

Savannah River Site General Tour Script for Paramilitary Security Services AIPT

Guide visitors on to their bus(s) at The Applied Research Center, discuss any safety and security information that needs to be shared with the visitors before departure, (no electronic recordings, videos or pictures with personal electronic devices are permitted during this tour). Pass out the sign-up sheet. Site Security will check the bus and verify all visitors have their badges and the bus is ready to go. Security will escort the bus(s) to the barricade. Address any additional notification or escort requirements if foreign nationals are on the bus/tour.

- **Formally start tour by introducing self.** Welcome to the Savannah River Site (SRS) Paramilitary Security Services Pre-Solicitation Tour. “My name is _____, I’m with the Savannah River Department of Energy. I will be your primary tour guide and your escort for today. I also have Mr./Ms. _____ on the bus with me to assist with escorting you today. We will be entering the Site soon and escorted by Centerra-SRS, the Site’s security contractor.
- “This tour is scripted for consistency, and no questions will be answered during the tour by me, any escorts, or any persons you may encounter. Exceptions are only for an emergency. In all emergency situations follow your escorts. We will allot time for bathroom breaks along the tour and will stop for lunch at the 766-H Cafeteria.
- If you have any questions, please use the 3x5 cards to jot down questions. Please provide your name/contact information on the first card and name on all subsequent cards you turn in, so we can contact you if we have any questions regarding your requested information. I have extra cards available upon request. The cards will be collected at the end of the tour by me. Responses to those questions that can be addressed will be available in the near-term via the Acquisition website’s Documents Library.
- I would like to now give you a quick safety briefing. During the tour today, we will be boarding and un-boarding the bus, please use the hand rail at all times. This is a driving tour and it is our intention to take you past all our facilities and provide you with an overview of operations and the security mission here at SRS. If you need any assistance during the tour, please don’t hesitate to let me know and I will get you some assistance. Our number one goal today is to keep everyone safe. Thank you!
- This is The Applied Research Center and it is owned by Aiken County and leased by the Savannah River National Laboratory (SRNL), which provides an extra 6,435 square feet of modern laboratory and support space.

- The space houses the National Lab's 24,000 square-foot Hydrogen Technology Research Laboratory, which is used primarily for unclassified research into new gas processing, storage and transfer applications. The facility opened in 2006 and hosts the University of South Carolina at Aiken's research and small technology companies.
- In 2013, the facility was expanded to add six new laboratories to support Savannah River National Laboratory's research on advanced materials in areas such as nuclear energy, energy storage materials and systems, solar energy materials, materials for wind and marine energy systems and carbon dioxide capture.
- Random security patrols are conducted by the PF Security Contractor at the Applied Research Facility and our other off-site facilities. If any, suspicious activity is observed, Aiken County Sheriff's Office (ACSO) is notified by SRS Law Enforcement Dispatch and will respond per the mutual aid agreement to our offsite locations. The PF Security contractor remains on location in a support role until the ACSO resolves the concern

General Information

- Paramilitary Security Services will be commonly referred to throughout the tour as Protective Force (PF) when discussing general security staffing at our various areas on site.

Some history and facts as we make our way to the SRS General Site:

- Geographically, SRS is 310 square miles (or 198,046 acres) and covers parts of Aiken, Allendale and Barnwell Counties. The Site is located 12 miles south of Aiken, 15 miles southeast of Augusta and 160 river miles upstream of the coast. SRS is 1 percent of the land mass of South Carolina.
- The Site began July 25, 1950, when President Truman asked E.I. Du Pont de Nemours to build a facility to produce materials – mainly tritium and plutonium-239 – for nuclear weapons.
- Original Site construction consisted of five production reactors, two chemical separations areas, tritium facilities, a heavy water extraction plant, waste management facilities and administrative and support facilities. At the time, it was the largest individual construction project in United States history – equal to the Panama Canal.
- The entire SRS (formerly known as Savannah River Plant) was up and running in an unprecedented five years, with the first operable production facility completed in 1952 and R Reactor achieving its first criticality by December 1953. SRS eventually produced 36 metric tons of plutonium and most of the country's tritium stockpile.

- Today, the Site stabilizes and disposes of legacy plutonium and uranium materials; receives and manages spent nuclear fuels from research reactors in the United States and around the world; manages and disposes of 35 million gallons of radioactive liquid wastes resulting from 60 years of nuclear operations; produces and recycles tritium for national defense; conducts soil and groundwater remediation; deactivates and decommissions excess facilities and is cleaning up the site area by area.
- Building SRS meant about 6,000 people, 1,500 families, had to be relocated from their homes in six towns and several small communities formerly located on this site: Ellenton, Dunbarton, Meyers Mill, Leigh, Robbins and Hawthorne. The primary industries were agriculture and the Leigh Banana Crate Company.
- Including purchasing the land, the entire site cost just over 1 billion dollars to build. Today, the Site's annual budget is approximately 2 billion dollars.
- This area was chosen for several reasons:
 1. The Savannah River and the quality of its water which was needed to create heavy water for the reactors, cooling water for the reactors and as steam for chemical processing and heating.
 2. The large area of mostly undeveloped land
 3. The climate, which lent itself well to quick construction
 4. A supportive community and the site were at that time beyond the range of Russian bombers.
- SRS is owned by the U.S. Department of Energy and is charged with oversight of many of the facilities, environmental clean-up and site security. The National Nuclear Security Administration (NNSA) has operational oversight of several facilities including Tritium. Other federal agencies are present at the site as well. Site operations, clean-up and security is performed by several contractors. The contractors and agencies include:
 1. Savannah River Nuclear Solutions (SRNS) is responsible for the management and operations (M&O) of the SRS and the Savannah River National Laboratory
 2. Savannah River Remediation (SRR) is responsible for managing and disposing of liquid radioactive waste
 3. Parsons constructed the Salt Waste Processing Facility, which is presently undergoing testing and commissioning for radioactive startup
 4. Centerra presently provides paramilitary security services at SRS.
 5. Ameresco operates our biomass facility which is the largest in the nation.
 6. Savannah River Ecology Laboratory (SREL) is a research unit of the University of Georgia.
 7. Savannah River Archaeological Research Program, operated by the University of South Carolina, deals with the preservation of artifacts, and conducting archaeological digs evidencing land use prior to occupation by the Federal government.
 8. United States Department of Agriculture (USDA) Forest Service manages the Site's natural resources and wildlife.
 9. Natural Resources Conservation Service provides natural resource

management assistance.

10. The U.S. Army Corps of Engineers provides technical support in engineering and construction.

- SRS is one of the top 10 largest employers in South Carolina, with approximately 11,000 employees.
- About 7 out of 10 workers live in South Carolina. Over half of those live in Aiken County. One third of the Site's employees reside in Georgia.

Paramilitary Security Services will be commonly referred to throughout the tour as Protective Force (PF) when discussing general security staffing at our various areas on site.

We will be entering the site through one of our eight Perimeter Protection Barricades (AKA: Barricades), five of which are staffed and operated on a 24/7, 365-day basis. The remaining three barricades are staffed on a reduced hourly basis during the normal work week and are closed on holidays and weekends.

- This is known as Barricade 9. It is operated on a 24/7 basis and is located in A-Area.
- All security badges on entry are inspected visually and by hand to ensure they are valid by either Security Officers (SOs), Security Police Officer I Fixed Post (SPO-FP) or SPO 1 (SPO Is).
- All vehicles undergo visual inspection of the interior and/or truck bed looking for prohibited articles upon entry.
- Full vehicle inspections are conducted on a random basis on entry/exit for privately-owned vehicles (POV's), unless during the visual inspection of the vehicle a prohibited article is observed resulting in a required inspection to be performed.
- All government owned vehicles are inspected on entry.
- SRS Law Enforcement vehicles are inspected on entry, if the vehicle was left unattended while off-site (e.g. LE Officer attending Magistrate Court).
- Full vehicle inspections include a second security badge check, a check of the vehicle operator's driver's license, all compartments, hand-held items, bags, containers, and vehicle undercarriage.
- If issues do arise during the inspection process and cannot be immediately resolved by the SPO conducting the inspection, Law Enforcement (LE) maybe notified and respond, if requested by PPD supervision.
- Depending on the violation, LE may issue a State of South Carolina Traffic Warning or Citation and/or if warranted effect an arrest depending on the violation of state law.
- Any issues identified with the badge during the badge inspection, such as an expired security badge, will result in it being confiscated by the SPO. Access to the site is denied, and the driver is directed to the SRS Badge Office to address the relevant person's badge issue.
- Any compartments that cannot be opened and inspected result in denial of access to the site.
- Also, if a vehicle is deemed in an unsafe condition during inspection, the vehicle will be denied site access and the driver will be issued an SPV and not allowed to operate the vehicle on the site until the unsafe condition is corrected.
- The site implemented the "Site Policy Violation (SPV)" process to dissuade site

- employees from introducing prohibited articles on the SRS.
- If a prohibited item is located during inspection but is not unlawful to possess, an SPV is issued to the driver for the prohibited article. The vehicle is denied access and the driver directed to dispose of or remove it prior to attempting to gain entry to the site.
- On the left just behind us is the Savannah River Ecology Laboratory, operated by the University of Georgia. The lab conducts basic and applied ecological research to assess the environmental impact of operations on the Site.
- The large complex of buildings behind the fence on your right is SRNL. This is the nation's newest national laboratory, officially designated as such in 2004, with a total of 17 National Laboratories in the country.
- SRNL has a staff of more than 900, including many internationally recognized experts. As the research and development laboratory at SRS, SRNL serves DOE and the nation by providing innovative solutions for DOE and other federal agencies across the country and around the world.
- The laboratory was established in 1951 to provide research and development support for the startup operation of site processes and facilities.
- Before it became a national laboratory for DOE's Environmental Management program. From 1992-2004 the lab was formerly called the Savannah River Technology Center (SRTC) which was established to support the government's development and production programs at SRS. As the Site's missions evolved over the decades, new SRNL facilities were added, and existing facilities were renovated, expanded, or closed, to support mission's needs.
- SRNL's Main Laboratory is equipped to safely manage appreciable quantities of radioactive materials in containment hood, glovebox, and shielded cell processing applications.
- In 2006, the DOE Office of Environmental Management (EM) assumed stewardship responsibilities for SRNL. As the EM national laboratory, SRNL has prime responsibility for ensuring DOE's commitment to provide the scientific and technical rigor and innovation needed to mitigate the environmental risk associated with legacy nuclear waste with reduced cost and shortened cleanup schedules.
- The SRNL is a compliance-based protection strategy, and Security Risk Assessments are required to be developed and maintained per DOE Order 470.3C, Design Basis Threat.

Perimeter Protection Department

- SRNL falls under the Perimeter Protection Department and has two Entry Control Facilities (ECFs) and two vehicle access gates. Additionally, random building and vehicle rover patrols are conducted on a 24/7 basis. Law Enforcement and LE Canine (K-9) units augment the protection strategy for SRNL and A-Area.
- The Security Contractor's Perimeter Protection Department (PPD) is principally responsible for staffing barricades, SRNL, A-Area ECFs and roving security patrols in 700-Area, 300-M Area and B-Area.
- The PF across the site are assigned to 4 rotating twelve-hour shifts. On days the PF are augmented Monday through Friday with a dedicated Headquarters relief shift.
- The general site is deemed a Property Protection Area (PPA).

- In addition to our barricades and SRNL, the Perimeter Protection Department is responsible for staffing posts on a rotational basis at various Limited Area pockets in A and B-Area locations within designated buildings, conducting entry inspections of personnel on a random basis.
- In the event of an alarm, the SPO will find the cause of the alarm prior to allowing the person to process through the post. If a prohibited or controlled item is discovered the SPO will detain the individual, confiscate the item and notify PF supervision for response and further action as may be deemed necessary.
- PPD supervision consists of one Major, one Captain and three Sergeants assigned to day shift operations. PPD also has five lieutenants as well.
- Unarmed Security Officers (SOs) stand posts with armed SPO's.
- SPOs staff the ECFs, conduct random foot patrols, building inspections, roving vehicle patrols and responds to all security incidents/alarms in A and M area on a 24/7 basis.
- Law Enforcement and LE Canine Teams augment PPD by conducting random inspections, responding to alarms, security incidents and performing random patrols within the Property Protection Areas as well.
- Site Commanders (SCs) are the Senior Protective Force Supervisor on site during off-shift hours of operation. There are five SCs holding the rank of Captain, four are assigned to 12-hour rotation schedules and one HQ/Relief.
- The Protective Force operates and staffs on a 24/7 schedule three Central Alarm Stations (CAS) and our secondary alarm station, known as the Plantwide Alternate Alarm Center (PAAC).
- Located within the A and M Areas are PPD Headquarters, Badge Office ECF, Consolidated PF Training Facility, Barricades 9 and 10, Law Enforcement Dispatch, the Savannah River Security Operations Center (SRSOC) and the Emergency Operating Center (EOC).
- LE Dispatch Specialists initiate and coordinate Law Enforcement (LE) Operations response to activated intrusion alarms, notify LE supervision of any information received that may affect operations of present or oncoming shift, conduct National Crime Information Center (NCIC) criminal history checks and are certified by the South Carolina Law Enforcement Division (SLED) to perform such checks.
- The PF Contractor also staffs positions, along with the M&O, in the Savannah River Site Security Operations Center (SRSOC). The initial notification point for all emergencies is the SRSOC. The Security contractor's SRSOC Specialists staff the position 24 hours a day, seven days a week.
- SRSOC Specialist duties include initiating/coordinating appropriate notifications/actions for normal/off-normal operational or security situations, monitoring radio communications and duress signals of the security contractor, conducting area time checks, monitoring the radio system, which allows radio communications with offsite local law enforcement agencies, logs routine notifications for the security contractor operational activities, serve as liaison between the security contractor, the operating contractor, and DOE for SRS issues, and produces the Daily Activity Report (DAR) in addition to other communications related activities.
- The Emergency Operations Center is also located in A-Area as well. The M&O's Emergency Duty Officer (EDO) located in SRSOC will direct activation of the ERO based upon the emergency declaration as outlined in the SRS Emergency Plan.

- When the EOC is activated it is staffed by personnel assigned to the Emergency Response Organization (ERO). The ERO positions are staffed by personnel with DOE-SR, NNSA-SRFO, the M&O and the Security Services Contractor. These positions are on-call for response and are available 24/7.

Consolidated PF Training Facility

- The Consolidated PF Training Facility has a mock CAS, mock ECF with metal detection, portal X-ray machine, vehicle inspection area, and specialty equipment for both personnel and vehicle inspection training. The Consolidated Training Facility also offers computer-based training, intermediate force training, Dye Marking Cartridges (DMC) and Electronic Simulation System (ESS) weapons and tactical training, as well as Active Shooter response training. The facility is staffed by the security contractor's DOE-National Training Center (NTC) certified Training Instructors.
- The Savannah River Site is somewhat like a city. We have our own rail system, sewage system, medical clinic, power systems, fire department, which is staffed by personnel with the M&O, television studio, print shop, photography studio and Law Enforcement Department, which as you know is staffed by the security contractor.
- SRS was once home to the largest non-public rail system in the United States. It originally included 64 miles of track. When the Site was in the production mode, the rail system was used to transport coal to powerhouses, nuclear materials and heavy equipment.
- Today, 30 miles of the rail system is "abandoned in place." The present system covers 33 miles of maintained track with 59 active switches and eight active road crossing signal systems.
- The system is used to move incoming nuclear materials to storage basins and to haul construction materials.
- As you will see, our road system is extensive. There are 230 miles of paved roads (~120 miles currently maintained), and many additional miles of dirt and gravel roads throughout the Site we maintain ourselves.
- We're passing over a unique South Carolina landmark - the first cloverleaf in SC. When SRS's road system was built, it had to handle more traffic than it does today. In the 1950s, there were approximately 38,000 construction workers using these roads. SRS's main artery is a four-lane road, C Road, which is only accessible by badged employees and approved visitors.

B-AREA

- We're heading into B-Area which has several functions housing DOE and contractor management and administrative personnel in buildings up ahead, B Area is also home to the Alternate Emergency Operations Center and the Environmental Bioassay Laboratory, a low hazard, non-radiological chemical facility.
- B-Area also serves as the headquarters for the Paramilitary Security Services Contractor, Centerra-SRS, formerly known as Wackenhut Services Incorporated (WSI).
- B-Area is home to the security contractor's administration, Law

Enforcement Headquarters, K-9 Kennel facility and training area, logistics, ESH&QA, performance testing, security support, planning and procedures, Training Department and classrooms, physical fitness, vehicle maintenance, engagement simulations systems (ESS) storage, armorer, radio shop, locksmith, Aviation Operations facilities, Material Transportation and Coordination, Mobile Command Post (MCP) Vehicle, and patrol boats.

- The contractor is responsible for staffing the Crisis Negotiation Team (CNT), the Mobile Command Post and security positions within the Emergency Operating Center (EOC). The CNT, the MCP and EOC staffed positions are on call for response 24/7 upon activation.
- The Paramilitary Security Services Contractor also staffs their own Personnel Security section at their B-Area headquarters, along with other programs such as OPSEC, Security Awareness, along with security incidents and inquiry officials.
- Additionally, the contractor provides direct support to the DOE-SR Personnel Security Team. The contractor support to the DOE-SR Personnel Security Team includes processing security clearances, badge requests, conducting personnel security interviews, preparing Letters of Inquiry (LOI's), FOCI (Foreign Ownership & Control), Facility Clearance Level program, and Foreign Visits and Assignments.
- B-Area is predominately protected as a Property Protection Area. B-Area also has Limited Area Pockets in various buildings.

Law Enforcement Headquarters

- The security contractor's Law Enforcement personnel are South Carolina Special State Constables having graduated from the South Carolina Criminal Justice Academy and are SPO I qualified.
- The Site's LE Department derives its authority and jurisdiction on SRS from SC State Statutes. Originally dating back to 1951 (47) 710 and 1952 Code Section 53-731. "SC Section 23-7-10. Entitled - Appointment of special State constables upon recommendation of United States Atomic Energy Commission states, "The Governor may appoint and commission as special State constables such persons, including employees of a contractor of the United States Atomic Energy Commission, as shall be recommended to him in writing by a duly authorized representative of the Commission. Such special State constables shall serve without compensation from the State or any of its political subdivisions."
- Further, Section 23-7-50. Entitled - General powers and duties states, "A special state constable possesses all of the rights and powers prescribed by law for magistrates' constables and deputy sheriffs and powers usually exercised by marshals and policemen of towns and cities."
- LE enforces South Carolina State Traffic and Criminal Laws for the entire site, conducts roving patrols of B-Area as well as the general site, conducts river patrols, along the 24 miles of Savannah River bordering the SRS, responds to area emergencies, performs building and vehicle security checks of government owned property, provides security escort for transportation of Special Nuclear Material (SNM), responds to security and emergency events per Security Incident Response Plans (SIRPS) and Emergency Security Operating Plans (ESOPS).

K-9 Program Overview

- The K-9 program at SRS was established to enhance the overall effectiveness of the Protective Force (PF) and augment LE inspections. The primary purpose of the K-9 program is the detection of explosives and/or narcotics.
- LE K-9 Officers are also Special State Constables with full arrest authority and the canines are United States Police Canine Associations (USPCA) certified, along with the handlers. LE K-9 Handlers are SPO I qualified as well.
- Mandatory K-9 inspections are performed on large vehicles whose site entry access is generally limited to Barricades 1 and 2 during normal site operational hours. In addition to conducting mandatory canine inspections, K-9 Teams may be dispatched to conduct narcotics and/or explosives detector dog inspections. LE K-9 units also conduct roving patrols, perform K-9 inspections of buildings and vehicles inspecting both GOVs and POVs at site parking lots and/or during the performance of roadside vehicle inspections.
- LE and K-9 units are also principally responsible for responding to building alarms in Property Protection Areas, responding to notifications of unattended packages, investigating traffic-related incidents and accidents, and conducting vehicle access inspections into the Aviation facility.
- Additionally, K-9 Handler units may be requested by local law enforcement to assist with explosive detection at offsite facilities, such as receipt of a bomb threat at public schools.
- The K-9 Kennel facility and training area is located here in B-area and is authorized by DOE-SR to have twelve canines. The canines are explosive and/or narcotics detector USPCA certified. The canine facility is inspected and approved by the DoD, Fort Gordon, Veterinary Service and the K-9's undergo regular medical evaluations by the Fort Gordon veterinarian.
- DoD direct bills DOE-SR for veterinary services rendered.

Aviation Operations Department

- The Aviation facility houses aviation administration and pilots, aviation maintenance, Special Response Team, helicopter hanger and two helicopters.
- The helicopters are both Messerschmitt-Bölkow-Blohm (MBB)/Kawasaki BK 117, twin-engine medium utility – transport helicopters.) MBB was later purchased by Daimler-Benz and eventually became a part of Eurocopter, which was later rebranded as Airbus Helicopters.
- The primary mission of Aviation Operations is to respond to a security incident, to provide a weapons platform in a support role for the PF, and for quick aerial deployment into a safe landing zone to provide additional PF assets.
- Justification for the DOE-SR helicopter operations comes from various sources. First and foremost is that DOE-SR management has decided and continues to approve the funding for the DOE-SR helicopter operations, primarily for security operations, but also in support of other necessary site missions.
- The **primary purposes** of the DOE-SR security helicopters are:
 - Rapid transport of PF/SRT members in support of security missions.
 - Support SNM shipments.
 - Aerial observation and command and control platform.
 - Conduct routine security surveillance overflights of SRS property.

- **Secondary missions** include:
- Medevac support (This mission has proven to save lives on numerous occasions.) Requests for on-site medical transportation (LE, USDA Forest Service, SRS Medical, etc.) is considered pre-authorized by DOE-SR.
- Site missions for projects, etc.
- Research and development of National Security and other U.S. Government programs.
- Support to U.S. Forest Service (USFS) for wildfire response and prescribed burns.
- Periodically other agencies request assistance from the Aviation Department. These requests are made to the SRS Operations Center Specialist (SRSOC). This includes requests made by Law Enforcement. The SRSOC Specialist in turn makes notification to designated DOE-SR Office of Safeguards, Security and Emergency Services (OSSES) personnel for approval prior to launching in support of off-site assistance requests.

Note: The SRS does not have Federal restricted or prohibited air space.

USDA Forest Service – Savannah River

- You are now seeing what most of the Site consists of: forests and woodlands. Areas impacted by operations make up less than 10 percent of SRS, including the actual facilities, parking lots, roads, waste sites and power line right-of-ways. About 22 percent of the site is wetlands and swamp and 73 percent is upland forest.
- Most of this land was agricultural when SRS was constructed. It was the middle of the Cold War and construction was done in secrecy.
- The Forest Service was asked to plant trees to reduce erosion and provide a marketable crop of wood while also providing a barrier to hide facilities from public view.
- The Forest Service returns about 4-7 million dollars to the U.S. Treasury each year from Site timber sales. Roughly half is used for pulp to make paper products and half for saw-timber or lumber.

N-Area (aka: Central Shops)

- On our left you will see the entrance to N-Area also known as Central Shops. It is the location of our fabrication shops, the M&O fleet maintenance, site mail facility and the site's Medical Department which is also operated by the M&O. The medical department has doctor's (medical and psychologists on staff), registered nurses, lab technicians and an optician. Fitness for duty testing, drug and alcohol screening, annual physicals, vision and hearing testing, and Human Reliability Program (HRP) psychological screenings are conducted at site medical.
- N-Area is a Property Protection Area and LE is tasked with conducting routine patrols and alarm response. K-9 units perform explosive detection inspections at the site's mail facility.

C-AREA

- C-Area is home to C-Reactor which is no longer operational. Prior to closure it

was utilized as a training facility for the PF until the Consolidated Training facility in A-Area was established. The remaining buildings in C-Area are primarily occupied by the M&O and/or **its** subcontractors.

- C-Area is a Property Protection Area.
- C-Area is also the location of the Special Response Teams (SRT) Headquarters.
- SRT HQ has restricted access to authorized individuals only. SRT staff our Denial, Recapture and Recovery Teams, SRT has defined Ground Assault teams, and staff our aerial platform teams. SRT operates our armored vehicles (bearcats) and are also assigned soft-skinned vehicles for rapid response. SRT also has defined missions which include Category I (CAT I) SNM intra-site shipments, L-Area, K-Area, and as directed security response to other areas.

K-AREA Complex (KAC)

- The KAC provides for the handling and interim storage of our nation's excess plutonium and other special nuclear materials (SNM) as well as fulfills the U.S. commitment to international nonproliferation efforts in a safe and environmentally sound manner.
- The Savannah River Site (SRS) is also the recognized leader for managing the plutonium surveillance program throughout the Department of Energy (DOE) Complex.
- The KAC is a CAT I SNM storage facility designated for interim safe storage of plutonium and highly enriched uranium (HEU) at SRS. The principal operations building formerly housed K Reactor, which produced nuclear materials to support the United States during the Cold War for nearly four decades. It was the DOE's last operating production reactor, shutting down in 1992. The facility was chosen as the premier DOE Complex plutonium storage facility for several reasons: It is a robust building, constructed of concrete walls many feet thick and underwent stringent, well-documented seismic and structural upgrades during the early 1990s. Much of the security infrastructure was already in place. Necessary modifications were relatively minor, compared to the alternative of constructing a new building.
- PF Staffing consists of SPO Is, IIs and IIIs, SPO-Fixed Post Readiness Standard CAS, SPO III Sergeants, SPO II Lieutenants, SPO II Captain and a Major. The outer boundary is the Restricted Area (RA). The RA is an enhanced Property Protection Area with Perimeter Intrusion Detection and Assessment System (PIDAS) with security walls surrounding and defining the entire RA. LE canine units conduct random and mandatory vehicle inspections. The PF have posts within the ECF, along with roving and fixed security posts, and have armored bearcats and soft vehicles.

L-Area Complex

- Personnel at the Savannah River Site (SRS) have extensive experience in safely receiving and storing a wide variety of spent nuclear fuel (SNF) assemblies from both domestic and foreign research reactors. Since 1964, SRS has received more than 2,300 casks containing over 46,000 SNF assemblies.
- Since 1996, the L Area Complex (LAC) has received about 10,500 SNF assemblies in 516 casks from off-site sources. Fuel types include high and low enriched uranium used fuel. L-Area has received and handled about 10 different SNF transportation casks weighing up to 65,000 pounds.

- L-Area also made about 371 on-site spent fuel cask transfers during this time. Underwater storage facilities, called disassembly basins, were in all five SRS production reactor areas. These facilities were designed to store SNF and target assemblies discharged from the reactor cores. This storage allowed the nuclear material to cool after being irradiated in the reactors. The basins were also used to prepare the nuclear materials for transport to F and H Area processing facilities.
- In 1996, L Basin equipment was reconfigured to safely handle and store SNF from off-site (foreign and domestic) research reactors. In February 1997, the first off-site fuel was received and stored in L Basin. To avoid the cost of operating multiple facilities, SRS decided in 1998 to consolidate all of SRS's stored spent fuel into the much larger, refurbished L Basin.
- By 2003, L Basin was SRS's only fuel receipt and storage facility. L Basin currently stores 27.5 metric tons of heavy metal in used fuel. L Basin has concrete walls two and a half to seven feet thick and holds approximately 3.5 million gallons of water with pool depths of 17 to 50 feet. All spent fuel assemblies have low enough radioactivity, or are "cool" enough, to be safely stored without an active basin water cooling system. The basin water provides shielding to protect workers from radiation.
- L-Area is protected as a CAT II facility, has a PPA and a Protected Area with PIDAS. PF SPO Is staff L-Area and have posts within the ECF, along with roving and fixed security posts.

E-Area

- What you will see is the 76-acre Old Radioactive Waste Burial Ground that served as the Site's main disposal area for 22 years. Originally at road level, this is where radioactive wastes were disposed during the early years of the Site's operation.
- E-Area encompasses Solid Waste Management operations that is responsible for the disposition of SRS' solid wastes, which include sanitary, construction and demolition, hazardous, low-level radioactive and transuranic wastes.
- Examples of transuranic wastes include contaminated clothing, shoe covers, tools, rags, and equipment – anything that was used in a radiological area. These wastes were placed in containers like drums and metal boxes and buried here. [Transuranic from the Greek root "trans" meaning beyond and uranic meaning uranium. Thus, radiological waste having a higher atomic number beyond uranium (92) on the periodic table makes up transuranic waste.]
- Natural geology protects the aquifer, which is several hundred feet beneath the burial ground, as a thick layer of clay extends under the entire area. In 1998, a clay cap was placed over this acreage and while effective, it was never intended to be permanent.
- PF conduct random roving inspections of the area by LE units and AOD conducts security overflights.

TRITIUM

- SRS is the nation's only facility for extracting, recycling, purifying and reloading tritium, a radioactive isotope of hydrogen that is a key element of modern nuclear weapons. Operations began in 1955.

- SRS supports five tritium and gas transfer system-related missions on behalf of National Nuclear Security Administration (NNSA): tritium supply, stockpile maintenance, stockpile evaluation, helium-3 recovery, and research and development.
- “Savannah River Tritium Enterprise” (SRTE) is the collective term for the facilities, people, expertise, and activities at the Savannah River Site (SRS) related to tritium, which is an isotope of hydrogen and a key element of nuclear weapons.
- Operated by Savannah River Nuclear Solutions for the NNSA, SRTE is an important contributor to the U.S. Nuclear Security Enterprise (NSE).
- The NNSA has responsibility for maintaining a safe and reliable nuclear stockpile. SRTE prepares the nation’s only tritium supply for our national defense.
- In addition, SRTE — in particular, the groups within the Savannah River National Laboratory that are part of SRTE — conducts related research and development. SRTE’s primary facilities occupy approximately 29 acres in the northwest portion of SRS’ H-Area, with additional space in SRNL’s facilities.
- Protective Services is provided by the current security contractor and NNSA reimburses DOE-SR for that expenditure.
- The SRTE is a compliance-based protection strategy, and Security Risk Assessments are required to be developed and maintained per DOE Order 470.3C, Design Basis Threat.
- The PF perform random vehicle and foot patrols of the Tritium facilities and perform random Entry/Exit personnel and vehicle inspections.
- Tritium has automated ECF’s but as mentioned previously the PF conduct random personnel and vehicle inspections at those locations.

H-Area and HB-Line

- H Canyon is the only operating, production-scale, radiologically-shielded chemical separations facility in the United States. H Canyon began operations in the early 1950s. The facility’s operations historically recovered uranium and neptunium from fuel tubes used in nuclear reactors at the Savannah River Site, to produce radioactive materials used in making nuclear weapons. After the end of the Cold War, the facility’s mission changed to one of nonproliferation and environmental cleanup.
- The interior of the building resembles a canyon because the processing areas resemble a gorge in a deep valley between steeply vertical cliffs. It is 1,028 feet long, 122 feet wide and 71 feet tall. Most canyon operations are done from a control room using remote control cranes. One side of the canyon is considered “hot” because it has higher radiation levels, while the other side of the canyon is “warm” because it has lower radiation levels. No one has been inside the “hot” side of the canyon since it began operations.
- Employees who work in the building are protected from radiation by the thick, steel-reinforced concrete walls. Irradiated spent fuel rods are transported to H Canyon in shielded cask cars from L Area storage. The spent fuel rods are dissolved in nitric acid. The uranium from these sources is recovered through a complex chemical process, including solvent extraction cycle operations. The cycles remove impurities that are present in the feed. The impurities are then transferred to our waste management facilities.

- The uranium is mixed with natural uranium in a process called “blend down” and is loaded in shipping containers for shipment off-site. Blending down uranium not only makes it undesirable for use in nuclear weapons, but also makes it able to be converted to fuel rods and used in commercial nuclear reactors operated by the Tennessee Valley Authority to make electricity.
- The Savannah River Site’s (SRS) HB-Line is located on top of H Canyon and is the only chemical processing facility of its kind in the DOE Complex. The facility was built in the early 1980s to support the production of plutonium-238 (Pu-238), which is a power source for the nation’s deep space exploration program, and to recover legacy materials stored in H Canyon.
- HB-Line has three process lines: Phase I, also called the Scrap Recovery Line, became operational in the late 1980s.
- Phase I was used to dissolve legacy plutonium and uranium materials for further processing in H Canyon.
- Phase II started operations in November 2001 and is used to create plutonium and neptunium oxides from nitrate solutions. Phase III in HB Line completed the last plutonium-238 mission in 1996. Plutonium-238 has been used to power various deep space vehicles, such as Galileo, Ulysses, Cassini, and the New Horizons mission to Pluto.
- In 2010, Phase II was converted into a processing facility to open store containers when necessary, and to oxidize metals to allow for them to be dissolved in the Phase I process areas or the H Canyon dissolvers.
- Protective Force H-Area Headquarters’ supervision has responsibility for H-Area, Tritium and L-Area PF personnel.
- H-Area is a CAT II facility. Staffing consists of SPO Is, Fixed Post Readiness Standard SPO CAS, Operational Security Specialists, SPO I Lieutenants, SPO I Captain and Major
- The PF staff posts in the interior of H Canyon, and HB-Line, conduct roving foot and vehicle patrols, and staff two Entry Control Facilities.

F and H-Area Radioactive Liquid Waste Tank Farms (Tank Farms)

- The radioactive liquid waste contractor is Savannah River Remediation (SRR). The radioactive liquid waste from the SRS chemical separations process is present in the Tank Farms in both solid and liquid forms. Over 150 million gallons of radioactive waste have been generated and concentrated by evaporation to a present volume of about 35 million gallons.
- The waste is stored in 43 waste tanks in the SRS’s F and H Areas. Eight tanks are closed, and other waste tanks are in various steps of the waste removal, cleaning and closure process.
- The Tank Farms are deemed Property Protection Areas and LE has primary security response requirements.

Defense Waste Processing Facility (DWPF)

- On your right you will see the DWPF. It performs waste glassification meaning its operations convert radioactive liquid waste currently stored at the SRS into a solid glass form suitable for long-term storage and disposal.
- Scientists have long considered this glassification process, called “vitrification,” as the preferred option for treating radioactive liquid waste. By immobilizing the

radioactivity in glass, DWPF reduces the risks associated with the continued storage of liquid waste at SRS and prepares the waste for final disposition in a federal repository. About 35 million gallons of liquid waste is stored in 43 underground carbon-steel tanks at SRS. This waste has about 263 million curies of radioactivity, of which the vast majority will be vitrified at DWPF.

- Construction of DWPF began in late 1983, and it began radioactive operations in March 1996. To complete its waste vitrification mission, DWPF is projected to produce approximately 8,170 canisters. Each canister is 10 feet tall and 2 feet in diameter, and it typically takes about a day to fill one canister. A filled canister weighs about 5,000 pounds.
- DWPF is a Property Protection Area and LE has primary security response responsibilities.

Salt Waste Processing Facility (SWPF)

- Parsons is in the process of turning over SWPF to operations once operational readiness has been validated.
- The process includes removing water from the 43 underground waste tanks, including the removal of waste materials. Once water is removed from the waste tanks, two materials remain: salt and sludge waste.
- Salt waste fills approximately 93 percent of the tank space in the SRS tank farms. Additionally, salt waste must be dispositioned to ensure sufficient tank space to prepare sludge for vitrification.
- Several processes are being used at SRS to disposition the salt waste. The SWPF will integrate salt waste processing and increase operational capacity. The goal is to immobilize all the waste into one of two final forms for safe, long term storage: borosilicate glass, which will contain greater than 99 percent of the radioactivity, or cement-like grout, for disposal of low-activity salt waste.
- SWPF is a Property Protection Area and LE has primary response requirements.

Z-Area (Saltstone Production Facility)

- The Saltstone Production Facility (SPF) is the last stop for this solution after it is sent from the site's 43 remaining underground waste tanks. The salt waste is treated at interim salt processing facilities known as the Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit. This integrated system removes radionuclides from the salt, resulting in the decontaminated salt solution. This solution is then sent to the SPF to create the saltstone, a safe and permanent disposal solution for decontaminated salt waste at SRS.
- The facility has produced more than 30 million gallons of decontaminated salt solution mixed with a cement-like grout since beginning operations in 1990, a vital cog in the system that removes waste from tanks and moves it ultimately into safe storage.
- Saltstone is stored in the Saltstone Disposal Units (SDUs), which are reinforced concrete tanks that are modeled after commercial water storage tanks. Saltstone Disposal Units (SDUs) are permanent disposal units for low-activity waste grout produced from solidification of decontaminated nonhazardous salt waste at the SRS.
- The 32.8-million-gallon SDU 6, completed in May 2017, is more than 10 times larger than the other six SDUs that each hold about 3 million gallons. SDU 6 is

designed for the larger decontaminated salt solution stream to be produced by the Site's Salt Waste Processing Facility or SWPF.

- SDU 6 measures 42 feet high and 375 feet in diameter. The entire inside of the tank is lined with over 7,000 individual pieces of 3 mm thick rubber that were epoxy bonded to the tank walls and floors. SDU 6 is the largest rubber-lined tank in the world.
- Z-Area is a Property Protection Area. LE has primary security response responsibilities.

Advanced Tactical Training Area (ATTA)

- This is ATTA range. ATTA Range contains Offices, Classrooms, an Old Classroom building which is still use but on a limited basis, Maintenance Shop, Weapons Cleaning facility, and Live Fire Shoot House.
- ATTA complex is located on the General Site property; therefore, it is considered a Property Protection Area. The classroom area has a maximum occupancy rating of 100.
- ATTA has eight ranges designed to address various weapons and tactical training needs. Target systems include steel target and shooter movement, moving, turning and stationary target systems. The Courses of Fire that are NTC Certified include Approved Handgun/Rifle Qualifications, Long Range Precision Rifleman, Advance Weapon Systems and tactical training. Ballistic resistant enclosure (BRE) weapons training are also conducted on the ranges. Range and Protective Force Training facilities are the administrative and operational responsibility of the Paramilitary Security Contractor.
- Access to ATTA advanced weapons systems training and Demonstration of Proficiency (DOP) is restricted as the gates are secured during live fire. The ATTA has a well-defined Surface Danger Zone (SDZ). The SDZ is the area of the range endangered by a particular type of firearm and ammunition, consisting of the following areas: target area, impact area, ricochet area and secondary danger areas.
- Ranges 1, 2, 3 and 7 utilize compressed air for target arrays.
- Range 1 is a 100-yard handgun and rifle qualification and training range with 24 shooting lanes consisting of 48 turning targets. The range has an impact berm and side protection. All handgun and .223 caliber (frangible and ball) ammunition may be fired on this range.
- Range 2 is a 100-yard handgun and rifle range equipped with Bear Target Systems and includes turning targets, moving targets, reactive and non-reactive steel targets. It supports handgun and rifle qualifications and demonstrations of proficiency training. Only frangible handgun and .223 rifle caliber ammunition may be used on Range 2.
- Range 3 is a 35-yard range with reactive and moving steel target systems that may be programmed to different exposure times and sequences. Only frangible handgun ammunition may be used on Range 3.
- Range 4 (Live Fire Shoot House) is a training facility dedicated to building repositioning, dynamic and covert assault, tactical forced entry and close quarter battle skill sets in a live-fire and dry rehearsal environment. It has an Elevated Observation Control Platform and Ballistic Door Barriers is specifically designed, and constructed training aid utilized for the conduct of live-fire close quarter

battle scenario training and qualifications.

- Range 5 is a multi-dimensional range for the purposes of supporting various levels of PF training and qualifications. The Tactical Obstacle Course (TOC) and Breacher Training will normally be conducted on this range.
- Range 6 is primarily utilized for advanced weapons qualifications, and maintenance training.
- Range 7 is a 300-yard qualification range with 16 lanes and 32 turning target systems. It is used for SRT Precision Riflemen qualifications and training and PF handgun/rifle qualifications and training.
- Range 8 is a known distance range where targets are set up from 50 yards to approximately 400-yards out. The range is used for basic and advanced rifle technique training, Aerial Door Gunnery (ADG) familiarization training and Demonstration of Proficiency qualifications. A training/shooting tower is also located on this range.
- ATTA is a Property Protection Area, as well, and LE has alarm response requirements.

This concludes the narrated portion of the site tour. We hope that you have found the tour insightful and the Acquisition Integrated Project Team (AIPT) appreciates your participation. Again, please write any questions you may have on the index cards we provided, as we will be gathering them from you at our final destination. The AIPT's responses to those questions that can be addressed will be posted in the near-term via the EMCBC Acquisition website's Documents Library for interested parties to review.

Depart ATTA and return to The Applied Research Center.

This concludes the driving tour. Thank you again and safe travels.