental Compliance and Waste Management.

Michael Gilles, Plutonium Modernization Program Management, said having the two production agencies at LANL and SRS working together on issues and operability is vital to achieving NNSA's mission of producing 80 ppy. "We recognized early on the importance of having a mutually beneficial mechanism of having the two sites work together and develop relationships with their counterparts at the other site," Gilles said. "LANL, in the process of converting to 24-hour operations and transitioning to a manufacturing environment, was interested in how we measured performance metrics. We were interested in many of their pit-specific functions and processes. Having SRS personnel work on 'real-life' pit-related processes, establishing those contacts, and the chance to network was all incredibly beneficial."

Tim Brown, Plutonium Modernization Pit Technology Manager, agreed. “The Mutual Support Program allows our employees to work in their field of expertise at other DOE facilities supporting the pit production mission,” Brown said. “This is especially beneficial as we work through the design of SRPPF and establish the programs and processes needed to enable pit production here at SRS. While some of these processes may not yet fully exist here at SRPPF, employees have the opportunity through this program to continue honing their craft and keeping their skills sharp so that when the facility does come online, they will be prepared to execute the mission.”

The MS Program has already begun to grow, expanding recently to include Lawrence Livermore National Lab (LLNL) in Livermore, California. Floyd Stanley, Fellow Scientist, AC/MC Technical, joined the MS Program in January 2023 and continues to participate in efforts at SRS, LANL and LLNL. Stanley said his interface with LANL and LLNL is designed “to drive the long-term success of SRPPF and the larger Complex as a whole.

“For me, this has been a logical outgrowth of previous work experience at a National Lab and a great way to contribute to both our efforts and the community at large,” he said. “I see these efforts as critical to the future success of our capabilities in SRPPF, as well as the growth and training of our personnel as they join the mission. Without these types of interactions, and regular technical exchanges with established community experts, our work becomes significantly harder.”

Encouraging his fellow employees to consider the personal and professional benefits of both programs, Stanley said, “I would strongly recommend participation in mutual support activities, or even the longer-term knowledge transfer efforts, to anyone interested in expanding their skillsets, their professional network or even their cultural knowledge of the plutonium community.”

According to Leo Thompson, SRNS Program Manager for Mutual Support who is stationed at LANL, the biggest advantage of the MS Program involves building relationships and knowledge of the work each site is doing. “Just knowing who your counterpart is - that is super important,” he said. “It’s not often that two sites have the same mission, and this creates opportunities for partnership and opportunities to share resources. Savannah River has a lot of work ahead to develop the capability and techniques to reliably manufacture pits. The partnership is important to the pit mission at Savannah River.”

Established by Congress in 2000, NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science. NNSA maintains and enhances the safety, security, and effectiveness of the U.S. nuclear weapons stockpile; works to reduce the global danger from weapons of mass destruction; provides the U.S. Navy with safe and militarily effective nuclear propulsion; and responds to nuclear and radiological emergencies in the U.S. and abroad.

Savannah River Nuclear Solutions, a Fluor Corporation-led company with Newport News Nuclear, is responsible for the management and operations of the Department of Energy's Savannah River Site, located near Aiken, South Carolina.

SRNS-2023-1317