Plutonium Downblending moves to four-shift glovebox operations at SRS’s K Area

AIKEN, S.C. (July 12, 2021) - K Area Plutonium Downblend work at the Savannah River Site (SRS) has recently moved from two- to four-shift glovebox operations to advance the Department of Energy’s mission of removing plutonium from South Carolina.

“Moving from two- to four-shift glovebox operations increases our Plutonium downblending rates through our existing glovebox,” said Maxwell Smith, K Area Deputy Operations Manager for SRS management and operating contractor Savannah River Nuclear Solutions (SRNS). “Along with the total of 48 operators needed to fill the four shifts, we have put a team of support personnel in place and are managing a pipeline program of 10 employees to fill positions as needed from attrition. Many of those pipeline employees are a part of the Apprenticeship program in place with Aiken Technical College. We are also looking into expanding the Apprenticeship program to other local technical colleges, providing us with more resources to fill our pipeline.”

Moving to four-shifts is just a part of the overall optimization activities in the K Area Complex. Last year, the facility completed an optimization project to add efficiencies to the K Area Interim Surveillance (KIS) glovebox, where downblending is currently occurring. The KIS glovebox is a stainless-steel containment enclosure that is approximately 15 feet long and three feet wide. The glovebox contains safety glass panels and fitted gloveports to allow radioactive materials handling, and isolates workers from associated hazards.
Additionally, construction has recently completed on a storage and shipping pad for interim storage of downblended materials before they are shipped out of South Carolina for permanent disposal.

“The fact that we were able to train employees, prepare, and initiate the additional shifts ahead of schedule was an impressive feat given the COVID-19 pandemic and the associated reduction of on-site staffing and social distancing requirements,” said SRNS K Area Complex Facility Manager Lee Sims. “We attribute much of this success to the veteran operators on staff who have worked diligently to make sure the newer operators are trained, prepared and ready to work safely.”

“We know that just initiating four-shift glovebox operations is not the end of the journey” Smith said. “Continuing training, mentorship and growth of experience are required to ensure the continued safe and successful operation of the program.”

Plutonium Downblend, also referred to as Dilute and Dispose, is the process of mixing plutonium oxide with a multicomponent adulterant to produce a mixture that is more secure (not usable for nuclear weapons). This mixture enables DOE to meet requirements for shipping plutonium to an out-of-state repository for disposition (i.e., the Waste Isolation Pilot Plant in New Mexico).

“Initiating four-shift glovebox operations helps further our nation’s nonproliferation objectives,” said Virginia Kay, Director, Office of Material Disposition, National Nuclear Security Administration. “We are committed to removing excess plutonium from South Carolina by safely disposing of this material, and achieving this milestone is demonstrative of progress toward that objective. We are pleased that SRNS was able to initiate the additional shifts ahead of schedule, even when faced with the challenges presented by the pandemic.”

*Savannah River Nuclear Solutions, a Fluor-led company with Newport News Nuclear and Honeywell, is responsible for the management and operations of the Department of Energy’s Savannah River Site, including the Savannah River National Laboratory, located near Aiken, South Carolina.*

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