

GET

General Employee Training

Student Study Guide

Effective: 02/10/2020



The material contained in this study guide is for TRAINING USE ONLY. In no way should it be interpreted that the material contained herein may be substituted for approved SRS procedures. Where copies of (or excerpts from) procedures are given, they are intended for clarification and information only. The latest revision of the reference in question should be obtained for actual use. If you have any questions, ask your supervisor/manager.

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I. SRS ORGANIZATIONS AND FACILITY AREAS

The Department of Energy (DOE) has placed into law DOE Order 426.2 which requires that all new employees receive initial and continuing training in several areas. To fulfill this requirement, new employees receive General Employee Training (GET) at the time of their employment at Savannah River Site (SRS). There are numerous other mandated training requirements for all employees that must be satisfied on an annual or biennial basis. To ensure compliance with these requirements, all employees are required to complete Consolidated Annual Training (CAT) each year. All hosts of visitors are responsible for ensuring that necessary training is complete for site access.



This study guide contains more information than is presented in the classroom and is intended to be a reference book and study guide. Employees are responsible for reviewing and being familiar with the material in this study guide. This guide can be referenced at www.srs.gov and on InSite (InSite is the SRS intranet).

This study guide does not contain classified information or Unclassified Controlled Information (UCI).

A. SRS Vision Statement

SRS is recognized as a long-term national asset in the areas of environmental stewardship, innovative technology, national security, and energy independence, that acts with an inspired workforce and mature, efficient management processes, while sustaining public confidence in our people and capabilities.

B. Site Mission Statement and Capabilities

SRS's mission is to safely and efficiently operate SRS to protect the public health and the environment while supporting the nation's nuclear deterrent and the transformation of the Site for future use.

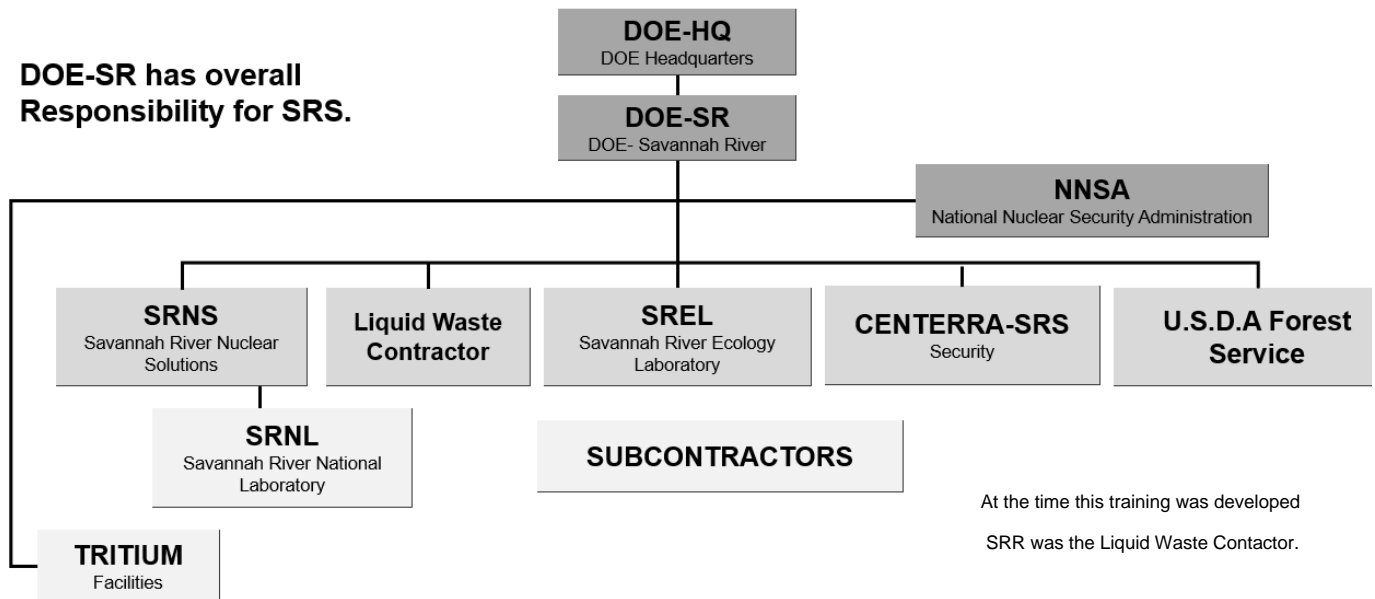
1. Environmental Management (EM) responsibilities for cleaning up the Cold War legacy
2. Preparing for long-term stewardship
3. National Nuclear Security Administration (NNSA) Defense Programs
4. NNSA Nuclear Nonproliferation Programs and SRNL

C. Description of the Savannah River Site and Facilities

Dedicated to maintaining the highest possible safety standards, the Savannah River Site (SRS) is a key Department of Energy industrial complex responsible for stewardship of the environment, the enduring nuclear weapons stockpile, and nuclear materials. SRS processes and stores nuclear materials in support of national defense and U.S. nuclear non-proliferation efforts. The Site also develops and deploys technologies to improve the environment and treat nuclear and hazardous wastes left from the Cold War.

E01 - IDENTIFY the function associated with each SRS Organization and Facility Area.

The SRS complex covers 198,344 acres, or 310 square miles encompassing parts of Aiken, Barnwell, and Allendale counties in South Carolina, bordering the Savannah River.



A. SRS Organizations

1. The **Department of Energy Headquarters (DOE-HQ)** in Washington, D.C., establishes Federal Energy Policy and directs the implementation of programs that relate to energy use and resources.
2. The **Department of Energy Savannah River (DOE-SR) Operations Office** is responsible for the overall operation of SRS.
3. The **National Nuclear Security Administration (NNSA)** is a semi-autonomous agency within the Department of Energy that maintains and enhances the safety, security, reliability, and performance of the U.S. nuclear weapons stockpile without nuclear testing and responds to nuclear and radiological emergencies in the U.S. and abroad.
4. **Savannah River Nuclear Solutions (SRNS)** is responsible for the management and operation of the facilities.
5. The **Liquid Waste Contractor (SRR)** is responsible for managing the liquid waste program.
6. **Savannah River Ecology Lab (SREL)** provides ecological studies to the DOE but retains its independence regarding academics.
7. **Centerra-SRS** provides security (protective) services for the site.
8. **USDA Forest Service** manages the natural resources on the 310 square mile site.
9. **Savannah River National Laboratory (SRNL)** does research and development in waste processing, environmental remediation, nonproliferation technologies, and national security projects.
10. **Tritium Facilities** give the nation the ability to replenish tritium supplies in nuclear weapons.
11. **Subcontractors** supply necessary manpower and services as needed.

B. Facilities

SRS facility areas are identified by letters. The letter denotes the physical location on the site. Three-digit numbers associated with buildings located in various areas are related to their functional area. For example, the 700 series is indicative of Administrative functions.

- 1. A-Area:** This area, accessible from Highway 1 between Whiskey Road (Hwy 19) and Highway 125 in Jackson, serves as the location for the Badging Office and other administrative offices.
- 2. B-Area:** This area houses the DOE and SRS Contractors' main administrative offices, several engineering buildings, SRP Federal Credit Union, IN-VIVO counting facility, and Centerra-SRS Security's headquarters.
- 3. C-Area:** The Respirator Equipment Facility in this location is responsible for assembling (as necessary), inspecting, testing, cleaning, and supplying respiratory protection equipment to each facility.
- 4. E-Area:** The Solid Waste Complex (Burial Ground) is located here and provides storage for low-level and intermediate-level radioactive waste in concrete vaults.
- 5. F-Area:** F-Tank Farm is in this area.
- 6. G-Area:** In this area, production of steam and electrical power is accomplished.
- 7. H-Area:** The Tritium Facilities are in this area. Some facilities process tritium and service reservoirs. Tritium is a radioactive form of hydrogen gas that is a vital component of nuclear weapons. The Tritium Extraction Facility (TEF) in H-Area provides the means to extract tritium from tritium-bearing targets irradiated in commercial light water reactors. TEF gives the nation the ability to replenish tritium supplies in nuclear weapons. H-Canyon, HB-Line, H-Tank Farm, Effluent Treatment Project (ETP), and the Central Training Facility (Building 766-H), are also located in this area.
- 8. J-Area:** The Salt Waste Processing Facility (SWPF), located in this area, is an intermediate waste processing facility that is designed to accelerate the processing of the legacy salt waste in the tank farms.
- 9. K-Area:** K Area Complex (KAC) facility serves as the storage location for excess plutonium, uranium isotopes, and assemblies from SRS and other DOE sites.
- 10. L-Area:** This area processes the site's Spent Fuel.
- 11. N-Area:** This area contains maintenance support facilities (Central Shops), Substance Abuse Program (SAP) testing, and Medical Services.
- 12. S-Area:** The Defense Waste Processing Facility (DWPF), located in this area, immobilizes high-level radioactive waste material from the tank farms in glass for permanent storage.
- 13. Z-Area:** The Saltstone Facility, located in this area, takes low-level radioactive waste and immobilizes it in Saltstone for storage in cement vaults.

Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. **What organization provides security services to the site?**
 - A. Bechtel Savannah River, Inc.
 - B. Centerra-SRS
 - C. Washington Savannah River Company
 - D. Aiken Sheriff's Office

2. **What organization is responsible for the overall operation of SRS?**
 - A. Department of Energy – SR (DOE-SR)
 - B. Department of Energy – HQ (DOE-HQ)
 - C. Washington Savannah River Company (WSRC)
 - D. Nuclear Regulatory Commission (NRC)

3. **What organization does research and development in waste processing and nonproliferation technologies?**
 - A. British Nuclear Fuels, Limited (BNFL)
 - B. Department of Energy – SR (DOE-SR)
 - C. Washington Savannah River Company (WSRC)
 - D. Savannah River National Laboratory (SRNL)



II. HEALTH AND SAFETY PROGRAM

Enabling Objectives:

- EO1 **DISCUSS the SRS Safety Policy and Safety Philosophy.**
- EO2 **IDENTIFY the SRS Worker Safety and Health Program.**
- EO3 **STATE when and how to call a Time Out.**
- EO4 **STATE the SRS safety restrictions on practices and conditions.**
- EO5 **IDENTIFY the SRS Worker Safety Hierarchy of Controls.**
- EO6 **IDENTIFY the functions of the ISMS, BBS, HPI, and VPP.**
- EO7 **STATE the restrictions on motorists and pedestrians at SRS.**
- EO8 **STATE the purpose and the types of barricades at SRS.**
- EO9 **STATE the requirements of the SRS Hazardous Energy Control Program.**
- EO10 **IDENTIFY safe practices for using ladders.**
- EO11 **STATE the definition of and requirements for Confined Spaces at SRS.**
- EO12 **LIST the types of Personal Protective Equipment available at SRS and their requirements.**
- EO13 **STATE the methods for mitigating worker exposure to chemicals, noise, and heat.**

The success of the Savannah River Site depends on the safety of all employees and the protection of the public and the environment. To achieve this success, SRS uses the Integrated Safety Management System (ISMS) to ensure a safe and clean working environment for employees, visitors, vendors, subcontractors, and the public.

Every employee has the responsibility to correct any unsafe act or condition and/or notify their supervision. All employees are expected to accept responsibility for their personal safety, safe job performance, and the safety of others.

Each individual at SRS must strive to make safety the first priority in all activities. As always, the site safety program is based on the belief that all injuries can be prevented. The SRS Safety and Health Program outlines the employee's rights, defines responsibilities, and identifies safety regulations.

EO1 - DISCUSS the SRS Safety Policy and Safety Philosophy.

A. SRS Safety Policy

The cornerstone of the SRS safety program is the individual right of every employee, including subcontractors, to call a Time Out if they are concerned that work cannot proceed safely. This principle is the most powerful means of guaranteeing safety at SRS.



- **The first priority of SRS is the safety and protection of employees and the general public. Work will stop if it cannot be performed in a safe manner.**
- **Safety and Security Begin With Me:** This is the slogan that all SRS companies have adopted to emphasize the importance each person has in support of our Safety and Security Programs.

- **Time Out Authority:** Every worker has the responsibility and authority to call Time Out if he/she believes that the work being performed is not safe.
 - Materials, equipment, and facilities will not be procured, fabricated, modified, built, or utilized until compliance with all relevant procedures has been verified.
 - Immediately report any injuries, illnesses, incidents, near-misses, or unsafe conditions to your escort, supervisor, or the person responsible for your visit or work scope. Site management will send their employees to Site Medical.
- NOTE: Subcontractors are responsible for providing medical treatment and first aid to their employees unless it is an emergency.**
- Do not become involved in a work activity that could compromise your safety or the safety of others because of not being properly trained, qualified, or for which you are not authorized to perform.
 - Do not attempt to operate special tools or equipment unless you are trained, qualified, and authorized to operate the specific tools or equipment.
 - In all cases, if something out of the ordinary happens or a particular work activity does not go as expected, call a Time Out, **STOP**, place activity in a safe condition, and reassess the situation.
 - Do not proceed with any task until you are certain the job can be completed with everyone's safety, including your own, maintained.
 - Ask for help or clarification if unsure about your safety or the safety of others, regardless of the situation.
 - Obey all warning signs, barricades, and other safety notices. Obtain permission before entry.
 - Be sure the equipment, material, and tools you bring or use on the site are in a safe, operable condition. Do not bring defective equipment on site. Ask yourself if your equipment, materials, and tools are in good working order and in a serviceable condition to be used safely for all work you will be doing.
 - You may encounter heavy equipment in some areas of the site. Use caution and do not enter areas where heavy equipment is being operated unless you are authorized.
 - No self-propelled equipment (backhoes, track hoes, bulldozers, etc.) may be loaded or off-loaded by subcontractors from trucks, trailers, or similar equipment without having first completed a Self-Propelled Equipment Loading Checklist. Contact your STR for the checklist.
 - Do not perform maintenance on, service, or operate any heavy equipment unless you are qualified and authorized to do so.

B. The SRS Safety Philosophy

1. The SRS Safety Philosophy states:
 - a) All injuries can be prevented.
 - b) Working safely and obeying safety rules are conditions of employment.
 - c) Follow General Site Safety Rules:
 - Walk; **DO NOT RUN.**
 - Use the handrail when ascending or descending stairs.
 - Maintain good housekeeping.
 - Observe and properly respond to all safety warnings, including lights, alarms, horns, sirens, signs, and barricades.

EO2 - IDENTIFY the SRS Worker Safety and Health Program.

- You do not have to work in unsafe conditions.
- You can take a time out at any time.
- You have access to key personal safety and health reports.
- Anyone can report safety and health concerns. There are several methods to report these concerns.



EO3 - STATE when and how to call a Time Out.

Time Out is an informal brief break in work to address emerging potential safety related concerns that do not pose imminent danger. Anyone can call a time out.

A. When to Call a Time Out

Time Out can be called for any of these reasons (not an all-inclusive list):

- Unexpected condition
- Change in scope
- Unclear/inadequate instructions
- Issue not covered in pre-job briefing
- Additional assistance needed (Radiological Control Personnel, Industrial Hygiene, and Quality Assurance, etc.)
- Mistakes
- Incorrect Personal Protective Equipment (PPE)
- Special tools needed
- New hazard
- Unsure if you can continue safely, for any reason: fatigue, heat, illness, etc.
- Bad feeling about the job
- Other items identified as specific to the facility or function

B. How to Call a Time Out

- Communicate Time out to the team and supervision.
- Suspend work and place activity in a safe condition.
- Determine what is needed to resolve the situation. The formality, nature, and duration of the resolution will be agreed upon by supervision.
- Resume work ONLY if the team agrees that the issue has been resolved and work can safely proceed.



EO4 - STATE the SRS safety restrictions on practices and conditions.

A. Unsafe Practices

Unsafe practices (At-Risk Behaviors) are actions which people do or fail to do that may contribute to an accident or injury. Over 96% of occupational injuries are the result of At-Risk Behaviors.

The causes of unsafe practices are failure to follow:

1. Safety rules
2. Specific instructions
3. Safety practices of the job

Some examples of unsafe practices are:

Horseplay, standing on chairs/tables, shortcuts through production and construction areas, etc.

B. Unsafe Conditions

Unsafe conditions are physical or mechanical hazards that could contribute to personal injury or illness to employees while performing their duties.

Examples of unsafe conditions are:

1. Poor housekeeping
2. Water on floor
3. Inadequate lighting
4. Obstructions
5. Failed Equipment



Note: Unsafe practices, unsafe conditions, and near misses should be IMMEDIATELY reported to supervision.

EO5 - IDENTIFY the SRS Worker Safety Hierarchy of Controls.

General Requirements

In order to protect you, the worker, SRS has several layers of protection to protect you from unsafe or hazardous conditions. These layers of protection are listed in order of preference:

1. Eliminate the Hazard:

First and foremost, when a hazard is identified, report it and eliminate it.

2. Engineering Controls to mitigate the hazard:

It is always best to design equipment with necessary safety equipment to eliminate any potentially hazardous conditions.

3. Administrative Controls to mitigate the hazard:

SRS procedures are written to incorporate safety steps to help mitigate hazardous conditions.

4. Personal Protective Equipment (PPE):

You, the worker wearing the proper Personal Protective Equipment, are the last line of defense when a hazardous condition arises. This further emphasizes the need for each worker to properly wear their PPE.

**EO6 - IDENTIFY the functions of the ISMS, BBS, HPI, and VPP.****A. Integrated Safety Management System (ISMS)**

1. The Integrated Safety Management System is a common sense approach to doing work safely. The five core ISMS functions are:

- a) Define scope of work.
- b) Analyze the hazards.
- c) Develop and implement hazard controls.
- d) Perform work safely within controls.
- e) Provide feedback and continuous improvement.

2. Examples of the ISMS process include:

- a) Issue a work request and discuss the materials needed.
- b) Perform a job walk-down and discuss the hazards associated with the proposed job.
- c) Protect against the identified hazards.
- d) Use preventive maintenance.
- e) Ask the question, "Can we do the job safer?"

**B. Behavior-Based Safety (BBS)**

1. Studies have shown that >96 percent of injuries occur because of unsafe behaviors. Behavior-Based Safety is a process that encourages all employees to focus on increasing safe behaviors and minimizing at-risk behaviors in the workplace.

2. BBS Observers request individuals' permission to observe them performing their job so they can identify "best practices", to emphasize good safe practices, and to identify improvement areas.



3. SRS employees can participate in the BBS process. This participation may be by being a voluntary BBS Observer, and/or by contributing skills to assist the Local Safety Improvement Teams in their functions.
4. Savannah River Site's commitment to BBS means that each of us is involved in the decisions that affect our safety and health.

Remember:

- ✓ **MAKE** a personal commitment to live and work safely.
- ✓ **TAKE** an active role in your safety activities.
- ✓ **WATCH** out for yourself and your coworker.

C. Human Performance Improvement (HPI)

1. The Institute of Nuclear Power Operators (INPO) developed the Human Performance Improvement program and training beginning in the mid-1980's **to reduce the number of reactor events caused by human error.**
2. In 2007, SRS embraced the achievement of excellence in Human Performance Improvement as a key strategy for reducing the number of events caused by human error and achieving significant improvement in safety, security, and overall work performance.
3. HPI is a set of practices intended to promote behaviors throughout an organization that supports safe and reliable operation and is based on these principles:

- **People are fallible, even the best people make mistakes.**
- **Error-likely situations are predictable, manageable, and preventable.**
- **Individual behavior is influenced by organizational processes and values.**
- **People achieve high levels of performance largely because of the encouragement and reinforcement from leaders, peers, and subordinates.**
- **Events can be avoided through an understanding of the reasons mistakes occur and application of the lessons learned from past events (or errors).**



D. Fourteen HPI Error Reduction Tools

1. **SAFER** – Summarize critical steps, Anticipate errors, Foresee consequences, Evaluate controls, Review past experience. A way to identify what to avoid related to specific actions during the job. The process helps the supervisor and worker to methodically recognize and address the risk of human error to safety and reliability.
2. **Job Site Review** – Take time to think! Taking the time necessary to get acquainted with the immediate work area helps people establish a healthy sense of uneasiness, boost their questioning attitude, and enhance the accuracy of their situational awareness.
3. **Questioning Attitude** – Fosters awareness of uncertainty and hazards. A healthy questioning attitude must overcome the temptation to ignore “gut feelings” of something not being right.

4. **Time Out** – If unsure of how to proceed or if conditions don't appear correct, call a Time Out.
5. **Self-Checking** – Stop, Think, Act, Review, (S.T.A.R.) – Boosts attention and eliminates distraction just before a risk-important action is to be performed. This *pause* allows the worker time to think about the intended action, understand the expected outcome before acting, and verify the results after the action. This is particularly useful in guarding against complacency associated with repetitive tasks, where the worker's attention must peak when the risk is greatest.
6. **Procedure Use and Adherence** – “Use” means continuous use (in-hand), reference use, and information use. “Adherence” means following the intent and direction provided in the procedure regardless of the level of use.
7. **Three-Way Communication** – The sender speaks the message to the intended receiver, the receiver repeats the message in a paraphrased form, and the sender acknowledges that the receiver understands the message.
8. **Phonetic Alphabet** – When the only distinguishing difference between two component designators is a single letter, then the phonetic form of the letter should be substituted for the distinguishing character. For example: “766-H” would be pronounced: “766 Hotel.”
9. **Pre-job Briefing** – The two primary purposes of the pre-job briefing are to prepare workers for what is to be accomplished and to sensitize them to what is to be **avoided**. Pre-job briefings should be a dialogue among the participants rather than a monologue by the first-line supervisor or a lead technician. All members of the work crew should participate in the briefing process.
10. **Second Person Verifier (SPV)** – A formal method of checking an operation step, an act of positioning, or calculation in which the verifier observes before, during, and/or after an action and confirm the operation or calculation.
11. **Independent Verification (IV)** – A formal method of checking a step, by a separate, qualified person (separated by time and space), that a given operation or component's position conforms to established criteria.
12. **Peer-Checking** – Have a second knowledgeable individual verify that the action planned by the performer is appropriate before execution and that the action occurs according to plan.
13. **Placekeeping** – Reliably marking steps in a procedure that have been completed or that are not applicable (skipped). It is particularly important for plant status, equipment reassembly, or any situation when the consequences of skipping, repeating, or partially completing a step would result in adverse consequences.
14. **Post-Job Review** – A method of self-evaluation conducted after a work activity to solicit feedback and lessons learned from the participants to improve future performance. Workers and their supervisor should discuss what did and did not go well. Some Post-Job Reviews involve many workers, supervisors, and managers and may need to be scheduled to ensure full participation.

Phonetic Alphabet

A	Alpha	H	Hotel	O	Oscar	V	Victor
B	Bravo	I	India	P	Papa	W	Whiskey
C	Charlie	J	Juliet	Q	Quebec	X	X-ray
D	Delta	K	Kilo	R	Romeo	Y	Yankee
E	Echo	L	Lima	S	Sierra	Z	Zulu
F	Foxtrot	M	Mike	T	Tango		
G	Golf	N	November	U	Uniform		

E. Voluntary Protection Program (VPP)

1. The Voluntary Protection Program (VPP) is a joint Department of Energy and Occupational Safety and Health Administration (OSHA) program designed to promote excellence in safety and health management systems by recognizing facilities that have implemented outstanding health and safety programs. It provides an opportunity to develop a cooperative relationship between management, labor, and government.
2. VPP STAR is an award that validates that the site's Integrated Safety Management System (ISMS) is in place and is effective. It includes a continuous improvement process toward achieving safety excellence. It is a highly selective award. As a STAR site, SRS is on the leading edge of hazard prevention methods and technology and shows continuous improvement in safety and health programs.

EO7 - STATE the restrictions on motorists and pedestrians at SRS.**A. General Safety Rules for Site Motor Vehicles**

The General Safety Rules for Site Motor Vehicles, Manual 8Q, Procedure 11, describes the following mandate, which is applicable to all personnel at SRS.

Hand-held electronic devices such as cell phones, Smart Phones, GPS devices, pagers, two-way radios, etc. and installed electronic devices requiring manual data input such as GPS devices shall not be used while driving a personally-owned, government owned, or leased vehicle.

Note: If use of such a device is required, when it is safe to do so, pull onto the shoulder of the road, stop, and shift the vehicle into park before using the device. Use of "hands-free devices" such as Bluetooth phones may be used but should be minimized to avoid distracted driving.



B. Safety Rules for Government Vehicles

- Perform a 360 degree walk around and visually inspect before driving.
- Fasten seat belts.
- Look behind and sound the horn twice before backing.
- Obey posted highway and site speed limits.
- Turn off ignition, set brake, and lock vehicle.

Use of Government Vehicle

- Must have supervisor's authorization to operate a government vehicle.
- Vehicle must be used for official business only.
- Only passengers on official business are permitted in government vehicles.
- The driver must possess a valid state driver's license.
- Tobacco use in any form in a government vehicle is prohibited.
- Drivers must stop at Site perimeter barricades for inspection.
- All government vehicles must be locked when unattended.



Traffic Accidents and Citations

- Report all on-site traffic accidents to Centerra-SRS at 803-725-2310 **AND** to your supervisor.
- Report off-site traffic accidents and traffic citations in government vehicles to your supervisor.
- For traffic accidents and citations in a government vehicle, fill out the accident report forms located inside the glove compartment.

C. Site Speed limits, Parking Lot, and Road Safety Requirements

1. Site Speed limits are:
 - a) 10 miles per hour in parking lots
 - b) 35 miles per hour on secondary roads
 - c) As posted on primary roads
2. Site parking lot safety requirements include the following:
 - a) When in a parking lot, follow the arrows; drive in lanes provided, not across parking spaces.
 - b) Always park in designated parking spaces. **NEVER** park in spaces that are not designated for parking.
 - c) Pedestrians should use only sidewalks or designated crosswalks.
 - d) Walk single file facing traffic, if no sidewalk.

3. Site Road Safety:

Travel only on established roadways, that is, paved roads. **DO NOT** drive on dirt, gravel, or other side roads unless you have a business reason to do so.

EO8 - STATE the purpose and the types of barricades at SRS.

Barricades

- Barricades are physical obstructions (e.g., ropes, metal pipes or wooden rails, metal chains, plastic chains, traffic cones, etc.) intended to:
 - Warn personnel of a hazard
 - Control or limit personnel or vehicle access to a specific area
- Entry into a barricade is limited to points designated by a barricade sign. Entry requirements are listed on this sign to include who may enter the area, who may authorize others to enter in the area, hazards inside the barricaded area, and personal protective equipment required to be worn within the barricaded area. **Do not step over or duck under the barricade to enter or exit. The barricade sign should be considered a "living" document.** As hazards in the area change, the sign should be changed by the owners of the barricade.



3. Three Types of Barricades

a) Warning Barricade

- Calls attention to a hazard but offers no physical protection.



- Used for temporary situations when it is not practical to eliminate the hazard immediately.
- Are erected no closer than three and one-half feet (3'-6") from the edge of the danger point.
- Erected around areas where construction/maintenance work is in progress, housekeeping activities that involve wet floor surfaces, locations that have a hidden hazard such as a slippery floor/overhead work, or accessible areas within the swing radius of a rotating crane counterweight where control of pedestrian traffic is necessary.
- Designated by a red and white safety rope.

b) Protective Barricade

- Calls attention to a hazard and provides physical protection from the hazard.

- Erected around areas where personnel could fall into a pit or hole in the ground, through a hole in a floor or wall, or off a roof or structure.
- Are constructed from wood, pipe railing, wire rope, steel chains, etc. and strong enough to **withstand a 200-pound force in any direction exerted against it.**
- If injury could result from personnel reaching over a protective barricade and touching a hazard, such as unguarded, rotating machinery parts or exposed electrical energy, then the protective barricade shall be set at least three and one-half feet from the edge of the danger point.



c) Radiation Barricade

- Warns personnel of radiation or radioactive contamination hazards.
- Designated by yellow and magenta colors.
- RPD is responsible for controlling the erection or removal of radiation-contamination barricades in accordance with Manual 5Q, Radiological Control.



EO9 - STATE the requirements of the SRS Hazardous Energy Control Program.

A. Hazardous Energy Control Program

The purpose of the Hazardous Energy Control (HEC) Program is to protect personnel while performing maintenance and servicing work. The HEC program provides guidance for the safe isolation and restoration of equipment and systems to protect personnel from injury during maintenance, testing, inspections, training, and similar activities. Manual 8Q, Procedure 32 is SRS's procedure to meet OSHA law 1910.147 for HEC.

Hazardous Energy Control (HEC) is the term used at SRS for Lockout/Tagout. At SRS, hazardous energy is controlled by:

1. Do Not Operate (DNO) tags
2. Long shank Master brand locks or site approved protective measures when a component is not lockable to secure the component's position
3. Only trained and qualified employees are authorized to install or remove locks or lockout devices and Do Not Operate (DNO) tags.

Note: This General Employee Training does not qualify an employee to install or remove a lockout.

4. This applies to employees, subcontractors, and vendors whose work scope involves lockouts for controlling hazardous energy.

A single design Lockout/Tagout (L/T) device, a Danger-Do Not Operate (DNO)-Hazardous Energy Control tag, and a lock are typically used to apply an L/T. A laminated long-shank Master safety padlock is the only lock allowed for lockouts. These long-shank locks shall not be used for any other purpose at SRS.

Note: All DNO tags and their means of attachment are designed to withstand all types of environmental conditions and work environments (see picture on next page).



B. Basic Electrical Safety Rules

These basic electrical safety rules comply with OSHA Standards:

- DO NOT work on or near electrical cords unless qualified and authorized.
- DO NOT remove receptacle covers unless qualified and authorized.
- Treat all electrical wires or equipment as if energized.
- Stay at least ten feet away from overhead power lines.
- Heed all warning signs regarding dangerous voltages.
- Avoid contact with metal objects or water sources when handling energized cords.
- Ensure adequate lighting when using electrical equipment and cords.
- DO NOT wear conductive apparel (e.g. bracelets, rings, etc.) that could contact energized parts when plugging or unplugging electrical equipment.
- Inspect electrical equipment before each use.
- Extension cords and multi-outlet boxes are not to be used as a substitute for the fixed wiring of a building or structure.
- Microwaves, refrigerators, large coffee pots, heaters, toasters, etc., which can easily exceed the recommended ampere ratings of multi-outlet box power strips/surge protectors with their high- power loads, are to be plugged directly into building outlets only.
- Extension cords and multi-outlet boxes (power strips/surge protectors) are not to be used in series (daisy-chained).
- Sufficient access and working space shall be provided and maintained about all electrical equipment and panels. The required minimum clear space is 30" wide in front of and 36" out, all the way to the floor.



EO10 - IDENTIFY safe practices for using ladders.

Ladder Safety

- Ladders can be an effective tool to access elevated work; however, they are not as stable as many work platforms. Before using a ladder, one must analyze the task to determine if a ladder is the most appropriate tool for that task.
- Things to consider before using a ladder:
 - ✓ Am I taking medication or have a health condition that could affect my balance?
 - ✓ Will I be able to perform all work within the plane of the ladder (between the side rails)?
 - ✓ Will the planned task involve physical force that could cause the ladder to move?
 - ✓ Will the task allow proper setup of the ladder?
- Ladder users must read and be familiar with Manual 8Q, Procedure 16.
- Ladder users must maintain three (3) points of contact, at all times.
- Users must visually inspect ladders before each use to ensure that they are safe to use.
- Defective ladders must be tagged out immediately with a "Danger- Unsafe Condition" tag (OSR 7-200C). Notify management of the defective ladder.



EO11 - STATE the definition of and requirements for Confined Spaces at SRS.

A. Confined Space and Entry

1. A confined space is a space that is large enough that an employee can bodily enter and perform work. Confined spaces are **not** designed for continuous employee occupancy and have a limited means of entry or exit.
2. It is considered an entry into a confined space when any part of the body breaks the plane of entry.
3. Examples of confined spaces include tanks, vessels, storage bins, hoppers, vaults, etc.
4. Not all confined spaces will be posted. Per the Employee Safety Manual, 8Q, Procedure 33, manholes, modular-office crawl space areas, and false ceiling areas may be confined spaces; however, posting "Danger" signs is not required for these spaces if the access port (i.e., manhole covers/access doors to crawl space/attic areas) is locked into place, requires a special tool to access, or additional manpower is needed to open.
5. Under NO circumstances should any site employee ever attempt to rescue another employee by entering a confined space. Only Fire Department personnel are trained and equipped to perform entry rescue. They are available 24/7 to assist, if needed.



AT NO TIME SHALL ANYONE ATTEMPT ENTRY INTO CONFINED SPACES WITHOUT PROPER TRAINING AND WORK AUTHORIZATION.

B. Confined Space Posting

1. Confined Spaces that are easily accessed without special tools, keys, or locks shall be posted with a sign reading, **"Danger – Confined Space Enter by Permit Only."**
2. Confined Spaces that pose a challenge to access (require special tools, keys, additional manpower, or other special means for entry) do not require postings until access to the space is established.

Examples include access ports that are padlocked or may require special hand tools to remove the fastening devices.

See Manual 8Q, Procedure 33, for additional direction on confined space posting requirements.



3. **Under no circumstances shall an untrained or unqualified person attempt entry into a permit-required confined space.** Only personnel receiving formal Confined Space Training and work authorization are allowed to enter a confined space. If entry into a confined space becomes necessary, follow Manual 8Q, Procedure 33, for Confined Space requirements.

EO12 - LIST the types of Personal Protective Equipment available at SRS and their requirements.

Types of Personal Protective Equipment

The nature of our work, here at SRS, can expose workers to hazardous environments. We have several types of Personal Protective Equipment that you may be required to use.

Examples of commonly used PPE:

Safety goggles, hard hats, protective clothing, leather gloves, etc.

Requirements:

- **Inspect all PPE prior to use.**
- Discard any damaged garment from further use according to program requirements in Employee Safety Manual, 8Q, Procedure 61 (PPE) and the Manual 5Q (Radiological Controls).
- Clean all commonly used PPE, such as face shields, following use and return to proper storage.



EO13 - STATE the methods for mitigating worker exposure to chemicals, noise, and heat.

A. Safety Shower and Eyewash Facilities

1. There are permanent and portable safety showers and eyewash stations available for employees who work in areas where their eyes and body may be exposed to injurious, corrosive, toxic, or flammable materials.
2. These facilities provide domestic water for rinsing toxic materials or chemicals from the body, clothing, or eyes.
3. Operator use:
 - a) Know the location of the safety shower and eyewash facilities in your work area.
 - b) Understand the operation of the safety shower and eyewash facilities.
 - c) After contact with hazardous materials, move immediately to the shower and begin flushing the affected area of the body.
 - d) Remove all affected clothing as quickly as possible while showering.
 - e) Flush for a minimum of 15 minutes.
 - f) If the eyes are affected, hold the eyelids open while flushing at the eyewash facility or safety shower.
 - g) Summon medical assistance.
4. The area around safety showers and eyewash facilities must be well lit and highly visible.



B. Hearing Conservation Program

1. The purpose of the SRS Hearing Conservation Program is to protect employees against workplace, noise-induced hearing loss.
2. The amount of hearing loss depends on the time an individual is exposed to high levels of noise.
3. The effects of noise on hearing are:
 - a) Short-term exposure to high noise levels will produce a temporary hearing loss called "auditory fatigue." Hearing will return after a short time away from the noise.
 - b) Long-term exposure to high noise levels can produce a permanent hearing loss.
 - c) Employees exposed to occupational noise are required to wear hearing protection and are provided annual training.
4. Hearing protection, such as ear plugs and ear muffs, is required for work areas characterized by noise levels of 85 decibels (dB) and above, regardless of time spent in the high noise area. Transit through a high noise area without hearing protection is allowed, provided no work is being performed.



5. Signs and markings are used to indicate where hearing protection must be worn. The signs are yellow background and black letters that read "Caution, Hearing Protection Required."

C. Heat Stress

1. Exposure to heat can make you ill. It can also kill you. There are four common types of heat injuries:
 - a) **Fainting** (Heat Syncope) – dizziness, lightheadedness, and unsteadiness when walking
 - b) **Heat Cramps** – painful cramping and spasms in abdomen, arms, and legs
 - c) **Heat Exhaustion** – sudden tiredness, dizziness, or nausea
 - d) **Heat Stroke** – extremely high oral temperatures (103°F or higher), hot dry skin, and confusion
 - e) Get medical help immediately for any of these conditions. Heat Stroke is a medical emergency.
2. Some heat stress prevention techniques:
 - a) Drink plenty of water in small quantities before, during, and after exposure.
 - b) Allow your body to gradually get used to the heat.
 - c) Work with a buddy who knows the signs of heat stress.
 - d) Eat light foods during the summer.
 - e) Avoid excessive amounts of caffeinated drinks such as coffee, tea, or soda.
3. SRS monitors the Wet Bulb Globe Temperature (WBGT) and designates heat stress categories. Guidelines minimize risk of heat injury. WBGT forecast is available on InSite, under Weather.
4. Other references: Industrial Hygiene homepage/Hazards/Thermal Stress, Manual 4Q, Procedure 502, and SRS Heat Index Card.
5. To review the in-depth SRS Heat Stress Awareness Briefing, go to InSite and type "heat stress" in the search box or ask your supervisor/manager to get you a copy.

D. Chemicals

There are many chemical hazards that an individual could be exposed to on Site, these include asbestos, lead, silica, beryllium, solvents, paints, adhesives, herbicides, liquids, fumes, dusts, mists, and gases. The Site uses ISMS and the Hazard Analysis Process (8Q-122) to assess the potential hazards and to determine the controls and work practices needed to protect the worker. Additionally, the Site uses warning signs and barricades to direct individuals away from hazards if they are not part of the work task.

It should be noted that "chemical" is an all-inclusive term and although it generally describes industrial and laboratory chemical products, a chemical could also be a manufactured product like a ceiling tile or automotive battery because it contains a chemical substance (asbestos, sulfuric acid and lead).

Front of the Index CardOSR 4-703 (Rev 3-29-2017) **SRS Heat Stress Index Card** (moderate workload)
Stores: 26-9263.00

Category	*WBGT Index Range F°	**Recommended Water Intake Quarts/Hour	Estimate of Percent Activity Versus Recovery	Unacclimatized Additional Controls																
I.	77 - 83	0.5	100%	Enforce water / fluid intake																
II.	83 - 84	0.5	75%	Enforce water intake; use buddy system																
III.	84 - 86	1	50%	Enforce water intake; use buddy system; no strenuous work																
IV.	86 - 88	1 to 1.5	25%	Enforce water intake; use buddy system; light work only																
V.	> 88	Heat Stress guidelines exceeded. IH consultation and additional controls required for work under these conditions.																		
<p>* Add the WBGT Clothing Adjustment Factor from the appropriate clothing ensemble listed below to the observed or predicted WBGT. Then compare the resulting adjusted WBGT to the index ranges.</p> <table> <tbody> <tr> <td>Woven PC or Work Clothes</td> <td>0</td> <td>Woven PC with hood</td> <td>+2</td> </tr> <tr> <td>2 layer woven PC (no hood)</td> <td>+5.5</td> <td>2 layer woven PC with hood</td> <td>+7</td> </tr> <tr> <td>Woven PC plus "tyvek" (no hood)</td> <td>+5.5</td> <td>Woven PC plus "tyvek" with hood</td> <td>+7</td> </tr> <tr> <td>Vapor barrier suit with hood</td> <td>+20</td> <td>Woven PC plus vapor barrier suit with hood</td> <td>+21.5</td> </tr> </tbody> </table>					Woven PC or Work Clothes	0	Woven PC with hood	+2	2 layer woven PC (no hood)	+5.5	2 layer woven PC with hood	+7	Woven PC plus "tyvek" (no hood)	+5.5	Woven PC plus "tyvek" with hood	+7	Vapor barrier suit with hood	+20	Woven PC plus vapor barrier suit with hood	+21.5
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Vapor barrier suit with hood	+20	Woven PC plus vapor barrier suit with hood	+21.5																	
<p>** Workers should not be required to consume these specific quantities, but they should be available to the workers. Extended shift workers should hydrate as needed, at any time.</p>																				

Back of the Index CardOSR 4-703 (Rev 3-29-2017)
Stores: 26-9263.00**Common Heat Related Illnesses**

Disorder	Clinical Features	Treatment
Heat Stroke	Hot dry skin (red or blue), irritability, confusion, shivering, convulsions, collapse.	MEDICAL EMERGENCY. Aggressively cool victim. Use ice bath or pour ice and water on the victim, if available. Call Medical immediately.
Heat Syncope	Gray-out or black-out, fainting in heat. (No signs or symptoms of heat stroke)	Promptly move to cooler area. Give water or electrolyte drink if conscious.
Heat Exhaustion	Fatigue, nausea, headache, giddiness, clammy, moist skin, pale complexion.	Promptly move to cooler area. If victim is conscious give water or electrolyte drink.
Heat Cramps	Painful spasms of muscles used during work (arms, legs or abdominal).	Rest in a cool area. Give electrolyte drink if available.
Heat Rash	Many tiny blister-like lesions on affected area.	Wash area; then thoroughly dry. Wear loose clothing.

Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. **Which is a true statement about employees and safety?**
 - A. Employees are required to notify security of any safety-related issues.
 - B. Employees have the right to carry a concealed weapon on site.
 - C. Employees must participate in the Annual Safety Conference.
 - D. Employees have the right to express concerns about worker Safety and Health.

2. **Select the activity prohibited at SRS.**
 - A. Taking shortcuts through construction areas
 - B. Running on designated jogging trails
 - C. Carrying a pocketknife with a locking blade
 - D. Reporting spills and leaks to supervision

3. **Identify an unsafe condition.**
 - A. Standing on a table
 - B. Running across the road
 - C. A pool of water spilled on the floor
 - D. Cookies stored on top of the microwave

4. **What are the functions of the Integrated Safety Management System (ISMS)?**
 - A. Complete the scope of work under all circumstances, and do not call a time out unless your supervisor advises you to
 - B. Develop a scope of work, define the correct procedure and list the standard
 - C. Define the standard, develop the work scope, and ensure compliance
 - D. Define the scope of work, identify the hazards, develop controls to mitigate the hazards, perform work within the boundary of the controls, and provide feedback for continuous improvement

5. **Who is authorized to conduct rescue operations in a confined space?**
 - A. Any employee
 - B. Any trained employee
 - C. The SRS Fire Department
 - D. Any Authorized employee



III. GENERAL EMPLOYEE RADIOLOGICAL TRAINING (GERT)

Enabling Objectives:

- EO1 **DEFINE** radiation, radioactive material, radioactive contamination, and the ALARA principle.
- EO2 **STATE** the biological effects, risks, and sources of radiation.
- EO3 **STATE** the SRS radiation dose limits and how radiation doses are tracked.
- EO4 **STATE** the types of radiological signs and barriers in use at SRS and the Radiological Area Access Restrictions placed on General Employees.
- EO5 **IDENTIFY** the proper techniques for using a contamination monitor.
- EO6 **LIST** the responsibilities of a Non-radiologically-trained General Employee for the SRS Radiological Protection Program.

In addition to the hazards usually associated with an industrial work site, such as working around electricity, flammable material or ignition sources, chemicals, heights, or confined spaces, Savannah River Site Employees must face an additional hazard not commonly found in such industrial work sites.

Exposure to radiation, radioactive material, and radioactive contamination are all possible for employees working at the Savannah River Site. These types of hazards may be found in numerous locations throughout the Savannah River Site and are dealt with in a manner like industrial hazards.

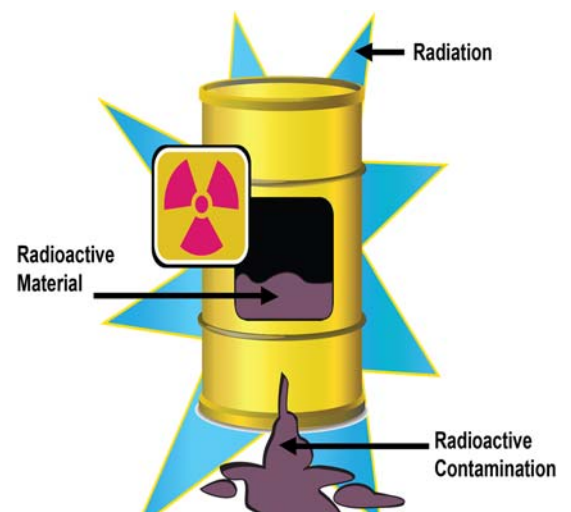
Savannah River Site trains personnel on how to safely work around materials that emit radiation and ensures that there are procedures and protective equipment available for employees doing this work. All work is conducted in a safe manner.

EO1 - DEFINE radiation, radioactive material, radioactive contamination, and the ALARA principle.

A. Definitions

It is important for you to know that as a general employee who does not have the appropriate Radiological Worker Training, you will probably **NOT** be exposed to radiation, radioactive materials, or radioactive contamination.

1. **Radiation** is energy from unstable atoms emitted through space and matter.
2. **Radioactive material** is material that contains unstable atoms. Material contained inside the drum consists of unstable atoms.
3. **Radioactive contamination** is radioactive material where you do not want it to be. In this case, the material leaking from the drum is radioactive contamination.



B. Maintain Radiation Exposures ALARA (As Low As Reasonably Achievable)

1. Even though the mission at SRS has changed from production of nuclear materials, the SRS policy for protecting employees, visitors, the general public, and the environment has not changed.



2. It is and always has been SRS's policy to maintain personnel exposure to radiation and radioactive materials at a level that is As Low As Reasonably Achievable (ALARA).

Radiation exposure to the work force and public shall be controlled such that exposures are well below regulatory limits and that there is no radiation exposure without an overall benefit. Adherence to the ALARA principle is achieved through engineering controls, administrative controls, PPE, and other measures implemented at the facility to manage and maintain doses including both routine and emergency actions.

3. Additional Training

Additional training beyond GERT is required for employees who are identified as radiological workers. Every employee, both radiological workers and non-radiological workers, must play an active part in maintaining exposures to radiation and radioactive materials within DOE limits and As Low As Reasonably Achievable (ALARA).

EO2 - STATE the biological effects, risks, and sources of radiation.

A. Biological Effects

1. Biological effects from chronic radiation doses may occur, although the risks are very small. These effects may show up in the exposed individual or in the future children of the exposed individual.
2. "Exposed individuals" have a slight risk that cancer may develop due to chronic radiation doses. This risk is small when compared to the natural occurrence of cancer. The high cancer incidence rate in the population makes it difficult to measure the additional risk of fatal cancers due to low-level radiation exposure.
3. Using data furnished by the National Academy of Sciences, a single whole-body dose of 10,000 millirem delivered to each member of a large population of persons of all ages could result in an increased risk of fatal cancers of less than 1 percent. The **millirem** is a unit used to express how much radiation we receive.
4. As for future children of the exposed individual, genetic effects have been extensively studied in plants and animals. There have been no genetic effects clearly caused by low radiation exposures observed in human populations.

B. Risks in Perspective

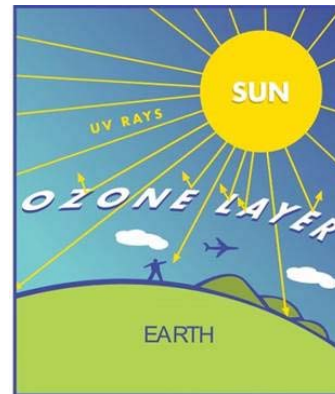
1. Accepting a risk of any kind, such as smoking, driving a car, working at a nuclear facility, or playing football is a highly personal matter. The Site's policy that no radiation exposure will be permitted without an overall benefit is important to minimizing any risk associated with working at SRS.
2. Risks associated with occupational exposures are low when compared to other risks from normal day-to-day activities. Occupational radiation doses are considered to be chronic doses. A chronic radiation dose refers to small amounts of radiation received over a long period of time.

C. Sources of Radiation

Our occupational exposure is not the only example of a chronic radiation dose. Another example of a chronic radiation dose is what we receive from natural background sources of radiation. We are also exposed to manmade sources of radiation.

1. Natural Background: 310 mrem/yr

- Cosmic radiation – the sun and outer space
- Radon – a naturally occurring gas
- Earth's crust – rocks and soil
- Human body – Potassium 40

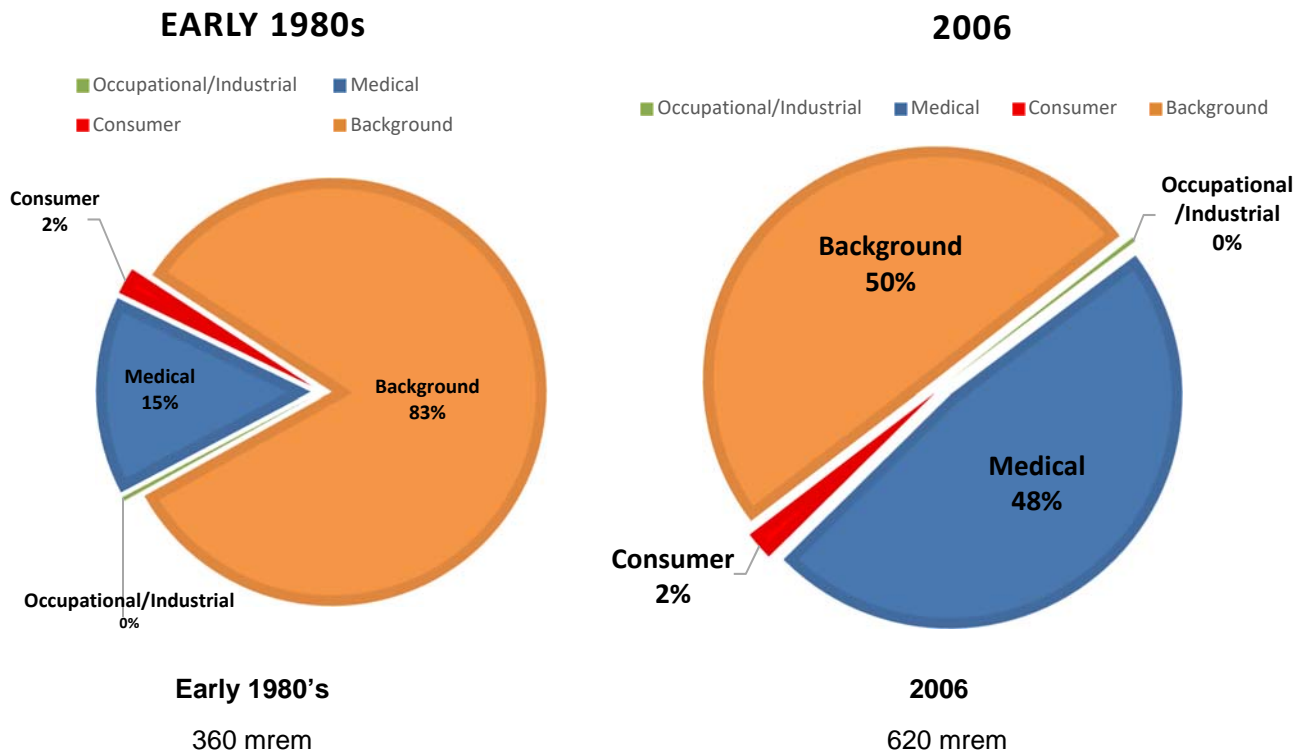


2. Manmade Sources: 310 mrem/yr

- Medical uses – x-rays and nuclear medicine – 298 mrem/yr
- Consumer products – smoke detectors, tobacco products and exit signs that glow in the dark – 12 mrem/yr



NCRP Report No. 160, Ionizing Radiation Exposure of the Population of the United States



Effective dose per individual in the U.S. population.

D. Average Annual Dose

The general public receives about **620 millirem a year from natural background and manmade sources of radiation.** This is an increase from the previous dose rate of approximately 360 millirem a year, due primarily to the growth in the use of medical imaging procedures.

EO3 - STATE the SRS radiation dose limits and how radiation doses are tracked.

A. Personnel Dose Limits

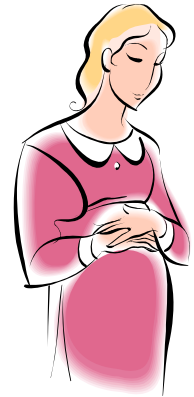
Since there may be risks involved from chronic doses of radiation, there are established dose limits and administrative control levels to limit the amount of radiation workers may potentially receive.

B. General Employee Radiation Dose Level

DOE has established an Administrative Control Level of 2000 mrem per year per person for all its activities. The SRS Administrative Control Level (ACL) for **SRS general employees that are not radiological worker qualified is 100 mrem/year.**

C. Special Policy for a Declared Pregnant Worker and Embryo/Fetus

After a female radiological worker voluntarily notifies her employer, in writing, that she is pregnant, she is considered a "Declared Pregnant Worker." The employer then provides the option of a mutually agreeable assignment of work tasks, without loss of pay or promotional opportunity, such that further occupational radiation exposure is unlikely. This declaration is for the purposes of fetal/embryo dose protection. It should be noted that the declaration may be revoked, in writing, at any time by the declared pregnant worker. Large radiation doses to the embryo or fetus may increase the chances that the child will have slower mental growth, low birth weight, a small head size, or childhood cancer. This is one of the reasons why routine x-rays are no longer used on pregnant workers. It is also important to note that these effects can be caused by many other hazards or factors in our environment such as smoking, drinking, or the age of the woman during pregnancy.



D. Tracking Occupational Dose

1. Dosimeters

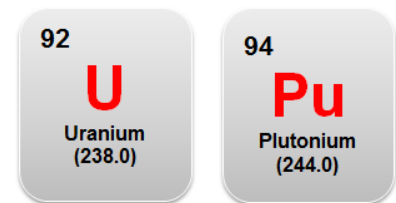
Measure the amount of radiation an individual has received. The dosimeter is worn on the front trunk of the body between the neck and waist and is attached to the security badge. The beta/open window label must face away from the body. Radiological workers must obtain a dosimeter and receive instructions on its proper use from Radiological Protection (RP) personnel prior to entry into radiological areas or RBA established for exposure control. Radiological workers must return the dosimeter after use to Radiological personnel.

2. Criticality Neutron Dosimeter (CND)

Measures neutron dose in the event of a criticality accident. CNDs are worn when working around fissile material, such as uranium and plutonium. RP advises **not** to take CNDs home because of the hazardous material inside (could cause eye or skin irritation, including burns). If taken home, CNDs should be treated like any toxic chemical and kept in an area where children do not have access to them. Special care should be taken to prevent breakage. If your CND becomes damaged, contact Facility Radiological Protection Personnel.

3. Nuclear Criticality Safety Training

General guidance for nuclear criticality safety is found in American National Standard (ANSI/ANS-8.20). This standard provides a framework for the training of employees associated with fissionable material operations outside reactors where potential exists for criticality accidents. Nuclear Criticality Safety Training will be provided at the facility level for employees working with fissile material. Examples of fissile materials are uranium and plutonium.



4. ProRad/Radiation Protection System (Dose Tracking System):

- Electronic sign-in and sign-out for radiological areas
- Documents the person has read, understands, and will comply with Radiological Work Permit (RWP)
- Records time worked in a radiological area
- Tracks workers' exposure

E. Access to Exposure Reports

1. Employees who are trained only at the GERT level are not expected to receive occupational dose above the site allowed 100 mrem/year; however, they may be monitored for exposure due to escorted entries into radiological areas or RBAs established for exposure control. If you are monitored for exposure, you have the right to request reports of that exposure.
2. If you have a computer account, you can look up your dose history on InSite by going to your name and then clicking on "View Radiological Status."
3. Upon request, an employee may receive a current radiation exposure report by contacting Radiological Protection personnel.
4. Monitored personnel will receive an annual report of their exposure.
5. Upon request, terminating employees will receive a radiation report of the dose received at SRS.

NOTE: Individuals who have received radiation exposure at facilities away from SRS should arrange for those dose records to be sent to the SRS Dosimetry Records Coordinator.

EO4 - STATE the types of radiological signs and barriers in use at SRS and the Radiological Area Access Restrictions placed on General Employees.

A. Methods Used to Control Radiological Material

Just as there are signs that we see in our daily lives that help control access to areas or regulate our driving habits, SRS uses signs and specific barriers to control access to various areas controlled for radiological purposes.

1. Radiological Signs and Barriers

Signs that have the standard radiation symbol colored magenta or black on a yellow background are used to identify radiological areas and radioactive material. Yellow and magenta rope, tape, chains or other barriers also designate the boundaries of these areas.

2. Special Packaging

Yellow plastic wrapping material (or plastic wrapping materials emblazoned with yellow markings) should be used for packaging radioactive material and should not be used for non-radiological purposes.

Temporary use of yellow tarps or DOT approved yellow containers for non-radiological material is allowed provided the tarp is labeled or marked on all sides or corners with the words, "For Non-Radiological Use Only" and for containers with the words, "This container is for non-radiological material only".

Radioactive material bags are constructed of either a clear body or a tinted/translucent yellow body and magenta markings consisting of the radioactivity symbol and the words, "Caution, Radioactive Material."



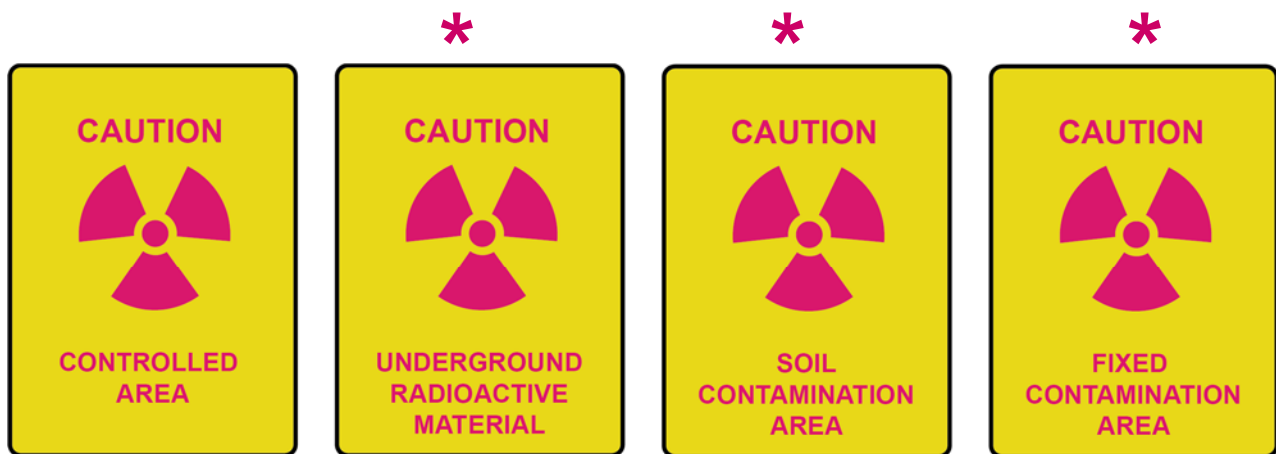
3. Designated Storage Areas

SRS uses designated areas to store radioactive material. In areas that have radioactive contamination, protective clothing and equipment are used to prevent personnel contamination. Each type of radiological area will be posted as to whether the area has a radiation hazard and/or a contamination hazard.



B. Areas a General Employee CAN Enter Unescorted

As a non-radiological trained general employee, if there is a need and you have authorization, you can enter these four areas without a radiological worker escort or any type of radiological controls, provided the area is not located within a Radiological Buffer Area.



* These areas cannot be entered unescorted if located within a Radiological Buffer Area.

Radiological Buffer Area (RBA)

An area established around radiological areas to manage personnel access to the radiological areas and to provide warning of the existence of radiological hazards in the area.

A Radiological Buffer Area is an intermediate area established to:

- Prevent the spread of contamination
- Protect personnel from radiation exposure
- Provide a buffer area between Controlled Areas and radiological areas



Remember, if the Underground Radioactive Material Area, Soil Contamination Area, or Fixed Contamination Area is located inside the RBA, you must be escorted by someone who can enter the RBA unescorted.

C. Areas a Non-radiological Trained General Employee CANNOT Enter Unescorted

General Employee Radiological Training (GERT) will NOT allow unescorted access to:

- Radiological Buffer Area (RBA)
- Radioactive Material Area (RMA)
- Radiation Area (RA)
- Contamination Area (CA)
- Inactive Contamination Area (ICA)
- High Radiation Area (HRA)
- High Contamination Area (HCA)
- Inactive High Contamination Area (IHCA)
- Airborne Radioactivity Area (ARA)
- Very High Radiation Area (VHRA)
- Radiography Area

EO5 - IDENTIFY the proper techniques for using a contamination monitor.

A. Personnel Contamination Monitor (PCM)/ARGOS

A PCM or an ARGOS provides a quick, reliable, and superior level of external alpha and beta-gamma contamination detection on personnel working in nuclear environments. Both monitors perform 2 counts: PCM counts right side and left side; ARGOS counts front and back. **Follow the guidance of your Radiological trained escort for use.**



ARGOS

Measures the front and back side of body



PCM

Measures right and left side of body

E06 – LIST the responsibilities of a Non-Radiologically-trained General Employee for the SRS Radiological Protection Program.

Employee Responsibilities

In the unlikely event that a radiological incident should occur, it is important for each employee to know the emergency procedures. This is addressed in the Emergency Management section.

A positive radiological attitude is not limited to those who perform radiological work. All employees have an impact on maintaining exposures to radiation and radioactive material As Low As Reasonably Achievable (ALARA).

Some of our responsibilities are:

- Read and obey all signs and postings.
- Comply with all radiological and safety rules.
- Do not enter any area controlled for radiological purposes unless escorted or trained. If visiting a radiological area with an escort, obey their instructions.
- Obtain and properly wear dosimeters as instructed by procedure, Radiological personnel, or your escort.
- Use ALARA techniques to minimize your exposure.
- Comply with emergency procedures for your work area.
- Keep exposures to radiation and radioactive materials ALARA.

Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. **How do the risks from working in the nuclear industry compare to other risks we accept on a daily basis?**
 - A. The risks from working in the nuclear industry are lower
 - B. The risks from working in the nuclear industry are higher
 - C. The risks are the same
 - D. The risks from working in the nuclear industry are higher if the person is over 50

2. **What are sources of man-made radiation?**
 - A. Radon, cosmic, medical x-rays
 - B. Cosmic, nuclear medicine, radon, the human body
 - C. Earth's crust, radon, cosmic
 - D. X-rays, glow in the dark exit signs, smoke detectors

3. **What is the SRS administrative control level dose limit for a non-radiological worker?**
 - A. 250 mrem/year
 - B. 500 mrem/year
 - C. 5 Rem/year
 - D. 100 mrem/year

4. **What is one method used to control radiological material?**
 - A. Storing radiological material in clear plastic containers
 - B. Posting radiological signs colored yellow and magenta
 - C. Posting radiological signs colored orange and white
 - D. Storing radiological material in F-Area only

5. What are the employee's responsibilities for the SRS Radiological Protection Program?

- A. Keep your radiation exposure As Low As Reasonably Achievable (ALARA)
- B. You do not have any responsibility because you are not a radiological worker
- C. Complete Radiological Worker I Training
- D. Complete Radiological Worker II Training

6. For the past two months, you have been working unescorted by a radiological worker in an area posted as a "Soil Contamination Area." Today you notice that the posting has been changed. It now reads, "Radiological Buffer Area, Soil Contamination Area." What should you do?

- A. Enter the area as usual and continue working on your task
- B. Request permission to enter from your Environmental Compliance Authority
- C. Do not enter. Contact your supervisor so he can arrange a radiological worker escort for you
- D. Contact the Industrial Hygiene office for permission to enter the area

7. Which item is used to detect radioactive contamination on the outside of your body?

- A. Whole Body Counter (WBC)
- B. Personnel Contamination Monitor (PCM)
- C. Dosimeter
- D. Environmental Compliance Authority (ECA)

8. Name four sources of natural background radiation.

_____, _____, _____, and _____.



Enabling Objectives:

- EO1 STATE the missions of DOE-SR.
- EO2 STATE the responsibilities of the Safeguards and Security (S&S) Program.
- EO3 STATE the purpose of the S&S Program.
- EO4 STATE the elements of the SRS Security Badge Program.
- EO5 IDENTIFY the Security Restrictions on items and vehicles.
- EO6 STATE the reporting requirements to/for the Personnel Security Office.
- EO7 IDENTIFY the SRS Security Areas.
- EO8 LIST the SRS Security Controls on information and property.
- EO9 STATE the SRS Access Controls and Regulations.
- EO10 STATE the reporting requirements for Technical Surveillance Counter Measures, Technical Security, and Medical Device Reporting.
- EO11 STATE the elements of the Nuclear Material Control and Accountability Program and the Cyber Security Program.
- EO12 STATE the reporting requirements for the Workplace Violence Program, Traffic and Vehicle Safety Program, Counterintelligence Program, and SRS Incidents of Security Concerns Program.
- EO13 STATE the reporting requirements to/for Protective Force-SRS (Centerra).
- EO14 STATE the employee responsibilities for an Active Shooter Event and Local Insider Threat Working Group.

IV. SRS SAFEGUARDS AND SECURITY PROGRAM

EO1 - STATE the missions of DOE-SR.

Overview of the DOE facility/organization's mission:

Program Missions

DOE-SR performs the following three specific missions:

- National Security
- Environmental Stewardship
- Clean Energy

An Integrated Safety Management System (ISMS) is embedded in all work processes at the SRS to ensure that the SRS mission is met in a manner that is safe to workers, the public, and the environment.

National Security

Enhance national security by applying unique SRS technology and systems assets to global nuclear nonproliferation, deterrence, and threat reduction challenges.

Environmental Stewardship

Transform liabilities to assets to reduce the environmental legacy of nuclear materials and radioactive waste at SRS to provide innovative approaches that advance and improve SRS processing leverages solutions to other DOE sites and customers.

Clean Energy

Accelerate the deployment of nuclear energy through public and private partnerships that solve critical nuclear material storage, processing, and disposition challenges utilizing the Site's expansive expertise to support regional energy sustainability.

DOE-SR is responsible for executing these DOE missions through the oversight and management of contractors that provide the following SRS services:

- Facility Management
- Business Management
- Emergency Management
- Technical Support
- Safeguards & Security (S&S)

EO2 - STATE the responsibilities of the Safeguards and Security (S&S) Program.

Safeguards and Security (S&S) Program Mission

Overview of facility/organization's major S&S program responsibilities:

Safeguards & Security (S&S) programs encompass multiple security areas. (i.e. Personnel Security, Information Security, Cyber Security, etc.) Specific information concerning these and all topical area requirements covered by S&S is provided in individual procedures in S&S site-level manuals.

S&S programs must be based on the results of vulnerability and risk assessments, the results of which are used to design and provide graded protection in accordance with an asset's importance or the impact of its loss, destruction, or misuse. These results, which include system effectiveness determinations, are key considerations for management evaluation when establishing the level of risk. To determine the appropriate level of risk, managers must consider the threat, the vulnerability of the potential target, and the potential consequences of an adversarial act.

SRS recognizes that actions cannot be taken to reduce the potential consequences of all malevolent acts to zero. Some risks must be accepted; however, an acceptable level of risk must be determined based on evaluation. Using a graded approach, SRS will provide the highest level of protection to security interests and activities whose loss, theft, compromise, and/or unauthorized use would seriously affect the national security, the environment, DOE programs, and the health and safety of the public or employees.

The goal of the SRS S&S program is to interrupt adversarial actions and progress to engage and neutralize the adversary as far outside the facility as possible. Specific elements of the protection strategy are to:

- Deter the adversary from selecting SRS as a target site
- Detect and delay the adversary from entry
- Detect and delay the adversary inside the facility
- Contain the adversary to prevent escape
- Denial of adversarial tasks, to include facility containment, recapture, and/or recovery as applicable

Deterrence is achieved through the implementation of an in-depth, insider mitigation program, the personnel clearance program, the security awareness program, the Human Reliability Program, and hardening of the physical security systems at SRS.

Detection is achieved through concentric rings of graded security to provide defense-in-depth. Detection consists of Protective Force controlled entry/exit points, patrols, and S&S detection and assessment systems.

EO3 - STATE the purpose of the S&S Program.

A. Safeguards and Security Program

The purpose of the S&S Program is to establish roles and responsibilities and to inform each employee of their responsibility in the area of security. This program provides elements that meet the security requirements of Department of Energy (DOE) Directives.

B. Security Awareness Program

The purpose of the Security Awareness Program is to ensure employees are aware of their safeguards and security responsibilities and to promote continuing awareness of SRS security requirements. The Security Awareness Program is implemented by using a variety of methods including, but not limited to, pop-ups, security tips, site communications, roadshows, etc. A Security Awareness Program Manager is appointed to formulate the security awareness program, to design, develop, and deliver security awareness briefings, and to serve as a security resource.

EO4 – STATE the elements of the SRS Security Badge Program.

A. DOE Badge Program

The DOE-SR Personnel Security Team is established to ensure the overall objectives and requirements of the Personnel Security Program are implemented.

A photo ID badge is required for unescorted entrance to SRS. The security badge color/clearance level on the badge identifies the access level the wearer has been approved for through the DOE Personnel Security Program. Clearance approval and need-to-know are components for access to national security information. A light blue badge indicates a “Q” clearance. Light yellow indicates an “L” clearance. A maroon badge is issued to uncleared personnel. A “C” for “Contractor” is located along the right edge of the security badge for any contractor employee. HPSD-12 Badges (white photo badges) will have the clearance level printed on the badge (L or Q). Uncleared HSPD-12 Badges will not have a clearance level designation. A red badge is issued to foreign nationals and is initialed with “FN” on the badge.

Access to any level of classified matter is restricted to individuals who are authorized or "cleared" through the DOE's Personnel Security Program. The DOE security badge is used as an indicator of authorized site access and the level of clearance. The badge you receive is an important credential.

Familiarize yourself and follow the rules and policies listed below.

- Badges must be worn at all times while on the site and at off-site DOE facilities.

- Badges must be worn in plain view and at chest level.
- Badges must not be worn in public or used as personal identification outside of the SRS.
- It is against the law to counterfeit, alter, or misuse your badge.
- If your badge is lost or stolen, report it immediately to the Badge Office (within 24 hours) and complete OSR 10-32 Lost, Forgotten, or Damaged Badge Report. If your badge is stolen, you are required to file a police report and provide a copy of the report to the SRS Badge Office. The Badge Office phone number is 803.725.2343, then select option 1.
- Your badge is the property of DOE and must be returned to the Badge Office if it has expired, is no longer required, or upon your termination.
- If you take an extended leave of absence (90 calendar days or longer), you must return your badge to the Badge Office or your cognizant Personnel Security Office.
- Renew your badge when there is a change in name, physical appearance, or the badge becomes faded or damaged.
- Do not use your badge outside of DOE facilities, other than for government purposes.
- Do not display your badge in off-site locations such as restaurants, service stations, convenience stores, airports, etc.
- Do not leave or store your security badge in an unlocked and/or unattended vehicle; i.e., badges should not be left in vehicles overnight.
- If you must leave your badge in your locked vehicle, do not leave it in plain sight (i.e., hanging on your rearview mirror or on the seat when stopping at a store, church or school before going home). Badge should be removed or obscured from visual access.
- Do not use your badge off-site for verification of employment or for verification for discounts.
- Protect your badge from loss or theft.

NOTE: SRS does not issue one-day temporary badges. If you forget your badge, you will have to retrieve your badge prior to entry into the site.

1. Site ID Badge

This badge displays the employee's photo, name, and User ID (bar-coded). It is about the size of a credit card and has a magnetic strip on the back. You must wear your Site ID badge always while on the site.

The badge has three purposes:

- Scanned at the barricade when an individual is pulled over for a random inspection.
- Used in place of RAD I, RAD II, and Non-RAD badges at nuclear facilities to scan in and out of radiological areas.
- Used to verify employment for government rates at hotels while on government business/travel.



2. Badge Inspections at Site Perimeter Barricades - Approach with caution

Vehicles will be required to come to a complete stop. All vehicle occupants will remove their Site security badge and give the badge to Protective Force-SRS for inspection, one at a time. If your badge is in a plastic holder/badge protector, employees are required to remove the badge from the badge holder prior to handing your badge to the protective force member. Protective Force-SRS will keep control of the badge until the entire inspection process is completed.

Protective Force-SRS will conduct a plain view inspection of the vehicle at this time for prohibited and controlled articles. Protective Force-SRS will provide direction to the driver if the vehicle is selected for a random inspection. After Protective Force-SRS has completed the plain view vehicle inspection and verified and inspected the security badge, they will return the security badge to the employee. The employee(s) should place the badge(s) back on their lanyards and when instructed, proceed with caution. The badging process will be required for all occupants of the vehicle. In all cases, the employee will give the badge to Protective Force-SRS.

At the Site perimeter barricades, it is important for employees to be prepared to stop, present their badge, and be alert for the safety of all personnel.

When approaching the barricade, follow all required posted speed limits, stop signs, and directions provided by Protective Force-SRS.

Prior to pulling up to the barricade, have the vehicle windows down so Protective Force-SRS can view the inside of the vehicle. Passengers in the vehicle should be awake.

During the security badge inspection process, drivers and passengers should refrain from talking on cell phones, turn the volume down on radios/DVD players, and avoid eating, drinking, or smoking while processing in at the barricade.



Note: During shift change, the barricade arms will be in the up position. During non-shift change, the barricade arms may be in the down position. The Protective Force-SRS Officer will raise the arm following the badge inspection process.

3. Random Vehicle Inspection

As part of the search process for prohibited and controlled articles at the site perimeter barricades, when a personally/privately-owned vehicle (personally-owned vehicle, subcontractor vehicle, vendor, etc.) is pulled for a random vehicle inspection at a perimeter barricade, employees should do the following:

- Pull over to the safe lane.
- Apply parking brake and shut off your engine.
- Open all inner compartments.
- Open all closed containers, such as briefcases, purses, and lunch boxes.
- Exit vehicle.
- Hand Security Badge and Site ID badge to the Protective Force-SRS Officer and tell him/her the name of your company.

- Open all doors and trunk.

The Protective Force Officer, in addition to checking for required security badges and conducting a search of the vehicle, will also ask for a valid **driver's license**. If a violation is discovered during the inspection process, (prohibited articles, potential law violation, etc.), **a vehicle registration and proof of insurance may be required**. A driver is required to have all these documents to drive the vehicle on-site and is required to have these documents on his/her person or in his/her vehicle.

The state of South Carolina requires you to have all three documents. This site follows all South Carolina state requirements. It does not matter in which state the vehicle is registered, state and site policy require that you have/provide proof of all three documents. Therefore, even if SRS employees reside in a state that does not require proof in the car, they need to make a copy of their insurance card showing current insurance dates or be able to provide a copy of their policy to show they do have current insurance. Anyone not having these documents and, if in violation of a law will be cited for the violation. Prior to the vehicle being allowed access to the Site, all three required documents must be available. After removing the vehicle from the Site and until such time all required documentation is available, the employee can return to work at the Site. The vehicle is not authorized on-site (i.e., ride with another employee, etc.).



Personnel driving government vehicles are required to provide their driver's license when pulled for a random inspection.

Note: Failure to produce any of these documents will mean denial of site access!

4. Site Policy Violation (SPV) Notice

A Site Policy Violation Notice will be given to individuals who cannot provide the required documentation for driving on site, such as a valid drivers' license, current proof of insurance, and vehicle registration and/or if the employee has prohibited and controlled articles in their personally owned vehicle when pulled for inspection at a Site perimeter.

The Site Policy Violation Notice implications are as follows:

- Site access will be denied.
- Employee will be issued a Site Policy Violation Notice form.
- Employee will sign the Site Policy Violation Notice form and keep a copy.
- The signature acknowledges that the employee understands the violation (vehicle is being denied access to the site and the issue must be resolved before bringing the vehicle back onto the Site).
- Employee is required to return with their copy of the form and provide proof of violation resolution at the affected barricade within 72 hours of the violation.
- Protective Force-SRS will provide a daily, unresolved status report to all Contractor Companies and DOE-SR listing the violators and those who have not returned to the barricades for a re-inspection of their vehicle.
- The applicable Contractor Companies (security groups) will be responsible for contacting the employee's management if resolution of the violation has not occurred within 72 hours of the violation.

- If an intentional re-entry to the site is made prior to resolving the documented violation, the employee may be subject to their company's disciplinary action for violating this site policy.
- After removing the vehicle from the Site and until such time all required documentation is available and/or prohibited and controlled articles are removed, the employee can return to work at the Site. The vehicle is not authorized on-site (i.e., ride with another employee, etc.).

Centerra-SRS Team Law Enforcement/Protective Force will also stop individuals observed using hand-held electronic devices such as cell phones, PDAs, BlackBerrys, Palm Pilots, personal computers, hand-held GPS devices, pagers, etc., while driving on Site and issue them a Site Policy Violation Notice. The individual's manager or Subcontract Technical Representative will be notified for appropriate action.

A. Personally-Owned Recreational Vehicles

- Boats, campers, travel/cargo trailers, and motor homes are allowed on site **only** with permission from Protective Force-SRS. Park such vehicles in the short-term lot near the badge office.
- Employees must contact Protective Force-SRS at 803-725-2310 to gain permission to park in this area. Permission to park in this area is granted for less than 24 hours. All vehicles are subject to inspection. Vehicles parked without prior notification/permission will be towed.

EO5 - IDENTIFY the Security Restrictions on items and vehicles.

A. Prohibited Articles

The following are considered prohibited articles and are prohibited at SRS and its facilities unless in the possession of a person with a valid pass:

1. **All Firearms** - Exception: shotguns belonging to hunters who have been issued SRS hunt permits and are participating in authorized hunts.
2. **Simulated Firearms** - Exception: obvious children's toys as determined by the Centerra-SRS Protective Force supervisor.
3. **Potential Weapons** - cross-bows, bows and arrows, martial arts weapons such as Billy clubs or nun chukkas, machetes, butterfly knives, other fixed-blade knives not intended as eating utensils or those required in the performance of duty, and folding knives with blades over three inches. Exception: Pocket knife that folds, locks, and blade is less than three inches.
4. **Ammunition** - gunpowder and explosives. Exception: empty or fired cases.
5. **All Alcoholic beverages**
6. **Incendiaries and Accelerants** - gasoline/diesel fuel not contained within a factory-installed fuel tank, explosive materials, and related devices (fireworks, blasting-caps). Exception: highway safety flares properly stored.
7. **Non-prescription narcotics** - illegal drugs, controlled substances, drug paraphernalia, or articles used in the sale, manufacture, delivery, or possession of illegal drugs. These articles include hypodermic needles and syringes, roach clips, spoons, vials and pipes designed to



smoke hashish or marijuana. Exception: Hypodermic needles used for legitimate medical purposes are exempt from the restriction.

- 8. Tear gas** - chemical mace, devices containing chemical agents, or other chemical irritants. Exception: containers of two ounces or less of pepper or mace sprays carried for personal use are permitted at SRS with the exception of Material Access Areas.

9. Stun guns

- 10. ALL Unmanned Aerial Systems (UAS) and Unmanned Ground Systems (UGSs).** This includes Unmanned Aerial Vehicles (UAVs), drones, quadcopters, gyrocopters, remote control aircraft, model aircraft, remote controlled vehicles, robotic devices, etc.).

NOTE: Prescription Drugs – Must be in ORIGINAL container for the individual in possession of medication(s) and must not be expired. If expired, you will need documentation from the physician stating you are authorized to take the expired medication.

- 11. Items not required for jobs on-site** - although not contraband, should be left at home. This would include the following types of items: Garden and yard tools such as a garden hose, shovels, pitchforks, digging tools, pruners, rakes, tools for watering, branch cutters, shredder, chipper, garden tools for weeding, garden trowel, garden tiller/cultivator, hedge cutters, weed-eater, chain saws, pipes, machetes, yard brooms, electric blowers, electric trimmers, electric vacuums, and lawn mowers. To minimize delays during the vehicle inspection process, employees should clean out their vehicle and leave unnecessary equipment, tool-boxes, boxes, luggage, garden tools (items listed above), sporting equipment, hunting equipment, and golf clubs at home. Certain items could be considered a prohibited and controlled item (weapon) such as, machetes, axes, pipes, and nail guns, unless these items are needed and approved for an employee's work requirements.

B. Controlled Articles Not Permitted in Security Areas (Limited Areas and above) (unless under the control of an employee with an approved Prohibited and Controlled Articles, PACA Pass) include:

- Electronic copying or recording devices (e.g. tape recorders, video recorders, digital cameras)
- MP3 players, iPods, or other similar devices containing a microprocessor
- Cameras and undeveloped film including disposable cameras with built-in film
- Wireless transmitting equipment
- Personally owned two-way radios (including Citizen Band – CB) and/or cellular telephones. Only government owned cellular phones are allowed in LAs, with the exception of NNSA facilities within the Tritium LA fence line or the Third Floor of 730-2B, NNSA LA. Vehicle mounted radios are permitted access but must be turned off.
- Non-government pager with transmitting capabilities
- Any device that has Bluetooth capability (e.g. smart watches, wireless keyboards, etc.).

All government iDevices have Bluetooth but do not require a PACA Pass.

- If you have specific questions concerning certain devices, check with your Respective Area Technical Security Office prior to bringing technology into a Security Area.

NOTE: Some items are prohibited and controlled everywhere on-site and in DOE off-site facilities. Other items are prohibited and controlled only in SRS security areas (Limited Areas and above).

C. External Information System

An External Information System (EIS) is defined as all electronic equipment not purchased with U.S. Government funds. EIS includes Vendor-Owned and Subcontractor-Owned electronic equipment, as well as Personally-Owned Devices (POD) and Personally-Owned Electronic Equipment (POEE). Employees may not use their own computers, recording devices, or other communications devices for site business. Employees may not take their own computers, recording devices, or other communications devices into facilities in Limited Areas or higher.

Examples include, but are not limited to:

- iPod, MP3 player or any similar device
- Cell phones, iPhones, and iPads
- Personally-owned computers, including but not limited to desktop, laptop, and hand-held computers
- Pagers (two way)
- Cameras and recording equipment
 1. The use of electronic devices to transmit or record meetings or conversations, without acknowledgement and permission of all parties, is prohibited.
 2. Employee owned devices may be brought into the general site, as long as they are not interfaced in any way with site systems or networks.
 3. Personally owned cameras, cell phones, or iPADS **shall not** be used to photograph SRS facilities, security interests, or other SRS interests in a Property Protection Area or higher.
 4. Personally owned devices or equipment are not to be connected or interfaced with any government equipment for any reason.

EO6 - STATE the reporting requirements to/for the Personnel Security Office.

A. Personnel Security Office Reporting Requirements:

Employees **applying** for or granted a DOE access authorization must report the following information to their Personnel Security Office, verbally, within two working days, followed by written notice within the next three working days.

- Legal action effected for a name change
- Change in citizenship
- Any use of an illegal drug or use of a legal drug in a manner that deviates from approved medical direction
- Any arrest, criminal charges (including charges that are dismissed), citations, tickets, summons or detentions by Federal, State, or other law enforcement authorities for violation of law within or outside of the U.S. Report traffic violations for which a fine of up to \$300 was imposed need not be reported, **unless** the violation was alcohol or drug related. To meet the reporting time frame requirement, always report traffic violations, even if you do not know the amount of the fine at the time the traffic ticket is issued. You may update your initial report if the fine is reduced below \$300.

- An immediate family member assuming residence in a sensitive country
- Hospitalization for mental health reasons or treatment for drug or alcohol abuse
- Employment by, representation of, or other business-related association with a foreign, or foreign-owned interest, or non-US citizen, or other individual who is both a US citizen and a citizen of a foreign country
- Personal or business-related filing for bankruptcy
- Garnishment of wages
- Lost or stolen badges
- After any approach or contact by any individual seeking unauthorized access to classified matter or Special Nuclear Material
- Provide full, frank, and truthful answers to relevant and material questions
- When requested, furnish and/or authorize others to furnish information that is deemed pertinent to the access authorization eligibility process. This obligation applies during all phases of the access authorization process to include reinvestigations.
- Provide a completed DOE Form 5631.34, "Data Report on Spouse/Cohabitant," within 45 calendar days of marriage or cohabitation (**Applicable only if applying for security clearance**).

Failure or refusal to cooperate with any of these activities may prevent DOE from granting or continuing a security clearance.

EO7 - IDENTIFY the SRS Security Areas.

Security Areas

A Security Area is a physically defined space (area) containing a security interest and is subject to protection and access controls. Security Areas have clearly defined barriers such as fences, walls, and doors. Contraband requirements vary depending on the Security Area designation.



1. General Access Area (GAA)

GAAs are security areas that are established to allow access to certain areas with minimum security requirements. These areas are accessible to all personnel, including the public. Individuals are subject to GAA security requirements. Examples of GAAs are the 703-46A Badge Office area, or the trailer 773-70A.

2. Property Protection Area (PPA)

- PPAs are security areas that are defined by a fenced area, secured building, or manned barricade. These areas are established for the protection of government property against damage, destruction, or theft (regardless of its disposition state).
- Entry/exit inspections are conducted randomly to prevent the unauthorized introduction of prohibited articles or removal of government property.
- All employees and most visitors with a security photo badge have unescorted access.
- Examples of PPAs are the SRS General Site, the Central Training Facility (766-H), and the engineering building in B-Area.

3. Limited Area (LA)

- LAs are security areas defined by permanent barriers that control, impede, or deny access to unauthorized individuals and are established for the protection of classified matter and quantities of Category III SNM.
- Protective Force personnel or other internal controls are in place to prevent access to classified matter by unauthorized persons.
- Unescorted entry into LAs requires an "L" or "Q" clearance, and for specific facilities, an access limiter on the security badge.
- Entry/exit inspections are conducted randomly to prevent the unauthorized introduction of prohibited articles and the unauthorized transportation of government property.
- Examples of LAs include some facilities/locations within the Savannah River National Laboratory, 200-H Area, and Tritium Area.

4. Protected Area (PA)

- PAs are established for the protection of Category I and II quantities of SNM which are encompassed by physical barriers including perimeter intrusion, explosive detection, and assessment systems.
- Access controls include metal detection on entry/exit and SNM detection upon exit. These barriers and controls are designed to impede or deny access to unauthorized individuals.
- "L" and "Q" cleared employees are allowed unescorted entry.

5. Material Access Area (MAA)

- MAAs are normally located within Protected Areas (PAs) and are used for the protection of Category I quantities of SNM.
- MAAs are usually vaults or vault-type rooms normally located within a PA.
- "Q" cleared employees, with special access limiters, are allowed unescorted access

Security Systems

Security Systems are physical security systems that ensure the protection of SNM, vital equipment, classified matter, DOE property, and unclassified facilities through the use of intrusion detection devices and CCTV (closed captioned) monitoring.

Escorting Responsibilities

Escorting individuals who are not cleared for a security area or facility is something you will have to do from time to time. **As an escort, you must:**

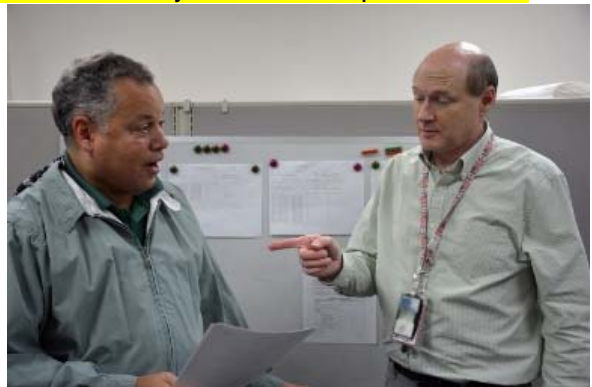
- Ensure personnel you escort are aware of area safety and security rules and regulations.
- Ensure personnel escorted do not bring any prohibited and controlled articles into a security area.
- **Maintain continuous visual and voice control of the escorted personnel.**
- Ensure escorted personnel do not have access to any classified materials, conversations, and computers.
- **Discuss only authorized information with the escorted individuals.**
- Notify Security personnel when problems occur with personnel being escorted.
- Report inappropriate questions or discussions to the DOE Office of Counterintelligence-Savannah River Field Office.

8. Escortee Responsibilities

- Stay within line of sight and normal voice communications of the assigned escort at all times (communications - unless traveling in separate vehicles to and from perimeter barricades).
- Ensure the badge (visitor or photo) is properly displayed.

9. The Challenge System

- **The purpose of the challenge system is to prevent unauthorized persons from obtaining access to classified work areas or to classified information not officially required in the performance of their assigned duties.**
- **If you encounter a person who is not cleared for the area they are in or the person is not wearing a security badge, you should enact the Challenge System. Confront the person and simply ask them the location of their escort and why their security badge is not visible. Assume escort responsibilities and immediately escort the individual or individuals to Centerra-SRS or your area security representative. Immediately report suspicious acts to the SRS Operations Center (SRSOC): 3-3911.**



EO8 – LIST the SRS Security Controls on information and property

Information Security

Information Security establishes security requirements for the protection and control of information and subject matter that is determined to be classified or controlled by statutes, regulations, or DOE directives.

Information Security consists of:

- Classified Matter Protection and Control (CMPC)
- Controlled Unclassified Information (CUI)
- Operations Security (OPSEC)
- Classification

1. Classified Matter Protection and Control

Examples of classified markings are:

<u>Level</u>	<u>Category</u>
Top Secret	Restricted Data
Secret	Formerly Restricted Data
Confidential	National Security Information
Transclassified	Foreign Nuclear Information



- This information must be protected from unauthorized access.
- If a suspected classified document or classified electronic media is found unattended, secure the document, maintain control, and notify your manager, security representative, or Centerra-SRS.
- Classified documents are identified with a cover sheet. A blue cover sheet indicates a “Confidential” document classification and a red cover sheet indicates a “Secret” classification. Classified documents are also identified by the overall document classification level (i.e., Top Secret, Secret, or Confidential) which is marked on the top and bottom of the cover page (if any), on the title page (if any), on the first page, and on the outside of the back cover or last page.
- Violations of protecting classified matter could result in administrative and civil penalties (up to \$100,000/day/event) per 10 CFR 824, “Procedural Rules for the Assessment of Civil Penalties for Classified Information Security Violations”.

A. Classification Challenge:

- Employees are ENCOURAGED and EXPECTED to challenge classification of information, documents, or material that he or she believes is improperly classified.
- There cannot be any retaliation if an employee submits an informal or formal challenge.

a) Informal Challenge

- The Challenger (could be the document author or any employee) submits questions to the derivative classifier (DC) who made the determination verbally or in writing.

- If not resolved, the challenger contacts the local classification officer (CO) for clarification on determination.
- CO or DC must attempt to resolve the challenge and must inform the challenger that he/she can submit a formal challenge to the Director of the Office of Classification, AU-60 at any time.

b) Formal Challenge

- The Challenger (could be the document author or any employee) submits questions to the derivative classifier (DC) who made the determination verbally or in writing.
- If not resolved, the challenger contacts the local classification officer (CO) for clarification on determination.

B. Declassification:

- Employees should not automatically declassify a document based on the document's declassification instructions, e.g., "Declassify when the event or date takes place or 30 days after."
- All documents must be reviewed by a Derivative Declassifier to change the classification level. Contact the Classification Office for any questions.

2. Controlled Unclassified Information (CUI)

- Controlled Unclassified Information (CUI) - Information of such sensitivity as to warrant placing a degree of control over its use and dissemination (can be technical or operational).
- It is important for employees to understand that the protection of information at Savannah River Site includes not only classified information, but also unclassified information that may require controls. CUI includes Unclassified Controlled Nuclear Information (UCNI), Official Use Only (OUO) information. Export Controlled Information (ECI), and Personally Identifiable Information (PII). This information must be protected from unauthorized access.
- Access to CUI must be provided only to authorized personnel with the need-to-know in the performance of their job. Authorized personnel must maintain physical control over all CUI documents while in use. CUI must be stored to prevent unauthorized access.
 - ✓ Outside of Limited Areas, CUI must be secured behind a locked door or in a locked container when unattended.
 - ✓ If you are located within a Limited Area, CUI documents only require storage out of plain sight in unlocked desks, unlocked file cabinets, or a bookshelf.
- All CUI transmitted off site via telephone or fax (exception of UCNI) should be by the most secure method available. **However, UCNI and OUO must be encrypted when emailed.** Password protection is acceptable if the receiving party does not have compatible decryption software.

When transmitting CUI, it is very important to inform the recipient that the information is CUI. This can be accomplished by marking the transmittal cover (e.g. fax sheet or transmittal letter) as "Document Transmitted is (e.g. OUO)". If the transmittal is CUI, it must contain all applicable markings. **DO NOT place any indicators in the subject line that the message contains CUI. This is called title marking.**

- **SRS requirements for On-site Emailing of CUI, OOU & UCNI:**

- ✓ E-Mail: The SRS Site networks may be used to transmit OOU to authorized individuals. The message must be preceded by a warning alerting the recipient that the transmission contains OOU. **“The following has been determined to contain OOU.”**
- ✓ E-Mail: The SRS Site networks may be used to transmit UCNI to authorized individuals. Site-wide E-Mail transmissions of UCNI are not allowed.
- ✓ Marking E-mail Messages and Attachments Containing UCNI:
- ✓ E-mail Message Contains UCNI: The first line of an e-mail message containing UCNI must include the abbreviation “UCNI,” the RO’s name and organization, and the guidance used to make the UCNI determination (e.g., UCNI; Jane Smith, HS-90; CG-SS-5). If there is an attachment that contains UCNI, it must have all required UCNI markings.
 - (1) Attachment Contains UCNI: If the message itself is not UCNI but an attachment contains UCNI, the message must indicate in the first line of the email that the attachment is UCNI. The attachment must have all required UCNI markings. DO NOT place “(UCNI)” in the subject line of an email. That is considered title marking and gives indication that the subject line of the email contains UCNI.
 - (2) Employees who originate or possess a document that they believe may contain UCNI must send the document to a UCNI Reviewing Official for a determination before it is finalized, sent outside their organization, or filed.

NOTE: All documents and emails containing Personal Identifiable Information (PII) must be marked, stored properly and encrypted when transmitted.

3. Operations Security (OPSEC)

- The Operations Security program, known as OPSEC, was created by Presidential National Security Decision Directive 298. It requires all Federal Agencies assigned or supporting national security missions with classified or sensitive activities to implement an OPSEC program.
- The program is designed to identify critical information and countermeasures. These countermeasures provide reasonable assurance that critical information (CI) about DOE-SRS operations and activities is protected and secured against inadvertent release or unauthorized disclosure.
- Critical information is specific facts about friendly (e.g. U.S.) intentions, capabilities, or activities vitally needed by adversaries for them to plan and act effectively to guarantee failure or unacceptable consequences for accomplishment of friendly objectives.

The following are some examples of how adversaries may gather information:

- ✓ Conferences or trade shows
- ✓ During conversations, either on unsecured communications or at restaurants, airplanes, or other public places
- ✓ In memos or reports that are disposed of as unclassified waste or distributed to personnel who do not have a legitimate need-to-know

As an employee, your responsibility is to know how to protect critical information from unauthorized disclosure. Start by asking yourself, “If I were the adversary, could this information be useful to me?”

Contact SRNS OPSEC Program Manager with questions at:
http://sses.srs.gov/departments/Safeguards_Security/opsec.htm

4. Release of Information

All information, including technical information that is planned for release externally to the site, must have at a minimum, the following reviews prior to its release:

- OPSEC, Classification, Export Control, and/or a Web-Security review
- Depending on the information and format, other reviews may be required:
 1. Scientific and Technical Information (STI)
 2. Public Information Release (PIR)

EO9 - STATE the SRS Access Controls and Regulations

Physical Security Programs

The physical security of SRS requires different levels of security and access controls depending on what is to be protected.

Physical Security requirements are used to protect Department of Energy (DOE) Safeguards and Security (S&S) interests from theft, diversion, critical mission sabotage, radiological/chemical/biological sabotage, espionage, unauthorized access, loss or compromise, and other hostile acts that may cause unacceptable, adverse impacts on national security, the health and safety of employees, the public, or the environment.

1. Property Management

Property Management is responsible for implementing the property protection and loss prevention programs. Protection of government property is enhanced through random security checks, equipment marking, property pass controls, and accountability procedures.



2. Barriers

Fences, building exteriors, or posted geographic boundaries constitute Property Protection Areas and facility barriers. They serve as physical demarcation of areas and are used to facilitate effective and efficient flow of personnel and vehicular traffic through designated portals. Additional barriers include walls, ceilings, floors, doors, special barriers, gates, and jersey bouncers (also known as jersey barriers).

3. Access Controls

- Access Controls for physical security programs provide graded protection for Safeguard & Security interests. The more attractive the security interest, the more robust is the physical protection.
- These controls range from security locks, protective force personnel, and electronically controlled locking devices.
- Access controls are used to support the protection of Special Nuclear Material (SNM), classified matter, government property, facilities, employees, and the public. Entry Control Facilities (ECF) and vehicles barriers are used to control and direct the flow of personnel and vehicular traffic.

4. Security and Access Controls

- Different security and access controls are used according to what needs to be protected. Protective Force-SRS Security Police Officers (SPOs) provide the physical security and protective force at these control points. The controls include, but are not limited to, badge grasping to ensure positive identification, fences, barricades, and monitoring devices.
- At some time, you may be part of a random inspection performed by Protective Force-SRS SPO's. Your car may be searched at entry and exit points to facilities, areas, and boundaries. When you are involved in these activities, follow the instructions of the Protective Force-SRS SPO's. Failure to comply can result in denial of entry. Protective Force-SRS SPO Special Constables have warrantless arresting authority, like state law enforcement authorities.
- As security conditions change, our security posture will adjust to the need. Whether security is enhanced or downgraded, employees will be informed of these changes through communication tools such as security bulletins, employee communications (e-mail), Division Digests, toolbox sessions, and staff meetings.

Protecting Government Property

Protection of government property from theft is an important security responsibility. All facilities in the Property Protection Area must be locked when unoccupied unless documented in an approved security plan. Protective Force-SRS law enforcement personnel conduct routine patrols of the area to ensure facilities are secured. Facility personnel that are responsible for buildings equipped with cipher locks on outside doors should report the cipher code to the SRSOC to allow emergency entry if needed on an OFF shift.

Additionally, repository custodians must complete an SF-700 "Security Container Information" form listing personnel with access to repositories they are assigned to. If a repository malfunctions, report the malfunction to your appropriate Lock and Key Control office for immediate repair. Accountable locks and keys must be turned in to Lock and Key Control or transferred to another person using the 10-225 electronic form found under Key Control in Lotus Notes.

Remember to:

- Lock building doors that are required to be secure.
- Maintain accountability of all keys you are assigned.
- Report accountable Lock or Key loss to your manager, Security Representative, and Lock and Key Control.



- Turn in any keys you no longer have a need for by returning them to your supervisor, manager, or Subcontract Technical Representative (STR).
- Do not transfer Level I, II, or III keys to someone else. These keys are accountable through Lock & Key Control office.

11. Property Pass

- A Property Pass is required for transporting government-owned or leased property from SRS to off-site facilities and when transporting government-owned or leased property in a privately-owned vehicle on-site.
- Contract employees may obtain a Property Pass electronically from In-Site or from their Asset Management Specialist.

NOTE: Subcontractors may not be issued a Property Pass unless their contract contains a clause stating that they will be provided government-furnished equipment.

- Obtain proper authorization prior to transferring, discarding, dismantling, or otherwise disposing of any government property. Employees are required to check with their management to ensure property disposition actions meet the requirements of the organization's asset management procedural guidance. **Unauthorized removal of government property from the site is prohibited.**

NOTE: Subcontractors may use government-furnished equipment only when specified in their contracts and authorized by their Subcontract Technical Representative (STR).

- Disciplinary action could result from the unauthorized taking or receiving of property belonging to the company, fellow employees, or the government.

EO10 –STATE the reporting requirements for Technical Surveillance Counter Measures, Technical Security, and Medical Device Reporting.

Technical Surveillance Counter Measures (TSCM) Reporting Requirements:

If you:

- Discover a smart phone, cell phone, or any recording or transmitting devices unattended and the user/owner is unknown
- Discover a suspected surveillance device (“bug”, camera transmitter, key stroke recorder, etc.)
- Have any reason to believe the DOE or any SRS activity or site employee is the target of technical surveillance



YOU **MUST** immediately notify an area security representative, the Emergency Operating Center (EOC), or call 803 952-6820 or 803 725-4133 upon discovery of a suspected reportable event.

If you receive or discover a suspicious package or envelope and determine a credible threat exists, DO NOT TOUCH OR MOVE THE ITEM. CLEAR THE IMMEDIATE AREA AND CONTACT THE SRSOC at 3-3911 or 803-725-3911 (mobile).

A. Technical Security Reporting Requirements:

1. Radio Frequency Transmitting Equipment

If you are bringing equipment that has radio frequency capability (e.g., Government, POEE, Rental, Contractor, etc.) into an SRS LA or higher, then you must:

- a) Contact your Area Technical Surveillance Countermeasures Office (TSCMO)
- b) Complete a Radio Frequency Transmitter Review Form (RFTRF) and route it either through your TSO, or the SS&ES Program Support Manager for approval
 - RFTRFs for use in Site PPA can normally be approved by the SS&ES Technical Security Program Manager (TSM)
 - RFTRFs for use in a SRS LA or higher must be approved by the DOE-SR Technical Surveillance Countermeasures Operations Program Manager (TSCMOM)
- c) The RFTRF must be approved (along with an approved Security Plan, if necessary) prior to bringing the equipment onto SRS.

2. Medical Devices

If you have been prescribed to wear a Medical Device that has Radio Frequency (RF) capability or audio/video capture capability and you work or visit a Limited Area (LA) or higher, you must complete the following **PRIOR** to bringing the device into the Security Area:

- Notify Your Manager
- Schedule a visit to Site Medical to validate the necessity
- Develop a Risk Mitigation Plan (if necessary)
- Obtain a Prohibited and Controlled Article (PACA) Pass

3. Personal Fitness Monitoring Devices (PFMD)

PFMDs (e.g. FitBits) may be worn in SRS GAAs, and PPAs.

These devices are restricted from being taken into:

- Sensitive Compartmented Information Facilities (SCIFs)
- Special Access Program (SAP) Facilities
- TEMPEST Areas
- Classified Conference Rooms
- Material Access Areas (MAAs)
- Vault or Vault Type Rooms (VTRs)



- Rooms containing secure (classified) telephony [STE; STU; VIPER, etc.], when this equipment is in use
- Areas approved for routine Top Secret discussions
- Rooms with COMSEC equipment not in a safe
- Rooms where Classified computer processing is in progress

EO11 – STATE the elements of the Nuclear Material Control and Accountability Program and the Cyber Security Program.

- A.** Nuclear Material Control and Accountability Program (NMC&A) represents one component of the Safeguards and Security program at SRS. The NMC&A program objective is to detect and deter theft or diversion of nuclear materials according to national strategic importance and the consequences of loss.

To accomplish this program objective, NMC&A employs five system elements working together with other security programs to ensure nuclear materials are properly accounted for and controlled. These elements are Program Administration, Material Accounting, Material Control, Measurements, and Inventory.

1. The Program Administration element prescribes the basic tenants of the NMC&A program, such as required implementation plans, procedures, training, and performance testing of NMC&A systems.
2. The Material Accounting element defines requirements for nuclear material accounting, tracking internal nuclear material movements, shipping off-site, as well as nuclear material measurements.
3. Material Control includes requirements for authorizing access to nuclear material, accounting data, and NMC&A equipment used in material control activities. The material control element also includes material surveillance and detection/assessment requirements.
4. The Measurements element includes requirements for determining nuclear material quantities as well as ensuring the measurement systems are functioning properly.
5. Inventory is required to be conducted to maintain physical inventory of nuclear materials and statistical evaluation of inventory differences.

These NMC&A elements implemented in 23 Material Balance Areas at SRS assure the Department of Energy that nuclear materials have not been lost, diverted, or stolen.

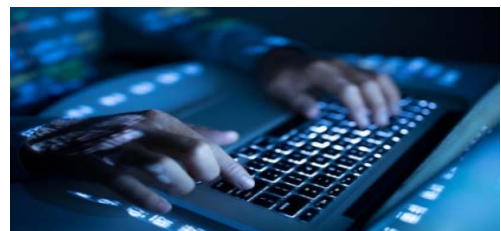
The basis for NMC&A requirements is the Atomic Energy Act of 1954 and other applicable United States codes and regulations.

B. Cyber Security

1. Cyber Security Code of Conduct

The Cyber Security Code of Conduct can be found in Manual 10Q, Procedure 602.

The Cyber Security Code of Conduct (CoC) defines appropriate activities for the use of computing systems, devices, and resources at Savannah River Site (SRS).



All users of federal systems, devices, and networks are responsible for reading, understanding, and signing/acknowledging the Cyber Security Code of Conduct. Users are expected to consult Manual 10Q for clarification of requirements and any specific organizational policies.

Acknowledging the Cyber Security CoC electronically is a prerequisite for computer accounts. You will still need to have your manager/STR or host complete a "CPC-16" form to request Computer Accounts to create your account. Kiosks are in the badge office for new employees. Instructions are posted at the Kiosks.

2. Things to Know Before You Act

- a) The Cyber Security Code of Conduct must be followed. The code of conduct is presented annually during Consolidated Annual Training (CAT) and outlines the responsibilities and expectations of users.
- b) Streaming music, videos, or movies puts a great strain on network resources and is not permitted for non-business use.
- c) There are two commonly used wireless networks at SRS. Each is unique and has its own requirements and limitations. It is important to know them and their differences.
- d) Personal hotspots are not to be used or established within 10' of a Limited Area (or higher) fence line. If a personal hotspot is used in a general site or property protection area, the hotspot name must not match the name convention utilized by SRS, appear that the hotspot is an approved SRS hotspot, or interfere with SRS operations. For example, a personal hotspot should not be named SRSnet, GuestNet, SRS Guest, etc.
- e) Government issued smart phones and personally owned devices are not to be plugged into any government equipment or peripherals for any reason.
- f) Personally owned devices or equipment are not to be connected or interfaced with any government equipment for any reason.
- g) Sensitive information, including OUO, PII, and UCNI must be properly protected (per manual 7Q, procedure 406) prior to sending to authorized parties off site.
- h) Media, regardless of how obtained, must be disposed of properly. Contact Enterprise Cyber Security Systems (ECSSO) for media disposition.
- i) Phishing attempts happen on a regular basis. Forward all suspicious email to abuse@srs.gov.
- j) Beware of emails that are coming from an account that you don't recognize and contain links or attachments, implore you to act immediately, contain offers that sound too good to be true, or that ask for personal information.
- k) If you are unsure whether an email request is legitimate, contact the company using methods other than the information provided in the email, e.g., search for the company online or use information that you have on-hand, e.g. account statements, brochures, etc.
- l) Ensure your privileged account password is unique and do not use it on your other site systems.
- m) Do not employ any of your site passwords on your external/off-site systems.

3. Cyber Security Reporting Requirements

Contact your company's help desk or Enterprise Cyber Security Operations if any unusual or suspicious activity is noticed regarding the computer system or connection to a SRS network including any suspected loss of Personally Identifiable Information.

4. Guest Wireless Network (SRSGuestNet Wi-Fi aka GuestNet)

The Guest Wireless Network is a Department of Energy (DOE) computer system. All data contained within DOE computer systems are owned by the DOE, and may be audited, intercepted, recorded, read, copied, or captured in any manner and disclosed in any manner, by authorized personnel. **There is no right to reasonable expectation of privacy in this system.**

- The Guest Wireless Network is available to all visitors, vendors, and employees at SRS.
- The Guest Wireless Network is provided as a convenience. Performance/availability will be on a best-effort basis.
- The Guest Wireless Network is not protected. All users of the guest network are liable and responsible for the data and information they transmit over the guest wireless network.



- The Guest Wireless Network may not be used for gambling purposes and may not be used to view, record, or disseminate sexually explicit or sexually oriented material.
- SRS retains the right to deny access to the Guest Wireless Network at its sole discretion at any time or for any reason whatsoever.
- Personnel may connect government-issued iPhones and iPads to GuestNet. SRS government-provided laptops, desktops, and other equipment are prohibited from connecting to GuestNet. Personnel may also connect non-government devices to GuestNet. These devices are the sole responsibility of the owner. No Help Desk services will be provided to assist individuals with connecting such devices.

System personnel may disclose any potential evidence of crime found on DOE computer systems to appropriate authorities. Use of this system by any user, authorized or unauthorized, constitutes consent to any activity related to auditing, interception, recording, reading, copying, capturing, or disclosure of computer activity.

Contact your Ethics Office or Human Resources representative with questions about acceptable use and/or rules concerning guest wireless networks.

5. Government Issued iOS Devices

Government issued iOS devices (iPhones and iPads) provide accessibility and convenience for employees to be able to stay connected with job related tasks. These devices can be used for both government and personal use.

Government issued iOS devices can be connected to the guest network (SRS GuestNet) wireless but **CANNOT** be connected to site network (SRSnet) wireless. Be cautious when connecting Government issued iOS devices to a wireless network while on Site.

6. Government Issued iOS Devices (iPhones and iPads) Reminders:

- Government issued iOS devices **CANNOT** be connected to any government system or equipment for any reason, even for charging purposes.
- All devices are subject to enforced policies through the site mobile device management tool.
- All devices are subject to remote wipe if lost or if the device appears compromised.
- Apple features such as Air Drop, Family Sharing, and Share My Location are **NOT** to be enabled.
- Personal Identifiable Information (PII) is **NOT** to be stored in the HealthKit Medical ID.
- **NO** information is to be stored in Apple Pay.

Government owned Mobile Devices are authorized in SRS PPAs, EM LAs, & EM PAs (with some restrictions defined in manual 7Q, procedure 314).

EO12 - STATE the reporting requirements for the Workplace Violence Program, Traffic and Vehicle Safety Program, Counterintelligence Program, and SRS Incidents of Security Concerns Program.

Incidents of Security Concern (IOSC)

Incidents of Security Concern are any actions, in-actions, or events that have occurred at the SRS that:

- Pose threats to national security interests and/or critical DOE assets
- Create potentially serious or dangerous security situations
- Degrade the effectiveness of the Safeguards and Security (S&S) program
- Adversely impact the ability of SRS organizations to protect DOE S&S interests

Such events are of concern to the DOE S&S Program and warrant preliminary inquiry and subsequent reporting.

Any SRS employee or subcontractor discovering an incident of security concern must immediately report the issue to his supervisor/manager.

If the discovery involves classified matter, SNM or nuclear material, CUI, or another DOE security interest at risk, the employee or subcontractor must take reasonable steps to safeguard and secure the security interest in an appropriate manner until relieved by authorized authorities.

The supervisor will immediately report the incident to the Security Incident Program Manager (SIPM) who will determine if the event meets the incident criteria and what the appropriate method of reporting should be.

Violation – Any action or intent that constitutes a violation of U.S. law, Executive Order, or the implementing directives.

1. Report to the Security Incident Program Manager (SIPM)

Any employee who becomes aware of a “possible” security-related incident shall report it promptly to their supervisor. The supervisor then has the responsibility to **IMMEDIATELY** report the incident to the SIPM and to any of the following, as appropriate to the event:

- Security Representative
- SRS Operations Center
- On-duty Protective Force personnel

The SIPM will initiate a preliminary inquiry and make appropriate notifications to management and DOE officials as warranted.

2. Examples of commonly occurring incidents of security concern:

- a) Sending CUI unencrypted to an offsite email address
- b) Emailing work-related information to personal email accounts
- c) Failure to protect Personally Identifiable Information (PII)
- d) Introducing unauthorized prohibited and controlled articles into Limited Areas (LAs) or higher.
- e) Improper escorting
- f) Failure to follow Cyber Security Code of Conduct such as connecting personally owned devices to SRS systems
- g) Improper handling, storage, and transmission of classified information

B. Workplace Violence

Workplace Violence (WPV) is any action that:

- Threatens the safety of an employee
- Impacts the employee’s physical or psychological well-being
- Causes damage to company property
- Involves inappropriate behavior/conduct



Internal WPV (primary concern at SRS) is committed by current employees who are familiar with facility layout, security, critical equipment, and victim location.

Any occurrence of violent behavior or threat of physical violence is considered unacceptable conduct and is strictly prohibited. Individuals who engage in prohibited behavior may be removed from the Site and may be subject to disciplinary action up to and including immediate termination, criminal penalties, or both.

1. Workplace Violence - Prohibited Behaviors

No work location is immune to the threat of workplace violence. Did you know that employees are usually the first to detect unusual and often threatening behavior in a co-worker?

You should report any acts or behaviors that seem out of the ordinary for an individual and are potentially harmful. Certain behaviors will not be tolerated.

These behaviors include:

- Threats of physical violence – spoken or written
- Threatening gestures
- Physical aggression directed at persons or property
- Bullying
- Intimidation

2. Points to Remember

- Case histories of WPV incidents show a clear pattern of verbal abuse, threatening behavior, and then escalating physical violence.
- Changes in employee behavior can be an indicator of a possible reliability concern.
- Strategies for prevention of WPV include employee awareness on this topic.
- Employees have the opportunity to prevent an incident if they are aware of what to look for, are willing to be observant in the workplace, and are committed to report concerns to the appropriate personnel.

3. Management's Role and Reporting Requirements

- The Employee Assistance Program (EAP) offers counseling and training to prevent WPV.
- Report WPV behavior to management immediately! Management is responsible for ensuring a safe work environment free from threats, harm or physical violence.
- When reports of WPV are received, management is responsible for immediately reporting the issue to the Security Incident Program Manager (SIMP) or the Emergency Operation Center at 803-725-1911. Additional information can be found in MP 1.01, Procedure 2.19, Workplace Violence Policy.

C. Office of Counterintelligence

The DOE Office of Counterintelligence - Savannah River Field Office (OCI-SRFO) protects SRS personnel, assets, research, and technology from espionage, sabotage, international terrorism, or other intelligence activities conducted for or on behalf of foreign powers, organizations, persons, or their agents.

OCI-SRFO services include general counterintelligence awareness briefings, individual overseas travel briefings, foreign national escort briefings, threat intelligence, cyber security analysis, research technology protection, and national security investigations.

Focus is on threats to SRS from DOE designated sensitive countries and international terrorist groups.

- **Counterintelligence Office Reporting Requirements**

All SRS employees must report:

- Professional, personal, and financial relationships with foreign nationals from sensitive countries.
- Attempts by unauthorized persons to gain access to classified information. This includes ANY foreign national as well as U.S. citizens.
- Any activity or knowledge that is inconsistent with the expected norm and suggests foreign awareness of U.S. national security information, processes, or capabilities.
- Any situation in which an individual believes that a U.S. citizen has either volunteered or is in some manner assisting a foreign intelligence entity or international terrorist organization.
- An insider threat: An Insider is anyone who has authorized access to SRS personnel, facilities, information, equipment, networks, or systems. An Insider Threat is anyone who will use their authorized access to do harm to the security of the U.S. through espionage, terrorism, unauthorized disclosure of information, or through the loss or degradation of SRS resources or capabilities.

Possible espionage indicators **may** include: an unusual interest in matters outside the scope of assigned duties, taking classified or sensitive material home, disregard of computer security policies, working odd hours, failing to report foreign contacts, taking short trips to foreign countries for unexplained reasons, and unexplained affluence not commensurate with household income.

- All contacts with individuals of any nationality, in which illegal or unauthorized access is sought to classified or otherwise sensitive information, material, technology, or facilities.
- Any attempted exploitation by a foreign entity.
- All foreign travel, both official and unofficial, 30-45 days prior to departure. All U.S. Government employees and contractors who are contemplating official or unofficial travel to DOE designated sensitive countries must contact OCI-SRFO prior to travel for a country-specific counterintelligence briefing. Unofficial travel to non-sensitive countries **must** also be reported to OCI-SRFO to ensure the safety of the traveler where OCI-SRFO has determined a possible terrorism risk exists.



- **OCI-SRFO Contact Information:**

- For further information, questions, suspicious incident reporting, or to schedule a briefing, please call: **(803) 725-5086, Building 705-A.**
- You can also contact OCI-SRFO via internal SRS e-mail by typing, **“TELL-CI”** in the To: line.
- Information and products are available for viewing or downloading through the Counterintelligence web page located on the SRS InSite home page.

EO13 - STATE the reporting requirements to/for Protective Force (Centerra).

- Theft or destruction of government property
- Malicious mischief or vandalism
- Unfamiliar persons within your work area
- Workplace violence
- Security incidents
- Suspicious activities or suspicious items
- If you receive or discover a suspicious package or envelope **DO NOT TOUCH OR MOVE** the item
- **CLEAR THE IMMEDIATE AREA** and **CONTACT SRSOC** at **3-3911** or **(803) 725-3911**



EO14 - STATE the employee responsibilities for an Active Shooter Event and Local Insider Threat Working Group.

When an Active Shooter is in your vicinity, you must be prepared both mentally and physically to deal with the situation.

Active Shooter - Three options:

1. RUN

- Have an escape route and plan in mind.
- Leave your belongings behind.
- Evacuate regardless of whether others agree to follow.
- **Do not attempt to move the wounded.**
- Prevent others from entering an area where the active shooter may be.
- Keep your hands visible.
- Call 3-3911 (On-Site) or 803-725-3911 (Mobile)

2. HIDE

- Hide in an area out of the shooter's view.
- Lock the door or block entry to your hiding place.
- **Silence your cell phone (including vibrate mode) and remain quiet.**

3. FIGHT

- **Fight as a last resort and only when your life is in imminent danger.**
- Attempt to incapacitate the shooter.
- **Act with as much physical aggression as possible.**
- Improvise weapons or throw items at the active shooter.
- Commit to your actions; your life depends on it.

A. Employee Responsibilities:

- Keep your hands visible at all times.
- Respond to officers' verbal commands.
- Once you have reached a safe location, you will likely be held in that area by law enforcement until the situation is under control and all witnesses have been identified and questioned.
- Do not leave the area until law enforcement authorities have instructed you to do so.
- The first officers to arrive on scene will not stop to help the injured. Expect rescue teams to follow initial officers. These rescue teams will treat and remove the injured.

B. What is Local Insider Threat Working Group?

- The LITWG is made up of federal and contractor employees from a variety of disciplines
- The purpose of the LITWG is to deter, detect and mitigate insider threat actions

C. What is an Insider Threat?

- The threat that an insider will use his/her authorized access to do harm to the security of the United States.
- Can include damage to the United States through espionage, terrorism, unauthorized disclosure of classified information or through the loss or degradation of SRS resources or capabilities
- Also includes workplace violence, which could lead to an Active Shooter event in the workplace



Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. Which item is prohibited and may not be brought on-site?
 - A. Cell phone
 - B. Ammunition
 - C. Two-ounce container of mace
 - D. Disposal camera

2. Without a cleared security escort, which area can an uncleared employee enter on site?
 - A. Property Protection Area (PPA)
 - B. Limited Area (LA)
 - C. Protected Area (PA)
 - D. Material Access Area (MAA)

3. When driving on SRS, what are the three documents you must be able to show if you are stopped for any traffic violation?
 - A. A property pass, valid SC drivers' license, and your photo ID
 - B. Birth certificate, social security card, and a photo ID
 - C. Valid driver's license, proof of insurance, and vehicle registration
 - D. Current proof of insurance, photo ID, and current vehicle registration

4. What is the purpose of the Challenge System?
 - A. To warn other that an intruder is in your area
 - B. To prevent a "Q" cleared employee from entering a limited area
 - C. To ensure uncleared individuals obtain proper authorization from CENTERRA-SRS before entering a limited or higher area
 - D. To prevent unauthorized persons from obtaining access to classified areas and/or information, and to address persons not wearing a security badge

5. If you need to transport DOE property off-site, you must have a valid _____.

6. You just finished a very sensitive strategic planning meeting. As you get up to depart the room, you notice a cellular phone on the floor under the table. What should be your next action?
 - A. Look in the contact and speed dial list to see if you can determine to whom the phone belongs
 - B. Send out a message to everyone in the building to find the owner
 - C. Throw it away because it's an old flip phone and not worth the effort
 - D. Immediately notify Technical Surveillance Counter Measures at 803-952-6820



V. EMERGENCY MANAGEMENT PROGRAM

Enabling Objectives:

- EO1 IDENTIFY the purpose and elements of the Emergency Management Program.**
- EO2 STATE the appropriate response to a given emergency alarm signal.**
- EO3 STATE the definition of and communication requirements for a Remote Worker.**
- EO4 IDENTIFY the appropriate response to a bomb threat.**
- EO5 LIST the credible threat indicators for mail, packages, and vehicles.**

Given the size of the Savannah River Site and the number of employees, visitors, and vendors that may be on this site at any time, a concerted effort is directed toward the management of emergencies that could reasonably be expected to occur.

You, as an individual and SRS employee, have a vital role to play in the response to emergencies affecting the health and safety of other SRS employees.

EO1 - IDENTIFY the purpose and elements of the Emergency Management Program.

A. Purpose of the Emergency Management Program

The Emergency Management Program is a collection of plans, procedures, equipment, and facilities providing dedicated emergency response personnel the capability to mitigate an emergency to:

1. Protect the health and safety of the public and site personnel
2. Protect the environment
3. Protect site property and equipment

For any emergency call 3-3911 (site land line) or 803-725-3911 (mobile or offsite). If in a facility, call the Control Room.



A. Elements of the Emergency Management Program

The elements of the Emergency Management Program and SRS facilities include:

1. Emergency Plan

- The SRS Emergency Plan is a joint contractor/federal plan which establishes all SRS Emergency Management requirements for responding to an emergency in an organized and logical manner. It applies to all personnel working at SRS.
- Area/Facility Annexes to the SRS Emergency Plan define how a specific facility or area will implement these requirements.

2. Emergency Response Organization (ERO)

- The ERO comprises full-time contractor and federal personnel who assume duties assigned according to position/training in Emergency Management, Operations, Environment, Safety, Health, Administration, Public Information, and Security.

3. Emergency Response Facilities

- Locations designated for use in an emergency.

4. Off-site Agencies

- SRS must work closely with many federal, state, and local agencies to ensure the health and safety of the public.
- These agencies include DOE-HQ, U.S.D.A. Forest Service, Federal Bureau of Investigation (FBI), Environmental Protection Agency (EPA), SC and GA agencies, surrounding counties, fire departments, medical services, law enforcement, etc.

5. Training

- Members of the ERO participate in annual training.

6. Exercise

- A scripted, scenario-based instrument to assess, evaluate and improve performance in prevention, protection, mitigation, response, and recovery capabilities in a risk-free environment. Exercises test and validate policies, plans, procedures, training, equipment, and interagency agreements.

7. Drill

- Drill is a coordinated, supervised activity used to train personnel.

B. Emergency Classification System

Emergencies that impact the health and safety of workers are specifically defined and categorized by DOE Order.

Operational Emergencies involving a hazardous material release may be further classified as:

Alert

Indicates that a problem has occurred that could impact personnel within the incident facility.

Site Area Emergency

Indicates that the impacts go beyond the facility boundary and may affect other parts of the site.

General Emergency

Most severe type of incident and may result in the release of hazardous material off-site.

EO2 - STATE the appropriate response to a given emergency alarm signal.

A. Emergency Alarms and Proper Responses

NOTE: Specific responses to safety alarm signals may vary in different SRS facilities. Check your Job Performance Aid on In-Site for details.

EMERGENCY ALARM SIGNALS

SIGNAL	MEANING	RESPONSE
VOICE ONLY (No Tone)	Important Announcement	Listen to the public-address announcement and follow public address instructions.
WARBLE	Emergency Alarm	Listen to the public-address announcement and follow public address instructions. If you cannot hear it, go to a location where you can safely hear the announcement.
ALARM BELL	Nuclear Incident Monitor	Evacuate the immediate area and walk briskly to your designated Rally Point.
BUZZER or CHIRP	Fire	Evacuate the immediate area and walk briskly to your designated Rally Point.
VOICE (All Clear)	Emergency or Drill is over	Return to your normal work activities.

B. Protective Actions

When emergency conditions pose a potential risk to the health and safety of workers, an emergency alarm signal (warble) will be initiated. A public-address announcement will then direct site workers to take appropriate protective actions. There are three types of protective actions:



1. Remain Indoors

In the event of a hazardous material release, personnel may be directed to Remain Indoors. Employee actions for Remain Indoors include:

- Go immediately to the nearest indoor location that is not under construction or incapable of being closed to outside air infiltration.
- Close doors, windows, and outside air intakes.
- Shut down ventilation systems unless shutting ventilation systems will adversely impact health and safety. Ventilation shut-down instructions should be posted in the building or trailer.

2. Shelter

- Personnel will be directed to go to a designated shelter (substantial brick or concrete).
- Look for the “Shelter Area” sign on the building. This shelter can be used for a hazardous release, but its primary use is for severe weather with high winds or a tornado.
- For severe weather, you will be advised when to seek shelter. For high wind warnings, leave trailers and seek shelter in a building. Butler-type buildings may be used as shelters for high winds but not for tornadoes. For tornado warnings, seek shelter in a designated structure and move to the interior, away from doors and windows.
- Based on guidance provided by the National Weather Service, when a **tornado warning** is issued, and you do not have a shelter or cannot access a shelter in time, you should:
 - ✓ If a tornado is sighted, evacuate trailers and prefabricated buildings.
 - ✓ Move to an area free of trees and power lines.
 - ✓ Locate a depression or ditch that places you lower than the surrounding area and lie flat.
 - ✓ Do not try to outrun a tornado in a vehicle.



NOTE: Trailers and prefabricated buildings are never “designated shelters.”

3. Evacuate

Personnel will be directed to go to a rally point: primary, alternate, or ad hoc.

C. Rally Points

Rally Points provide an assembly point during an incident which requires the evacuation of personnel from a building or area. This is primarily used for a fire, explosion, earthquake, credible bomb threat, or a confirmed explosive device.

Rally Points support accountability and centralize personnel in a single area, away from the emergency situation.



D. Emergency Information – Online

This site identifies SRS emergency information.

To access:

- Go to the InSite homepage.
- Click on “Emergency” in the left corner.



Employees may also view Emergency Management information at www.srs.gov.

E. Emergency Contact Information – Online on InSite

- All employees should update personal contact information. Accurate and updated contact information is crucial in case of on-site emergencies.
- Go to the InSite homepage > Applications > Personal Info Editor

EO3 - STATE the definition of and communication requirements for a Remote Worker.

A. Remote Worker Safety

- Most people work in locations where they are in range of an installed safety alarm system; that is, where they can hear safety alarm tones and public-address announcements. Some workers do not. Those workers in locations where they cannot hear alarm signals or PA announcements are considered “Remote Workers.”
- The SRS Remote Worker Notification Procedure establishes specific communication and accountability requirements to ensure that workers located in a remote location can be notified of an emergency and can immediately report emergencies.

B. Remote Worker Identification

A remote worker is any worker within SRS boundaries who is beyond the range of an installed Safety Alarm System (SAS) or Public Address (PA) system.

Examples:

- U.S.D.A. Forest Service workers
- Some construction workers
- Some SREL workers
- Environmental workers
- Deactivation and Decommission (D&D) workforce



C. Persons Who Are Not Remote Workers

Persons in transit on site roadways to a location where a SAS or PA system is installed or performing assignments in routinely-occupied buildings with SAS/PA systems are **not** remote workers. Examples: **Traveling to and from work.;** **Driving from B-Area to 766-H to attend a class.**

D. Remote Worker Responsibilities

- Test communications equipment before taking it to the field.
- Ensure communications equipment is turned on and working at the job site.
- Ensure communications equipment can be heard.
- Report to dispatcher (if applicable) PRIOR to going to the work area.
- Contact your Remote Worker Dispatcher or the SRSOC (803-725-3911 or 803-725-CALL) to report location and status in response to an emergency notification broadcast.
- Report to your dispatcher when work is completed, and you have returned from the job site for the day.
- Report to your dispatcher (if applicable) or the SRSOC anytime the remote work location changes.

NOTE: eDispatch allows trained workers to self-check-in and check-out of the Remote Worker system using computers on SRSNet. Persons using eDispatch are responsible for:

- ✓ Complying with requirements for self-check (eDispatch) to include completion of the remote worker web-based training
- ✓ Adherence to the policy for self-check-in and self-check-out
- ✓ Assuming responsibility of the Remote Worker and the Dispatch

E. Remote Worker Communication Requirements

- Remote Workers must carry a site-issued radio **OR** a remote worker pager **AND** cell phone. (A remote worker pager is an alpha-numeric pager capable of receiving an “all call” message from the SRSOC.) This is to ensure the remote worker can receive emergency communications from the SRSOC and report emergencies.
- A cell phone alone **DOES NOT** meet the communications requirements. Failure to follow the procedures could result in the Remote Worker being escorted from the site.
- Remote Workers have a dedicated line 803-725-CALL to report emergencies.



EO4 - IDENTIFY the appropriate response to a bomb threat.

A. Bomb Threats

The proper response to a bomb threat received at SRS is to:

- **Remain calm;** most bomb threats are hoaxes but need to be treated as real.
- **Refer to the Bomb Threat Checklist** (OSR 10-128) and get as much information as you can from the caller. The checklist is also in your handout.
- **Notify the SRS Operations Center (SRSOC) at 3-3911 (from a site phone) or 803-725-3911 (from a mobile phone).**



B. Protective Actions for a Confirmed Bomb Threat or Explosive Device

Protective Actions that may be implemented for on-site employees could include:

- A general announcement may direct personnel to check their work spaces and look for anything suspicious.
- Direction to evacuate the entire building or just part of the building.
- When you evacuate a building, you will be directed to assemble at an “ad hoc” rally point (a location other than the normal or alternate rally point).
- Direction to evacuate the area completely to another area on the site.

EO5 - LIST the credible threat indicators for mail, packages, and vehicles.

A. Credible Threat Indicators For Suspicious Items

Mail	Unattended Packages- Boxes, briefcases, toolboxes, purses, etc.	Unattended Vehicles
<ul style="list-style-type: none"> • Excessive postage • Unexpected suspect mail • Oily stains, discoloration, leaks, or spills • Misspelling of common words • Addressed to title only • Foreign mail or special delivery • Package is uneven, lopsided, or excessively heavy • No return address • Handwritten or poorly typed address • Excessive securing material (masking tape, string) • Strange, oily, or waxy smell • Package has protruding wires or foil • Return address and postmark do not match 	<ul style="list-style-type: none"> • Package is near key facility, occupied pathway, or sensitive equipment • Prior threat or related incident has occurred • No markings or identification tags on package • Cannot locate owner • Package is left by person behaving in a suspicious manner 	<ul style="list-style-type: none"> • Vehicle is left near key facility, occupied pathway, or sensitive equipment • Prior threat or related incident has occurred • No marking or license plates on vehicle • Cannot locate owner/driver • Vehicle is left by person behaving in a suspicious manner • Vehicle is stolen or rented

If you receive or discover a suspicious package or envelope and determine a credible threat exists, **DO NOT TOUCH OR MOVE THE ITEM. CLEAR THE IMMEDIATE AREA AND CONTACT THE SRSOC IMMEDIATELY at 3-3911 or 803-725-3911 (mobile).**

A. Security Emergency

Respond to an emergency alarm signal or voice announcement given by Centerra-SRS Protective Force personnel. Protective actions may include relocation to a nearby facility or area.

If no instructions are given, employees in proximity to the incident should:

1. **If outdoors**, seek shelter in the nearest structure not involved in the incident. This does **not** have to be a designated shelter protection building.
2. **If indoors**, lie on the floor, preferably under or behind furniture, display photo badge, keep your hands visible, and follow the instructions of Centerra-SRS personnel.
3. **If Active Shooter** is in your building, **RUN** - flee your building, or **HIDE** – barricade yourself in a room, or **FIGHT** – defend yourself aggressively.



Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. **The responsibility of the Emergency Management Program is to protect _____.**
 - A. health and safety of the public and site personnel
 - B. site's property
 - C. environment
 - D. all of the above

2. **Give the meaning and response for each alarm signal.**
 - A. Buzzer/Chirp_____ / Response
 - B. Alarm Bell_____ / Response
 - C. Warble_____ / Response
 - D. Voice (All Clear) _____ / Response

3. **One responsibility of the remote worker is to_____.**
 - A. ensure their communication equipment is turned on and working
 - B. report their location to Centerra-SRS every two hours
 - C. record their mileage to and from the job site
 - D. wear an orange safety vest

4. **What is the appropriate response upon hearing a warble tone?**
 - A. Go to the ground floor of the building.
 - B. Evacuate the building to an upwind position.
 - C. Listen for more information over the PA system.
 - D. Get behind or underneath a piece of furniture.

5. **A protective action that may be implemented for a confirmed bomb threat is _____.**
 - A. Running to your car
 - B. Evacuating to the primary rally point
 - C. Evacuating to the "ad hoc" rally point
 - D. Alerting your coworkers



VI. FIRE SAFETY PROGRAM

Enabling Objectives:

- EO1 IDENTIFY the stages of a fire.
- EO2 LIST the Fire Alarms in use at SRS.
- EO3 STATE the actions to take if you discover a fire, smell smoke, or hear a fire alarm.
- EO4 STATE the considerations for fighting fires using a portable fire extinguisher.
- EO5 LIST the Employee Responsibilities for Fire Protection.

Each year, thousands of people die in fires. One day, without warning, your life and the lives of others may suddenly depend on how you react to a fire.

If a fire does break out at SRS, you need to know some fundamental fire safety measures and what your responsibilities are. Your knowledge may save lives.

It is the SRS Fire Department's job to fight fires, perform rescues (i.e., high and low angle, confined space, structural collapse, vehicle extrication, trench collapse), provide emergency medical services (EMS), and respond to and mitigate hazardous material incidents.

EO1 - IDENTIFY the stages of a fire.

Three Stages of a Fire's Development

There are three stages of a fire's development. Each stage has its own characteristics and inherent dangers. The three stages of a fire's development are:

1. Incipient – First stage of a fire.

This stage of fire can be put out easily with a portable fire extinguisher. There is plenty of oxygen present for burning and the temperature is relatively low, but smoke and fire gases are also present. This is the **ONLY** stage of a fire that a regular site employee (non-fire fighter) is allowed to fight, if it is safe to do so.

2. Free burning – Second stage of a fire.

This stage of fire has plenty of oxygen, a lot of flames, and higher temperatures. **Can be fought ONLY by professional fire fighters.** Flashover is possible.

3. Smoldering – Third stage of fire.

The fire is reduced to glowing embers because of reduced oxygen supply with a lot of smoke and gases present. The temperature can be above 1,000°F. **Can be fought ONLY by professional fire fighters.** Flashover is possible.

EO2 - LIST the Fire Alarms in use at SRS.

A. Buzzer – Most common in SRS areas.

B. Chirp – At SRNL, the fire alarm is a chirp.

EO3 - STATE the actions to take if you discover a fire, smell smoke, or hear a fire alarm.

Employee Actions Upon Discovering a Fire, Smelling Smoke, or Hearing a Fire Alarm

1. If you smell smoke or discover a fire, you may alert emergency personnel by phone.

- Alert coworkers.
- Call from a phone outside the building.

Report the fire to SRS-FD/SRSOC by dialing 3-3911, or from a cell phone - 803-725-3911.

- Never use a phone in the area of a fire.
- Proceed to the rally point.



2. If you smell smoke or discover a fire, you may use the pull station to alert emergency personnel.

- Alert coworkers.
- Use the pull station as you exit the building.
- Go outdoors and away from the fire.
- Proceed to the rally point.

NOTE: All employees should become familiar with where the pull stations are located in their building.

EO4 - STATE the considerations for fighting fires using a portable fire extinguisher.

A. Successful Use of Portable Fire Extinguishers

- To quickly put out small **Incipient** fires, portable fire extinguishers must be used properly.
- Remember, the fire extinguisher is only the initial line of defense against a fire. Always get help on the way **first**.

Note: You may want to check the fire extinguishers in your work area, so you will know where they are located. Remember, you may volunteer to fight a fire on the site in the incipient stage ONLY, and ONLY if you feel comfortable doing so.

- Proper fire extinguisher operation can be achieved by following the steps described by the acronym, "P.A.S.S."
 - P**ull the pin.
 - A**im the nozzle at the base of the fire.
 - S**queeze the handle completely.
 - S**weep the nozzle rapidly from side to side, beginning at the front of the fire and working toward the back of the fire.



B. Safety Rules for Fighting a Fire

Even if you decide initially to fight a fire (Incipient stage only), you are free to stop and leave at any time. Although remembering the word “PASS” will help you through the physical operation of most portable extinguishers, you must always put safety first when considering whether to fight a fire. Safety rules to follow include:

- **Never turn your back on a fire.**
- Always approach a fire upwind so the wind blows the fire and smoke away from you to prevent your breathing any toxic gases that may be present.
- **Always keep an exit behind you.** If the fire gets out of control, you will have a means of escape.
- If your extinguisher starts to run out of agent, you should continue to sweep the fire and back away from the flames.
- Smoke and deadly gases will fill the room from the ceiling down. The best air will be several inches off the floor. Get down on your hands and knees and crawl quickly to the exit.

If you start to fight a fire – in the incipient stage only – but you start feeling unsure of yourself, or you think the fire is spreading, just **GET OUT!!**



EO5 - LIST the Employee Responsibilities for Fire Protection.

Employee Responsibilities

- Maintain good housekeeping practices in work areas by limiting staged combustible materials, keeping work areas neat and orderly, and not blocking fire protection equipment and means of egress.
- **Do not store flammable or combustible material in stairwells, under stairwells, or in non-approved storage areas.**
- Properly store flammable/combustible items (e.g. greases, oils, paint, etc.) in approved storage areas or containment devices. Ensure access to all fire extinguishers is clear and unobstructed.
- **Ensure all aisles, passageways, and hallways are clear and unobstructed.**
- **Ensure egress doors and routes are not blocked.**
- **Know the location of the nearest pull station and portable fire extinguisher in and around the work area.**
- Comply with safety requirements of Manual 8Q, Procedure 12, General Safety Requirements.
- Report fires and comply with facility response procedures.
- Attempt to extinguish incipient stage fires, if employee feels it is safe to do so.



Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. The name of the stage of a fire that an employee is allowed to put out is the _____ stage.

2. What is the most common alarm tone for a fire?
 - A. Chirp
 - B. Warble
 - C. Alarm Bell
 - D. Buzzer

3. What does the acronym PASS stand for?
_____, _____, _____, and _____.

4. Which selection is a safety rule for fighting a fire?
 - A. Make sure you have a co-worker help you.
 - B. Close the door to keep the fire from spreading.
 - C. Have an exit behind you and back toward the exit.
 - D. Always wear a face mask.

5. What is a responsibility of an Employee with regards to Fire Protection?
 - A. Utilize portable fire extinguishers and fight all stages of a fire until the fire is extinguished.
 - B. Store flammable/combustible items (e.g. greases, oils, paints, etc.) out of sight in any storage area.
 - C. Ensure egress doors and routes are not blocked.
 - D. Ensure the SRS Fire Department knows the location of pull stations within the building.



VII. SRS HAZARD COMMUNICATION PROGRAM

Enabling Objectives:

- EO1 IDENTIFY the purpose of OSHA's Hazard Communication Standard.**
- EO2 IDENTIFY the five elements of OSHA's Hazard Communication Standard.**
- EO3 IDENTIFY the information associated with Safety Data Sheets (SDSs).**
- EO4 LIST the information found on a chemical hazard rating label.**
- EO5 IDENTIFY the factors regarding how chemicals will affect the body.**
- EO6 IDENTIFY the precautions for avoiding chemical exposure.**

Savannah River Site (SRS), like any other large industrial complex, has numerous chemicals present which are necessary for the day-to-day operations of various facilities on site as well as for the general maintenance of equipment within those facilities.

In order for SRS employees to safely work with and around chemicals, certain information and protective equipment must be available to them. This information can be in the form of warning placards and labels or in the form of Safety Data Sheets, which detail the hazards and precautions for every chemical present on site.

The protective equipment that may be utilized by the employee can include, but is not limited to goggles, face-shields, aprons, gloves, chemical suits, and respiratory protection equipment. It is only through knowledge of the hazards imposed by a chemical that the employee will be adequately protected from those hazards while working here at SRS.

EO1 - IDENTIFY the purpose of OSHA's Hazard Communication Standard.

Purpose of OSHA's Hazard Communication Standard

- 1. The purpose of OSHA's Hazard Communication (HAZCOM) Standard is to protect every employee's "Right to Know" about chemical hazards they may be exposed to in the workplace.**
2. This Standard was revised by OSHA in 2012, to include elements of the Global Harmonization System (GHS).
- 3. OSHA's Hazard Communication Standard protects the employee's right to work in a safe and healthful environment.**
4. All employees will be trained on hazards that are present in the work area.

5. Chemicals may pose **health** and/or **physical** hazards when they are mishandled, improperly used, or if the worker is unaware of the potential hazards associated with the chemical.
6. Working safely with chemical materials is a **TEAM EFFORT**. One person can endanger an entire work group if he mishandles or improperly stores chemical materials.
7. SRS is committed to keeping employees safe and healthy on the job and to reducing the risk of injury and illness. Accomplishing these goals requires information and communication about hazardous materials that may be present in the workplace.

EO2 - IDENTIFY the five elements of OSHA's Hazard Communication Standard.

Hazard Communication Program

Components of OSHA's Hazard Communication (HAZCOM) Standard

Per 29 CFR 1910.1200, at SRS, the HAZCOM Standard consists of five elements:

1. Written Program
2. Safety Data Sheets (SDSs)
3. Container Labeling
4. Chemical Inventory
5. Training Requirements



Element 1 - SRS Written Hazard Communication Program

1. The Chemical Management Center (CMC) in the Asset Management and Distribution Operations organization has the responsibility for development and implementation of the SRS Written Hazard Communication Program.
2. The written HazCom program is in the Chemical Management Manual 13B, Procedure 2.3.

EO3 - IDENTIFY the information associated with Safety Data Sheets (SDSs).

Element 2 - Safety Data Sheets (previously Material Safety Data Sheets)

1. Reading the container label is a starting place for obtaining product information, but it is not enough. The purpose of Safety Data Sheets (SDSs) is to provide more detailed information concerning the physical and health hazards of the chemical.
2. A Safety Data Sheet is a technical bulletin for a pure chemical or a product containing a mixture of chemicals.
3. SRS maintains Safety Data Sheets that are received prior to purchase or with incoming shipments of hazardous chemicals and ensures that they are readily accessible during each work shift to employees when they are in their work areas. Employees are required to obtain SDSs before using chemicals and to read and use the information in the SDSs.



A. Locations of SDSs

1. InSite is the primary source for SDSs at SRS. SDSs are available through InSite at any time of the day or night. Simply type "SDS" in the menu filter on the InSite home page. Manufacturers' SDSs have been scanned into a computer database. A chemical should **NEVER** be used without an SDS.
2. Off hours: 717-12F MAC personnel at (803) 952-3637, (803) 507-7530 or pager 16790.
3. Each area should have placards posted that list:
4. Location of SDSs in the Area: this may be a locally maintained binder, or it may list InSite as the location.
5. The name and phone number of the facility or departmental Chemical Coordinator.
6. The Chemical Coordinator should be the **FIRST** point of contact when a material is brought into the work area without an SDS, to assist in locating an SDS for existing inventory for material to be purchased, and/or with questions about chemical inventories.

B. Information found on an SDS

1. **All Safety Data Sheets will contain sixteen (16) sections, in this order:** (Note: Some older SDSs may not have been updated to the 16-section format by the manufacturer).

Section 1: Product identification - Name of Product, Synonyms.

Section 2: Hazard identification - Signal Words, Hazard & Precautionary Statements, and Pictograms.

Section 3: Composition/information on ingredients - What's in it.

Section 4: First aid measures - Specific steps to take along with seeking medical help.

Section 5: Firefighting measures - Type(s) of extinguisher, toxic combustion products.

Section 6: Accidental release measures - What to use and NOT to use in cleanup.

Section 7: Handling and storage - Safe practices for handling and storage, including temperature.

Section 8: Exposure controls/PPE - Applicable occupational exposure limits and applied hierarchy of controls recommended.

Section 9: Physical and chemical properties - Color, odor, flammable, solubility, pH (Acid or Base).

Section 10: Stability and reactivity - Materials and conditions to avoid (for example, moisture, heat).

Section 11: Toxicological information - How toxic it is, what the expected routes of exposure are.

Section 12: Ecological information - How it will affect the environment (air, water, plants, and animals).

Section 13: Disposal considerations - How to dispose of it properly (Contact ECA or GCO).

Section 14: Transport information - DOT requirements for packaging and labeling.

Section 15: Regulatory information - Other non-OSHA regulatory information (EPA, etc.).

Section 16: Other information - Creation date, revision date, and revision number, etc.

OSHA has spelled out specific data requirements for most sections.

a) Signal Words and Hazard Pictograms

- Signal words are used to indicate the relative level of severity of the hazard. “**DANGER**” or “**WARNING**”.
- Hazard Pictograms indicate a hazardous chemical as a **physical hazard** or **health hazard**.

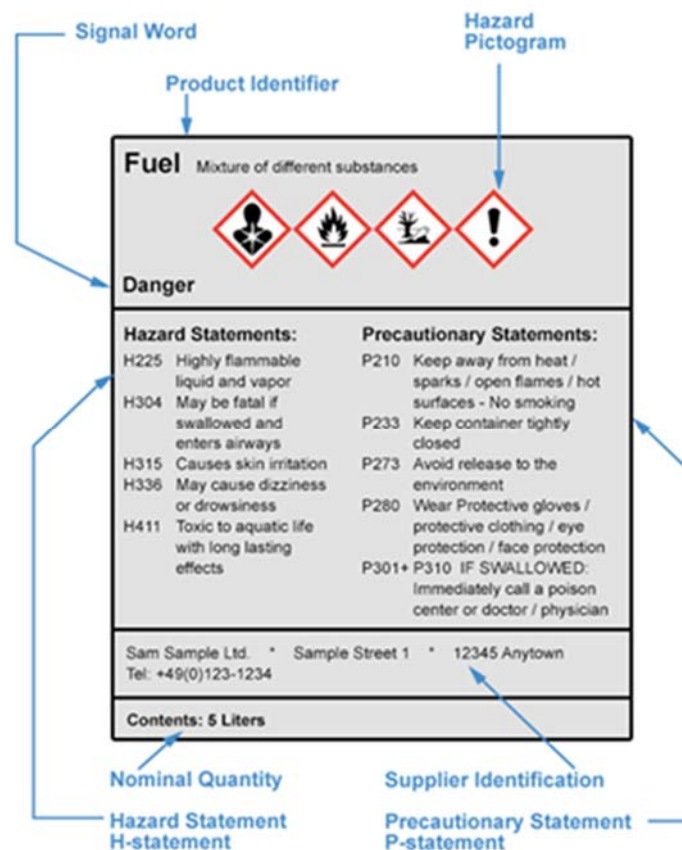
CHEMICAL NAME		See Safety Data Sheet	
SIGNAL WORD Use Only One <input type="checkbox"/> DANGER <input type="checkbox"/> WARNING			
			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HAZARD STATEMENT			
PRECAUTIONARY STATEMENT			
reorder - 440.777.6660		GHS 5.0x6.0	

Element 3 - Container Labeling

- Every chemical container must be labeled with a manufacturer's label.

The label must contain:

- Product name traceable to an SDS
- Signal Words
- Hazard Pictograms
- Hazard Statements
- Precautionary Statements
- Manufacturer's name and address
- Nominal amount in the container



2. Signal Words

Used to indicate the relative level of severity of the hazard.



DANGER For serious (severe) hazards



WARNING For lower level hazards

NO SIGNAL WORD

Neither signal word applies

- **ONLY ONE** signal word displayed at a time
- **DANGER** supersedes **WARNING** when both signal words may apply

3. Hazard and Precautionary are two (2) types of statements.

a) **Hazard Statements:** designed to reflect the hazards associated with the product.

- Physical Hazard: (H2XX Series Statements), H290 May be corrosive to metals
- Health Hazard: (H3XX Series Statements), H318 Causes serious eye damage
- Environmental Hazard: (H4XX Series Statements), H400 Very toxic to aquatic life

b) **Precautionary Statements:** designed to address the precautions needed when using, handling, storing, or disposing of the product.

- Prevention: (P2XX Series Statements), P280 Wear protective gloves
- Response: (P3XX Series Statements), P301 + P330 + P331 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
- Storage: (P4XX Series Statements), P405 Store locked up
- Disposal: (P5XX Series Statements), P501 Dispose of contents/container to...

If the manufacturer's warning label is damaged/missing or the product is transferred to a secondary container, then the SRS Chemical Hazard Rating Label must be used.

4. Hazard Pictograms

Chemical Hazards (Two Categories) - OSHA's definition of a hazardous chemical is any chemical which is a physical hazard or a health hazard.

1. Physical Hazards - Chemicals that can cause explosions, fires, violent chemical reactions, or other hazardous situations.



Corrosive	Compressed Gas	Flammable	Explosive	Oxidizer	Environmental
Corrosive to metal	Contains gas under pressure; may explode if heated	Extremely flammable gas	Unstable explosive Self-reactive chemicals	May intensify fire; oxidizer	Represents both acute and chronic toxicity effects to aquatic life (Non-Mandatory)
	Hazardous to Ozone Layer (Non-Mandatory)	Flammable Liquid and Vapor	Unstable explosive organic peroxides		Toxic to aquatic life with long lasting effects
		Flammable Solid Combustible Dust	Explosive; mass explosive hazard		Harmful to aquatic life with long lasting effects
		Reactive Solid Produces Flammable Gas in Presence of Moisture	Explosive, fire, blast or projection hazard		

2. Health Hazards - Chemicals that can cause illness or injury when inhaled, swallowed, touched, or absorbed.



Irritant	Corrosive	Acute (Immediate) Toxicity	Systemic (Chronic) Health Hazard
Skin Irritation	Causes severe (irreversible) skin corrosion / burns	Fatal if Swallowed	Carcinogen
Eye Irritation	Causes severe (irreversible) eye damage / burns	Toxic if Swallowed	Mutagenicity
Lung Irritation	Causes severe (irreversible) lung damage	Fatal in Contact with Skin	Reproductive Toxicity
Harmful if Swallowed		Toxic in Contact with Skin	Organ Toxicity (Target Organ)
Harmful in contact with skin		Fatal if inhaled	Aspiration Toxicity
Harmful if inhaled		Toxic if inhaled	May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction			
May cause respiratory irritation			
May cause drowsiness and dizziness			



Element 4 - Chemical Inventory

1. At SRS, each division, department, or facility maintains its own chemical inventory. The responsibility for conducting the inventory rests with the Chemical Coordinator. Each month the Chemical Coordinator will update the site database and annually verify the inventory for regulatory reporting.
2. The SRS Hazardous Chemical Inventory is maintained in a site-wide database by the Chemical Management Center.
3. The inventory can be viewed online in InSite or employees may contact their Chemical Coordinator.

Element 5 - Training Requirements

1. Employees shall receive hazard communication training through General Employee Training (GET) and thereafter through Consolidated Annual Training (CAT).
2. Employees shall also receive training through facility qualification training and/or Assisted Hazard Analysis when a new hazard is introduced into their work area.
3. Subcontractors may have a separate Health and Safety Plan.
4. Training helps protect the workers, the public, and the environment.

EO4 - LIST the information found on a chemical hazard rating label.

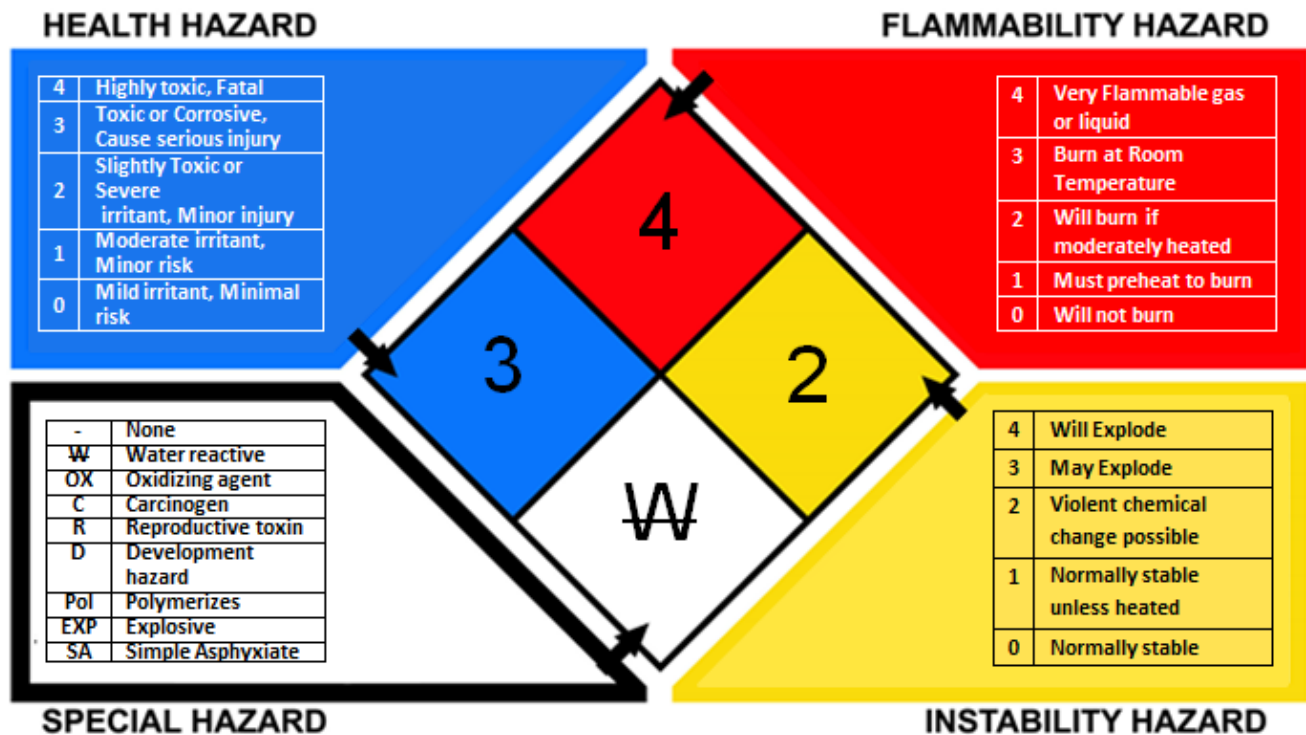
A. SRS Chemical Hazard Rating Label

1. Chemical hazard ratings are classified by using the National Fire Protection Association (NFPA) standards adapted for use at SRS.
2. The Chemical Hazard Rating Label is a large diamond made up of four smaller diamonds, each representing a different hazard. The severity of the hazard is indicated by a numbering system (within the colored diamonds), ranging from 0 (indicating minimal hazard) to 4 (indicating a severe hazard).

3. Hazard coloring system:

- a) **Red** represents flammability and is always on top. Examples: Flammable/combustible liquids and solids
- b) **Blue** represents a health hazard and is always on the left. A health hazard is that which occurs when a chemical brings about an acute health effect on exposed employees. Examples: Irritants, Corrosives, Poisons, or Toxins
- c) **Yellow** represents instability and is always on the right. Examples: Materials that are water reactive or unstable
- d) **White** represents special hazards and is always on the bottom.





Chemical Forms

All chemicals exist in one of three basic forms:

- Solids** have a definite shape and can become airborne as dust or fume particles.
 - Dust** is made up of tiny solid particles. Mechanical operations like grinding produce dust.
 - Fumes** are also made up of tiny solid particles. They form by vapor condensation when solids are melted in operations like welding and metal casting.
- Liquids** take the shape of their containers and can become airborne as vapors or mists.
 - Vapors** are formed above any exposed liquid surface. Heating a liquid makes it vaporize more quickly.
 - Mist** is made up of tiny droplets that become airborne when liquids are sprayed, agitated, or applied to a hot surface. Mists also form when hot vapors cool in air and condense.
- Gases** are a phase of matter in which the substance expands readily to fill any containing vessel. A gas has neither definite shape nor volume.

STATE OF MATTER



SOLID



LIQUID



GAS

COOL

HOT

EO5 - IDENTIFY the factors regarding how chemicals will affect the body.

A. Chemicals have two kinds of effects:

1. **Acute:** Characterized by rapid exposure to a harmful material in a short period of time.
2. **Chronic:** Characterized by exposure to harmful material in small doses over a long period of time.

No one can predict how a particular chemical will affect a specific individual. Safety Data Sheets (SDSs) tell only what happens to groups of people.

B. Five Factors to Consider How Chemicals Affect the Body

1. Route of exposure
2. Toxicity
3. Dosage
4. Workers' individual differences
5. Workplace controls

**1. Routes of Exposure**

- Exposure routes are ways chemicals enter your body. Some chemicals are more toxic by one exposure route than by another. For example, onion juice vapor irritates the eyes, but skin contact with onion juice produces little or no effect. In addition, some routes are more direct, depending on the physical state (i.e., solid, liquid, or gas) of the chemical.
- Another example: inhalation is the most likely route of entry for vinyl chloride gas at room temperature, whereas skin absorption and ingestion are less likely. A third example: airborne asbestos fibers that are inhaled can induce cancer, but other exposures are not significant.
- There are four main routes of exposure:
 - a) **Breathing/Inhalation** takes a chemical from your nose or mouth, down your windpipe, and into your lungs. Some chemicals get trapped in your lungs. Others leave when you breathe out. But, may pass from your lungs into your bloodstream.
 - b) **Skin Absorption** – Hazards pass through the skin on contact and enter the bloodstream. Once in your bloodstream, chemicals can spread throughout your body and cause injury or disease far away from the original site of contact. Chemicals can also be absorbed through the mucous membranes of the nose.
 - c) **Swallowing/Ingestion** takes a chemical from your mouth, down your esophagus, and into your stomach. From there, many chemicals enter the intestines where they can be absorbed into the bloodstream and spread throughout your body. Damage can be done at any point along the way.
 - d) **Injection** allows a chemical to enter the body via sharp objects penetrating the skin or by direct injection such as by a grease gun.

2. Toxicity

a) Toxicity is relative and depends on:

- The living organism involved
- Dose, rate, method, and affected organ or system
- General state of health, individual differences, tolerance, diet, and temperature

b) **Low toxicity** – minor symptoms that go away when the exposure stops

c) **Medium toxicity** – requires medical attention; may be permanent

d) **High toxicity** – can cause death or severely disabling conditions

3. Dosage

Dosage depends on:

a) How **MUCH** you are exposed to each time

b) How **LONG** each exposure lasts

c) How **OFTEN** you are exposed

4. Worker's Individual Differences

The things that make you unique also affect a chemical's effect on you. Traits that play a part in the degree of hazard include:

a) Your work practices

b) Your age and size

c) Your general physical and emotional health

d) Allergies and sensitivities you may have

e) Your level of exertion

f) The combination of chemicals in your body, including medications you're taking, whether or not you smoke tobacco or drink alcoholic beverages.

5. Workplace Controls

There are three basic methods of controlling chemical hazards:

a) **Engineering Controls**

- Substitution – replacing a chemical, process, or piece of equipment with a less hazardous or more efficient one (e.g. steam instead of solvent cleaning)
- Isolation – using an enclosure, barrier, or safe distance to separate workers from exposure hazards (e.g. machine enclosures, enclosed control rooms, splash guards)

- Local exhaust ventilation – capturing an airborne hazard as it is released and taking it out of the workplace to eliminate exposure (e.g. hoods, slots, dust collectors)
- General ventilation – mixing an airborne hazard with fresh air to reduce exposure levels, which is only suitable for hazards of low toxicity that mix readily with air (e.g. fans, make-up air vents)

b) Administrative Controls

- Documentation, information, and training (e.g. warning labels, Hazardous Chemical Inventory, written Hazard Communication Program)
- Work practices (e.g. using all available controls correctly, reporting uncontrolled hazards promptly)
- Housekeeping – containing and removing hazards (e.g. vacuuming toxic dusts, proper storage and handling, correct disposal of chemical wastes)
- Monitoring – checking the effectiveness of other controls (e.g. air and swipe samples for area monitoring, personal sampling for individual monitoring, medical exams, and laboratory tests)
- Always be alert for uncontrolled chemical hazards in your workplace. You can see bulk liquids and solids, but most airborne hazards are invisible. You can smell or taste some airborne chemicals but not others. Some chemicals deaden your sense of smell, but others cannot be detected at the very low levels that can harm you.
- Remember – anything you smell or taste is entering your body.

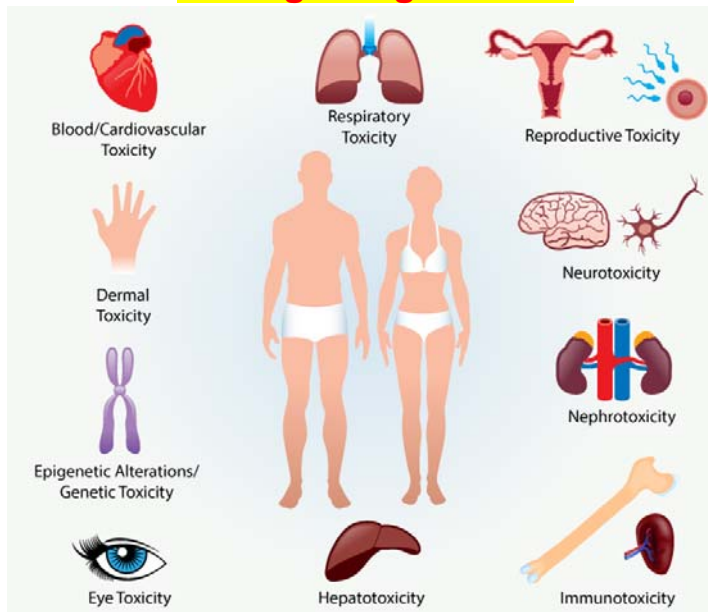
c) Personal Protective Equipment (PPE)

- Personal Protective Equipment (PPE) puts a barrier between the hazard and the individual who wears the PPE. It can protect against both physical hazards and health hazards.
- Examples of PPE include:
 - Protective gloves and clothing (e.g. hats, hoods, boots, impervious gloves, cloth gloves, rubber aprons, lab coats, impervious boots)
 - Eye and face protection (e.g. safety glasses, splash goggles, and face masks and shields)
 - Air-purifying respirators (e.g. respirators with a cartridge or filter that removes contaminants from the air you breathe)
 - Air-supplied respirators (e.g. air-line units that provide air from a remote source)



To protect you, you must match PPE with the specific hazard. For example, cloth gloves are useless for protection against a corrosive liquid. PPE is useless unless you wear it. Proper fit, correct use, and routine replacement are also critical.

EO6 - IDENTIFY the precautions for avoiding chemical exposure.

A. Target Organ Effect


1. A **target organ effect** is defined as the damage done to organs of the body from exposure to certain materials or chemicals.
2. Examples of categories of chemicals and their target organs are:
 - **Hepatotoxins** produce liver damage, such as ethanol (ethyl alcohol) and chloroform
 - **Nephrotoxins** produce kidney damage, such as mercury, antifreeze, and lead
 - **Neurotoxins** attack the central and/or peripheral nervous system, such as mercury and ethyl alcohol
 - **Hemotoxins** affect the blood, such as benzene, lead, and carbon monoxide
 - **Pulmonary toxins** attack the lungs, such as asbestos, silica, beryllium, and chlorine gas
 - **Cardiotoxins** affect the heart, such as ethyl alcohol, carbon monoxide, and lead
 - **Thyroid toxins** affect the thyroid gland, such as perchlorate (rocket fuel), iodine, and atrazine (herbicide)
 - **Gastrointestinal (GI) toxins** affect the stomach and intestines, such as arsenic and zinc
 - **Urinary Tract toxins** affect the bladder, such as cadmium
 - **Reproductive toxins** affect the reproductive system, such as lead, glycol ether, and carbon disulfide
 - **Cutaneous hazards** affect the skin, such as greases, acids, polychlorinated biphenyls (PCBs), and fiberglass.
 - **Eye hazards** affect the eye, such as lime, cement, and mace

B. Actions for Skin Exposure

1. Before you begin work, note the location of safety showers and eye wash stations.



2. Immediate action for chemicals on the skin or in the eyes:

- **DO NOT** attempt to neutralize the acid with a base (or vice versa).
- Contact medical personnel.
- Irrigate with **LARGE** amounts of **WATER** until medical help arrives.



3. Many chemicals produce vapors, fumes, tastes, or odors which are discernible to the worker. You should always be aware that these senses are warning you of potential danger. If the job you are performing produces vapors, fumes, tastes, or odors, you could be exposing yourself to hazardous chemicals. Contact your supervisor or the area Industrial Hygienist for proper personal protective equipment.

C. Spills

1. Assume **ALL** spills are hazardous!

2. Notify your supervisor.

3. Do not attempt to clean up the spill.



D. Employee Responsibilities

1. Be aware of chemical hazards.

2. Review the chemical label and SDS prior to using the product.

3. Ask your manager/supervisor if you have questions.

4. Wear PPE as prescribed when using chemicals.

5. Contact your Area Industrial Hygienist to determine Chemical Personal Protective Equipment (PPE) requirements for chemicals that are not covered by procedures or work documents.

6. Notifying your Chemical Coordinator if you:

- Plan to bring new chemicals into the work area.
- Find chemical containers with labels that are damaged/unreadable.
- Cannot find the SDS for a chemical in your work area.
- Apply a SRS Chemical Hazard Rating label to any secondary (non-manufacturer) containers or manufacturers' containers that have missing, faded, or damaged labels.

Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. **What is the purpose of OSHA's Hazard Communication Standard?**
 - A. To provide employees with guidelines for communicating safely with one another
 - B. To provide employees with guidelines for use of communication equipment
 - C. To protect every employee's "Right to Know" about chemical hazards in the workplace
 - D. To protect employees against gossip on the and off the job

2. **What are the five elements of the OSHA's Hazard Communication standard?**
 - A. Written Program, Safety Data Sheets (SDS), Container Labeling, Chemical Inventory, and Training Requirements
 - B. Safe work practices, Technical Safety Basis, Container Labeling, Automated Hazard Analysis, and Chemical Inventory
 - C. Work Release Form, Safety Data Sheets (SDS), Container Labeling, Radiological Work Permit, and Training Requirements
 - D. Automated Hazard Analysis, Technical Safety Basis, Radiological Work Permit, Safety Data Sheets (SDS), and Chemical Inventory

3. **What part of the human body do Neurotoxins attack?**
 - A. Kidneys
 - B. Nervous system
 - C. Heart
 - D. Eyes

4. **How does OSHA define a "hazardous" chemical?**
 - A. Any chemical that is a physical hazard or a health hazard
 - B. Any chemical that will not cause harm to the body
 - C. Chemicals that are not cancer-causing agents
 - D. Any chemical that is not a physical hazard or a health hazard

5. **Who is the best contact for obtaining a Safety Data Sheets (SDS)?**
 - A. Area Industrial Hygienist
 - B. Area Safety Engineer
 - C. DOE Chemical Manager
 - D. Chemical Coordinator

6. **On the SRS Chemical Hazard Warning label, what do the following colors represent?**

White: _____

Yellow: _____

Red: _____

Blue: _____



Savannah River Site

VIII. ENVIRONMENTAL PROTECTION PROGRAM

Enabling Objectives:

- EO1 STATE the purpose and resources of the SRS Environmental Protection Program.**
- EO2 IDENTIFY the six types of solid waste and the requirements for their proper handling and disposal.**
- EO3 LIST your responsibilities for Environmental Stewardship at SRS.**

The Savannah River Site is owned and managed by the Department of Energy. The operations at this site are required to comply with pertinent federally- and state-mandated environmental regulations. This compliance is overseen by the Environmental Protection Agency, the South Carolina Department of Health and Environmental Control, and local environmental requirements.



Because the legal requirements are broad as well as complex, the Savannah River Site has many individuals trained and in place to assist in the compliance with these various regulations and requirements.

It is up to each individual Savannah River Site employee to ensure that their day-to-day work activities do not constitute an environmental concern or result in an avoidable release of a toxic or noxious substance to the environment.

EO1 - STATE the purpose and resources of the SRS Environmental Protection Program.

A. Purpose of the Environmental Protection Program (EPP)

The purpose of the Environmental Protection Program (EPP) is to ensure compliance with environmental regulations and the SRS Environmental Policy for the safety of employees, the public, and the environment.

Employees must follow sound environmental stewardship practices that protect environmental media (i.e. air, water, land, and other natural and cultural resources).

Environmental stewardship involves these components:

1. Regulatory Compliance – worker and environmental
2. Conservation of Resources
3. Pollution Prevention
4. Continual Improvement

Refer to 3Q Manual, Environmental Compliance for more information.



B. Primary Environmental Regulatory Resources at SRS

The primary environmental regulatory resources at SRS are Environmental Subject Matter Experts (SMEs). Environmental professionals are in the Environmental Compliance (EC) section of the SRNS Environment, Safety, Health, and Quality (ESH & Q) Department. Their responsibilities are:

- Coordinate the development and implementation of site wide environmental programs to meet SRS policy and regulatory requirements.
- Interface with DOE, state, and federal agencies on environmental issues. (Routine discussions with regulators on environmental matters must include the environmental SME for that environmental law/media.)
- Interpret Environmental Regulations.
- Evaluate all alternative environmental solutions.



NOTE: Environmental SMEs are listed on the “Environmental Compliance Website” on InSite.

C. Primary Line Organization Contact

Environmental Compliance Authorities (ECA) are assigned professionals knowledgeable in environmental requirements and specific regulatory protocol for Facility and Area projects. They are **YOUR primary contact on environmental matters**. All personnel should know the name of their ECA. Environmental Compliance maintains a list of the Site ECA's.

- The primary line organization contact for environmental matters is the ECA. Each major SRS organization has an ECA whose responsibilities include: Review National Environmental Policy Act (NEPA)/Environmental Evaluation Checklists on new or modified SRS projects to identify environmental regulatory requirements.
- Assist in environmental planning by recommending resources and funding needs.
- Support facilities/projects with the implementation of environmental policies, programs, and permits, as applicable.
- Review and comment on Work Release documents for environmental impacts.
- Answer questions on how your work might affect the environment and assist with meeting environmental requirements.



NOTE: Environmental Compliance Authorities are listed on the Environmental Compliance Website on InSite.

EO2 - IDENTIFY the six types of solid waste and the requirements for their proper handling and disposal.

Management of Solid and Hazardous Waste

Solid Waste is anything discarded and is subject to specific regulatory requirements for storage, handling, and disposal.

There are six types of solid waste:

1. Radiological
2. Non-radiological and Non-hazardous
3. Hazardous – based on specific chemical content
4. Mixed – radiological and hazardous
5. Polychlorinated biphenyls (PCBs)
6. Universal Waste (batteries, lamps, Mercury-containing devices)

Solid waste must be properly characterized, segregated, stored, treated, and disposed of by qualified employees in a way that protects site workers and the general public and is compliant with state and federal laws.

- DO NOT throw waste in a dumpster or pour down a drain unless authorized to do so (contact your building custodian or ECA).
- Many items not considered hazardous waste in a household are hazardous waste at a large facility like SRS. (i.e. paint, aerosol cans, or rags soiled with solvent used for cleaning).
- In January 2000, DOE issued a moratorium prohibiting the unconditional release of volume-contaminated metals and subsequently suspended the release of metals for recycling purposes from DOE radiological areas in July 2000. This "metals moratorium" is still in effect for all DOE sites.

Therefore, all volume contaminated metals and metals that have a history of being in a radiological area must be identified and handled as radioactive waste.

- Call your ECA with any questions about the handling and disposing of solid waste.

EO3 - LIST your responsibilities for Environmental Stewardship at SRS.

A. Environmental Evaluation Checklists (EECs)

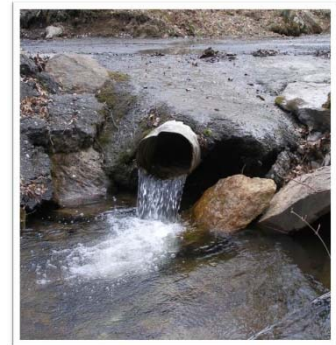
- The National Environmental Policy Act (NEPA) of 1969 requires all Federal agencies to consider the impacts of their proposed actions on the "human environment" before the commitment of significant resources and project implementation.
- SRS uses the Environmental Evaluation Checklist (EEC) to initiate the NEPA process and to evaluate environmental impacts.

- Activities that require preparation of an EEC may include, but are not limited to:
 - Construction and demolition activities
 - Activities that require asbestos inspections/abatement,
 - Activities with potential air emissions,
 - Activities with potential water discharges, and
 - Activities that generate a solid or hazardous waste.
 - To create an EEC, go to the “?” in Lotus Notes, click Sitewide Applications, then click on Environmental Evaluation Checklist.
- The Activity/Project sponsor is responsible for working in partnership with their ECA to prepare an accurate and timely EEC.
- Additional site requirements such as Site Use/Site Clearance may be applicable (SEE Manual 1D, 3.02, Site Real Property Configuration Control).
- For more information, refer to Section 5 of the 3Q Environmental Compliance Manual.

B. Environmental Media - Water

There are specific regulatory requirements for work activities in or near waters of the state at SRS. Permits must be obtained before beginning the following activities through SCDHEC or U.S. Army Corps of Engineers:

- Wastewater collection, treatment, or discharge
- Drinking water treatment
- Land disturbance for construction and D&D activities
- Discharge of storm water
- Work in or near wetlands
- Well drilling and water withdrawal



C. Environmental Media - Air

Facility projects and modifications can impact air quality. Contact the assigned ECA to ensure necessary authorization and documentation is on hand when faced with:

- Non-radiological air pollutant emissions, as permitted under the Clean Air Act.
- Radiological air pollutant emissions for evaluation under the SRS National Emission Standards for Hazardous Air Pollutants (NESHAP) program.



- Planning or performing repairs, demolitions, or trailer relocations. Asbestos-containing materials are commonly found in building materials and equipment.
- Misconception is that building materials (sheetrock, caulk, floor tile, etc.) manufactured after the 1980s do not contain asbestos.
- Activities, such as removing a porch, moving a trailer, machinery, or demolishing a building, require an inspection by a certified asbestos building inspector BEFORE the work begins.
- Before starting a new project, ask your ECA for assistance.
- Some equipment that has air emissions that need to be evaluated include – generators/air compressors, HEPA filters, lathes/grinders, and storage tanks.
- For more information, refer to Section 4 of 3Q Manual Environmental Compliance.

D. Personal Environmental Responsibility

Employees are the first line of defense for environmental stewardship and are responsible for:

- Knowing how our work can/does impact the environment
- Supporting recycle, re-use, and prevent pollution
- Following waste handling/minimization procedures
- Using energy efficient transportation
- Conserving energy (i.e. turn off lights, equipment, and computers when not in use)
- Reducing water consumption
- Containing leaks, drips, and spills, and report them to your supervisor/manager
- Substituting less toxic/hazardous material when possible
- Ordering and using only what is required for the job
- Practicing good housekeeping
- Seeking guidance from your supervisor and/or assigned ECA regarding potential non-compliance issues



Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. Name the six types of solid waste.

_____, _____, _____, _____, _____,
and _____.

2. If you have a question regarding disposing of pesticides, paint, or other harmful products, your primary point of contact is your:

- A. Hazard Communication Manager
- B. Environmental Compliance Authority
- C. Industrial Hygienist
- D. Supervisor

3. What manual should you refer to for more information on environmental media (e.g., air, land, or water) and SRS programs in place to protect them?

- A. 8B Compliance Assurance Manual
- B. 1S Waste Acceptance Criteria Manual
- C. 4Q Industrial Hygiene Manual
- D. 3Q Environmental Compliance Manual



IX. SRS POLICIES AND PROCEDURES

Enabling Objectives:

- EO1 IDENTIFY the responsibilities of the Subcontract Technical Representative (STR).**
- EO2 IDENTIFY your responsibilities regarding SRS Procedures and Government Telephones.**
- EO3 IDENTIFY your responsibilities under the SRS Quality Assurance Program.**
- EO4 IDENTIFY your responsibilities under the Suspect/Counterfeit Item (S/CI) Program.**
- EO5 DEFINE the Price-Anderson Amendment Act (PAAA).**
- EO6 LIST the elements of the SRS Fitness for Duty Program.**
- EO7 IDENTIFY the components of the SRS Employee Concerns Program (ECP).**
- EO8 STATE the appropriate method for dealing with Differing Professional Opinions.**
- EO9 IDENTIFY your rights under the Equal Employment Opportunity Program.**

All individuals with an SRS photo security badge are responsible for performing their work in compliance with SRS policies and procedures. Job-specific and facility-specific policies and procedures will be provided to you once you report to the job site.

EO1 - IDENTIFY the responsibilities of the Subcontract Technical Representative (STR).

1. The Subcontract Technical Representative (STR) is an individual who serves as the technical liaison between an SRS contractor and the subcontractor. While the STR represents the interests of the department who established the requirement, he or she also represents the interests of the Procurement Department by making sure the subcontractor fulfills their obligations.
2. Duties and Responsibilities of the STR:
 - Serves as the technical liaison
 - Monitors subcontractor performance
 - Inspects subcontractor work for acceptability
 - Reviews invoices and comments on chargeability
 - Establishes and tracks cost and schedule
 - Analyzes subcontractor progress from cost and technical perspectives
 - Prepares written evaluation of subcontractor performance

EO2 - IDENTIFY your responsibilities regarding SRS Procedures and Government Telephones.

A. Procedure Compliance

1. SRS is committed to **100% compliance** with procedures.
2. 100% procedure compliance requires that all steps in a procedure be followed exactly as written.
3. There are **only two exceptions** to this rule:
 - a) If you find it is unsafe to follow the procedure, stop work when it is safe to do so, and report your concern to your supervisor or STR.
 - b) If you discover an administrative error in the procedure, bring it to your supervisor's attention immediately.



B. SRS Government Telephones

Site employees may use the toll-free number for business purposes only – 1-800-278-5009.

- Personal Use of Government Telephones
 - **Limit frequency and duration**



EO3 - IDENTIFY your responsibilities under the SRS Quality Assurance Program.

Quality Assurance Program

Each individual involved in performing work at SRS is responsible for the quality of their work and for following the requirements of all applicable procedures/instructions. Line management has final responsibility for the achievement of quality. The Quality Assurance Program is consistent with and is an integral part of the Integrated Safety Management System.

Definitions from 10 CFR 830 (Nuclear Safety Management) and DOE Order 414.1D (Quality Assurance)

- **Quality** - The condition achieved when an item, service, or process meets or exceeds the user's requirements and expectations.
- **Quality Assurance** - All those actions that provide confidence that quality is achieved.
- **Quality Assurance Program** - The overall program or management system established to assign responsibilities and authorities, define policies and requirements, and provide for the performance and assessment of work.



More information on the SRS QA Program can be found in the Manual 1Q, Quality Assurance.

Contractor Assurance System (CAS)

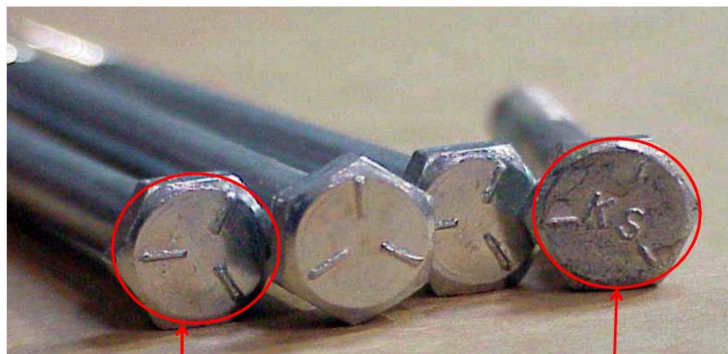
The CAS is a management process that ensures compliance with DOE Orders, federal/state regulations, and the contract, and provides checks and balances in day to day activities to promote optimum performance. The CAS provides a platform to improve performance through continuous improvement and organizational learning where actions are properly prioritized and managed to closure. The CAS process is an integral part of a strong nuclear safety culture.

EO4 - IDENTIFY your responsibilities under the Suspect/Counterfeit Item (S/CI) Program.

Suspect/Counterfeit Item (S/CI) Program

The infiltration of Suspect/Counterfeit items is a National Issue and an SRS Issue that impacts the Quality, Safety and Security of our facilities, our missions, and our workforce.

1. Per DOE Order 414.1D, contractor organizations (SRNS and the LIQUID WASTE CONTRACTOR) are required to establish, document, and implement effective controls and processes to:
 - Ensure items meet specified requirements
 - Prevent entry of S/CI's into the supply chain, site, and facilities
 - Detect, control, report, and disposition of S/CI's that do enter the SRS supply chain
2. DOE requirements for S/CI are implemented at Savannah River Site (SRS) by:
 - Procedure 1B-5.19, Suspect and Counterfeit Item Program
 - Suspect Item Program Manager – Tom Tracy, Engineering, 952-9245
 - Web Based Training – Course Code: QASCI001-SP
3. Groups primarily impacted by the program include:
 - Supply Chain, Receipt Inspection, Maintenance, Operations, Construction, Infrastructure, and Engineering
4. Responsibilities:
 - While there are multiple layers of defense that are used to prevent S/CI entry into the supply chain and to detect, control, report, and disposition S/CI's that do infiltrate the supply chain, ALL SITE EMPLOYEES should be cognizant of this issue and take appropriate action if they suspect that an item is counterfeit.



Grade 5 and has no manufacturer identification

“KS” (Kosaka Kogyo) insignia identified on the DOE S/CI Headmark List

EO5 - Define the Price-Anderson Amendment Act (PAAA).

Price-Anderson Amendment Act (PAAA)

The Price-Anderson Amendment Act (PAAA) is a federal law, enacted by Congress in 1988, that subjects DOE contractors, subcontractors, and suppliers to civil and criminal penalties for violations of DOE Rules, Regulations, and Orders related to nuclear safety.

The purpose of nuclear safety requirements is to minimize the risk to workers and the public by ensuring that DOE nuclear activities are conducted in a manner that adequately protects human health and safety, and the environment.

1. PAAA violations usually involve events where personnel did not follow site procedures. Examples of PAAA violations are:
 - Failure to maintain documents and records
 - Failure to maintain training qualifications for work activities
 - Violations of Technical Safety Requirements (TSRs)
 - Violations of Documented Safety Analysis (DSA) Hazard Controls
 - Not complying with Radiological Work Permits (RWPs)



DOE expects the contractors who operate its facilities to have the proper management and supervisory systems in place to assure that all activities at DOE facilities, regardless of who performs them, are carried out in compliance with all DOE Nuclear Safety Requirements.

EO6 - LIST the elements of the SRS Fitness for Duty Program.

Fitness for Duty

One aspect of "Fitness for Duty" is defined as an individual's ability to perform his/her assigned job free from impairment due to drugs and/or alcohol, emotional distress, fatigue, and personal health problems.

For purposes of this policy, "drugs or controlled substances," include legal and illegal drugs taken for non-medical reasons. It does not include prescription medication taken in accordance with a physician's instructions.

1. All SRS personnel are responsible for:

- Reporting to and remaining at work in a condition to perform assigned duties and tasks free from the effects of alcohol and/or other controlled substances.
- Informing their supervisor if taking any medication that could adversely affect safety or performance.
- Identifying and reporting workers suspected of not being fit for duty.

NOTE: All prescription medication should be stored in its ORIGINAL container/bottle. Employees should always notify management of any legal (over-the-counter or prescription) drug they may be using that could possibly affect their work performance.

2. Testing Protocol

The following substance abuse testing program applies to all SRS-badged employees.

- **Initial testing** - All employees will be tested at the time of initial employment. All visitors, contractors, subcontractors, and vendors performing services at SRS must successfully complete chemical testing prior to being granted unescorted access to site facilities. Failure to pass initial testing will result in immediate termination.
- **Random testing** - Employees, visitors, contractors, subcontractors, and vendors are subject to chemical testing at any time. Employees are chosen for random testing based on a computer-generated random selection program.
- **Reasonable Suspicion Testing** - Reasonable Suspicion tests of an employee may be necessary if the employee's behavior creates the basis for reasonable suspicion of the use of illegal drugs, the abuse of prescription drugs, or alcohol use to the extent that impaired performance is suspected. Reasonable suspicion could result from direct observation of drug use, erratic behavior, or arrest or conviction for an illegal drug offense.
- **Occurrence Testing** - Individuals assigned to Human Reliability Program (HRP) positions and individuals in Department of Transportation (DOT) Driver, Hazardous Waste Operations, and Emergency Response medical surveillance programs are required to undergo chemical testing:
 - a) When it is determined that they could have caused or contributed to an occurrence that requires immediate reporting to DOE.
 - b) For other occurrences, incidents, and unsafe practices (i.e. non-immediately reportable occurrences) under the Reasonable Suspicion Chemical Testing provisions.
 - c) Any employee involved in an occupational incident resulting in damage to a government vehicle or property on-site, unless the accident was beyond the control of the operator.

3. Disciplinary Action

It is the employee's responsibility to report to work in a condition to perform assigned duties and tasks free from the effects of alcohol and/or drugs.

Employees are subject to disciplinary actions, including **termination** for:

- a) Failure of any type of site sponsored drug/alcohol test (Pre-employment, Random, for a Clearance).
- b) Reasonable Suspicion.
- c) Refusal to take a test.
- d) Use, possession, manufacture, or distribution of illegal drugs.
- e) Using products to defraud the testing or prevent detection of drugs.

Anyone in violation of the above will be immediately escorted off-site and is ineligible to return, pending investigation by management and Human Resources. **Arrests could occur.**

Appropriate disciplinary measures, up to and including **termination**, are applied where prevention, deterrence, and rehabilitation are inadequate or ineffective.

Rehabilitation and The Employee Assistance Program (EAP)

The Savannah River Site provides support and rehabilitation through the Employee Assistance Program (EAP). EAP provides assistance with ensuring employees are provided sufficient resources and proper follow up for recovery and rehabilitation. Employees should always notify management of any legal (over-the-counter or prescription) drug they may be using that could possibly affect their work performance. Additional information on services available via the EAP can be found on the Human Resources homepage in InSite.

E07 - IDENTIFY the components of the SRS Employee Concerns Program (ECP).

Open Communication Policy

Open communication is your right and responsibility!

SRS Contractors promote and encourage open and honest communication of issues and concerns that have the potential to adversely affect the site or its employees. It is SRS policy that employees are allowed to identify and seek resolution of workplace issues and concerns in a reprisal-free environment, with the expectation that they will be fully addressed.

Employees have the right and responsibility to seek resolution of their workplace issues and concerns. Employees also have the right to receive a timely response to their issues and concerns and the right to receive protection from adverse consequences as a result of reporting such matters.

The Open Communication Policy states that employees shall have the right and responsibility to report concerns relating to safety, quality, security, environment, or health arising from the operation of SRS. They shall also have the right to receive a timely investigation and resolution of the concern and protection from reprisal, reprimand, harassment, intimidation, retaliation, or criticism as a result of reporting the concern.

Employee Concerns Program

SRNS, the LIQUID WASTE CONTRACTOR, CENTERRA-SRS, NNSA, Parsons, and DOE-SR maintain Employee Concerns Programs to assist employees in seeking resolution of their issues and concerns. If resolution through the established channels cannot be achieved, employees fear reprisal, or employees wish to remain confidential or anonymous, the ECP is available for all contractor and subcontractor employees.

The Employee Concerns Program is an established program that is available to manage, investigate, and resolve concerns by:

- Serve as the site point of contact for issues related to the Environment, Safety, Health, Quality, Security, Waste, Fraud, Abuse, Mismanagement, Intimidation, Retaliation/Reprisal, Discrimination and other matters.
- Available to help employees seek resolution of workplace issues.
- Provide an effective process for ensuring employee concerns are processed in accordance with DOE regulations, 10 CFR 851 Worker Safety and Health regulations, and applicable laws.
- Assist employees:
 - If resolution cannot be resolved
 - If they fear reprisal
 - If they wish to remain anonymous or confidential

DOE Contractor Employee Protection Program

Retaliation is prohibited as a result of the following:

- An employee disclosing information
- An employee participating in proceedings
- An employee refusing to participate in activities that violate health/safety laws or could cause serious injury to the employees(s) or to the public

Contractors may be subject to fines and penalties under the Price Anderson Amendment Act (PAAA) per 10 CFR 820 or under 10 CFR 851, Worker Safety and Health for retaliation.

EO8 - STATE the appropriate method for dealing with Differing Professional Opinions.

Differing Professional Opinions (DPO) Process

The Differing Professional Opinions (DPO) process is intended for use in professional areas when more than one professional opinion or direction impacts missions, safety, health, or the environment.

The process:

- Is available to all SRS contractors and subcontractors
- Facilitates dialogue and resolution for technical issues
- Encourages employees to first try to resolve issues through normal peer and management review

1. Alternative Dispute Resolution Process

The Alternative Dispute Resolution (ADR) process provides mediation as a method of resolving conflict following a disagreement.

If the disputing parties agree, a trained mediator will to serve as a neutral third-party to facilitate discussion of disputed issues and to assist the parties with achieving mutual resolution.

- a) For SRNS, the trained mediator is the responsibility of SRNS Employee Concerns.
- b) For the Liquid Waste Contractor, the trained mediator is the responsibility of the Employee Compliance Manager or his/her appointed designee.

EO9 - IDENTIFY your rights under the Equal Employment Opportunity Program.

Equal Employment Opportunity (EEO) Program

SRNS, THE LIQUID WASTE CONTRACTOR, CENTERRA-SRS, NNSA, Parsons, and DOE-SR maintain equal employment opportunity, prohibit discrimination and harassment in all forms, and promote diversity and inclusiveness in the workplace. In implementing the Corporate Policy on Equal Employment Opportunity, The Affirmative Action Plan is developed locally on a calendar year basis.



1. EEO policy:

- Encompasses all aspects of the employment relationship, including application and initial employment, promotion, transfer, selection for training opportunities, wage and salary administration, reduction in force, and the application of service, retirement, seniority, and employee benefit plan policies.
- Further, harassment or disrespectful treatment on the basis of race, color, religion, gender, gender identity, sex discrimination, national origin, age, physical or mental disability, veteran status, or genetic information is prohibited by law and this policy.

2. EEO is Federal Law and all applicable federal EEO laws are vigorously enforced by:

- a) Providing assistance and consultation to Workforce Services, Administrative Services and/or line management in investigating and resolving complaints of discrimination and sexual harassment.
- b) Ensuring the full participation of minority, female, and disabled employees in all company sponsored educational, training, recreational, and social activities.
- c) Developing annual policy statements, affirmative action programs, and internal and external communication programs.
- d) Monitoring employment activities including internal movement, layoffs, and constructive discipline to ensure fair treatment.
- e) Conducting impact ratio analysis on employment activities such as promotions, demotions, new hires, separations, and lateral movement.
- f) Assisting in the identification of problem areas using statistical data in correcting any identified deficiencies.
- g) Conducting an annual self-assessment of EEO activities and progress.



Self-Check Questions

Answer the self-check questions below. The answers are in the back of this study guide.

1. **What does it mean to be Fit-for-Duty?**
 - A. Getting enough sleep and getting to work on time
 - B. Having a college degree
 - C. Volunteering for a hazardous job
 - D. Reporting to and staying at work free from the effects of drugs and/or alcohol
2. **What is the purpose of the Quality Assurance Program?**
 - A. To document and investigate security violations to the fullest extent
 - B. To provide confidence that quality is achieved
 - C. To collect and store unused government equipment
 - D. To document unsafe subcontractor performance
3. **You are following a site procedure while doing your job. A condition arises that isn't covered in the procedure, what is your responsibility?**
 - A. Stop work as soon as it is safe to do so and notify your supervisor
 - B. Stop work immediately and notify Security
 - C. Make a note in the procedure and keep working
 - D. Stop work only if the Safety Engineer tells you to
4. **What is an example of a potential violation of the Price-Anderson Amendment Act?**
 - A. Disposing of aerosol cans in a regular trash dumpster
 - B. Not wearing your badge in the chest area
 - C. Bringing an explosive device on the site
 - D. Not following requirements on the Radiological Worker Permit
5. **What method is available to you after exhausting all other avenues to have a concern resolved?**
 - A. Procedure Compliance Program
 - B. Quality Assurance Program
 - C. Suspect/Counterfeit Item (S/CI) Program
 - D. Employee Concerns Program



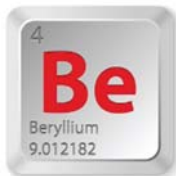
X. BERYLLIUM AWARENESS

Because this is a briefing, there are no enabling objectives.

Beryllium Awareness Training is required for all SRS employees. If you perform work or have to perform work that is associated with beryllium, your supervisor/manager or Subcontract Technical Representative (STR) will inform you and you will be required to complete Beryllium Associated Worker Training.

Chronic Beryllium Disease Prevention Program at SRS

Federal law (10 CFR 850) requires SRS to implement a Beryllium exposure control program. This program must reduce the number of employees exposed to and ensure the early detection of diseases associated with Beryllium exposure.



The SRS Chronic Beryllium Disease Prevention Program provides program requirements to identify, evaluate, and control occupational exposures to Beryllium to below the DOE prescribed exposure limits.

What Is Beryllium?

Beryllium is a metallic element that occurs naturally in about 30 minerals. It is lightweight (lighter than aluminum), but stronger than steel. It has a high melting point, conducts heat well, and is corrosion-resistant. Though useful, it can cause serious health problems to those who are exposed to airborne particles.

Beryllium and Its Uses

Beryllium metal has been produced for various industrial uses since the late 1950s, especially in aerospace and defense applications.

Some examples of industrial use include:

- Windshield frames and other structures in high-speed aircraft and space vehicles
- Aircraft and space shuttle brakes
- Satellite mirrors and space telescopes
- Inertial guidance systems and gyroscopes
- Neutron moderator or reflector in nuclear reactors
- X-ray windows
- Nuclear weapons components



Beryllium telescope mirror: View of the back of one of the 18 beryllium mirror segments for the James Webb Space Telescope. The ribs at the back of the mirror help to maintain the mirror's strength and ability to hold its shape under extreme conditions. The front of the mirror is completely smooth and coated in a thin film of gold. Photograph courtesy of the National Aeronautics and Space Administration. Photo courtesy of NASA.

In addition to industrial applications, Beryllium alloys and compounds are used in products found at home. Some examples include:

- Bicycles (more expensive models)
- Jewelry
- Air bags in automobiles
- Golf clubs
- Computer parts
- Dental bridges

These products found at home do NOT pose a health risk.

Beryllium Use at DOE Sites

Beryllium is predominately used in engineering, defense, and nuclear weapons technology. Machining, powder pressing, laser cutting, welding, and mechanical testing are the major work activities that have occurred at DOE installations.

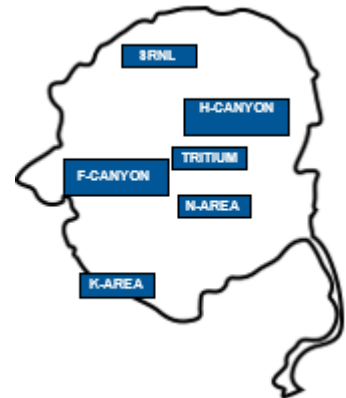
Beryllium is found at some DOE sites throughout the country, such as Los Alamos and Oak Ridge. These two sites have the greatest potential for exposure to Beryllium in the DOE Complex.

Beryllium at Savannah River Site

Historically, Beryllium was associated with reactor assemblies, weapon components, radioactive check sources, and research activities at SRS. Current missions involve processing of waste materials from across the complex that may contain trace quantities of Beryllium.

Although SRS is not listed as having the “Greatest Exposure Potential” among the DOE sites, there are facilities in some areas where there is a greater potential to find Beryllium. These areas include:

- SRNL
- F-Canyon
- Tritium
- K Reactor
- H-Canyon
- N-Area



Beryllium Hazards

Inhalation of beryllium particles may lead to:

- Beryllium Sensitivity
- Acute Beryllium Disease
- Chronic Beryllium Disease
- Lung Cancer

Beryllium Controls

DOE requires that exposure be minimized to the extent possible through:

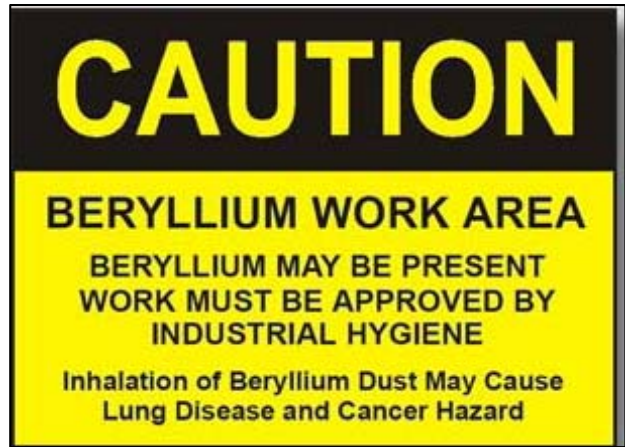
- Engineering Controls
- Administrative Controls
- Personal Protective Equipment (PPE)

Beryllium Signs and Postings

Signs and postings at the boundary of all Beryllium work areas alert workers and visitors to the possible presence of Beryllium.

Beryllium Information

For more detailed information on Beryllium or Beryllium disease, see the site's Beryllium Web Page in InSite by typing "Beryllium" and then "Quick Search" and then "Beryllium Information".



If you think you may have been exposed to Beryllium at SRS or in a previous job, contact the SRS Beryllium Program Coordinator, Steve Glover, 703-H Room 94 at 803-208-1670 or through email steve.glover@srs.gov.



XI. OPERATING EXPERIENCE PROGRAM

Because this is a briefing, there are no enabling objectives.

Purpose of the SRNS Operating Experience Program

The purpose of the SRNS Operating Experience Program is to identify and distribute lessons learned by others and to share lessons from our own experiences, including "near misses," to prevent events from occurring and to prevent reoccurrence.

The program reviews experiences in:

- Quality
- Personnel safety and health
- Process safety including:
 - Conditions that degrade operations and equipment
 - Conditions that can negatively impact the environment and public confidence

These experiences are taken from both internal and external facilities such as:

- Savannah River Site facilities
- Similar DOE complex facilities
- Commercial nuclear industry facilities

Examples of Lessons Learned

1. Hanford Site - Trailer Fire Due to Faulty Surge Protector





As part of its normal duties, the SRS Operating Experience Program reviewed an event from the Hanford DOE site where a trailer caught fire due to a faulty surge protector. Hanford determined that some surge protectors sold before 1998 did not prevent overheating. The SRS Operating Experience Program distributed the information to the SRS Senior Electrical Review Board (SERB) for further review.

After additional study, and in conjunction with Senior Management, the SERB initiated a site wide review and replacement of certain unapproved surge protectors to prevent a similar fire occurrence at SRS.

2. Los Alamos National Lab - Small Fire in Microwave

A small fire broke out in a microwave at the Los Alamos National Laboratory (LANL). An employee had placed her Starbucks plastic coffee mug in the microwave to reheat her coffee, just as she had done several times before without incident. She thought she had set the timer for 45 seconds. She left the room for about 10 minutes, saw smoke in the area, returned to the break room and noticed her mug was on fire. She immediately called 911 and activated a building pull station as she left the room.

Remember these safety rules when using a microwave:

- Ensure container is microwave safe
- Set correct time and temperature
- Remain at microwave



Responsibilities of All Site Employees

- Avoid an attitude of “we’ve always done it this way” (not a sound approach to fulfilling tasks).
- Be alert to abnormal conditions in the workplace and report these conditions to management.
- Do not assume that someone else has reported a condition. Often, irregularities are common knowledge to employees working in the facility, but no effort is made to correct or report them.
- Question the consequences of your actions.



XII. CODES OF BUSINESS ETHICS AND CONDUCT POLICY

Because this is a briefing, there are no enabling objectives.

The SRNS Ethics Code and the Liquid Waste Contractor Ethics Code are available on the Savannah River Site's Intranet.

Codes of Business Ethics and Conduct Policy

It is not expected that every employee or manager will be fully versed in every law or regulation affecting one's responsibilities. However, it is expected that all employees will have a working knowledge of the permissible activities involved in their work. The SRNS Ethics Code and the Liquid Waste Contractor Ethics Code are available on the Site's Intranet. Employees will seek guidance from the appropriate General Counsel's Ethics Office concerning any matter in which there is any question. Subcontractor personnel should check with their Subcontract Technical Representative (STR).

All employees are responsible for performing their work in compliance with the laws, regulations, procedures, applicable DOE/NNSA orders and directives, and standards of ethical and moral conduct. All managers are responsible for enforcing and complying with this policy, including communicating this policy to their employees to ensure employee knowledge and compliance.

Ethics Principles

1. Three principles are found in both Codes of Business Ethics and Conduct:

- a) Contractor and subcontractor employees shall comply with all applicable laws governing SRS operations:
- b) Business shall be conducted in accordance with the highest moral, legal, and ethical standards: and
- c) Compliance with the laws, regulations, procedures, applicable DOE/NNSA orders and directives, not only means following the law, but conducting business in a manner that reflects positively on personnel working at the Savannah River Site (SRS) as good and law-abiding citizens; we avoid impropriety and the appearance of impropriety.

2. SRNS and Liquid Waste Contractor employees are bound by the respective Codes of Business Ethics and Conduct. For guidance, call the appropriate Ethics Office.

- a) Subcontract employees are bound by the terms of their contract. Usually, the contract will require compliance with SRNS or Liquid Waste Contractor administrative policies, which includes the appropriate Code of Business Ethics and Conduct.



Guidelines for Specific Ethical Issues

1. Supplier Relationships

- a) Only discuss business-sensitive information that is required to get the job done under the contract.
- b) Do not share business-sensitive information owned by a supplier with those that do not need to know, especially competing suppliers or the public, without authorization from the supplier.
- c) Do not provide any inside information. Do not accept or exchange gifts. Do not ask for or accept any kickbacks. A kickback is defined as anything of any value given in return for improper favorable treatment under a contract. Kickbacks are illegal and could result in disciplinary action up to and including termination and criminal prosecution. If you become aware of a situation involving a kickback, report it. You may report it anonymously.
- d) Off SRS, there should be no discussions about non-public business, financial information, personnel, technological information, plans, programs, or other confidential business data acquired during employment at **SRNS, the Liquid Waste Contractor, or a subcontractor to either entity.**

2. Customer Relationships

Be honest regarding proposals, costs, records, expense reports, and time cards; fill out all forms honestly and completely.

3. Government Resources

- a) "Resources" includes all office equipment, tools, machinery, instruments used in the field, buildings, and real and personal property. Employees using any electronic system while employed at **SRNS, the Liquid Waste Contractor, or a subcontractor to either entity** have a personal responsibility to maintain the privacy and integrity of each system and refrain from accessing information or otherwise using these systems except for legitimate, government authorized purposes.
- b) Employees may use their SRS computers provided by SRNS or the Liquid Waste Contractor for limited incidental personal purposes, consistent with guidelines that include the following:
 - (1) Use involves de minimis (insignificant) expense to the Government
 - (2) Use does not interfere with completion of the daily duties of the employee
 - (3) Use does not facilitate an employee's outside, personal business
 - (4) Use does not allow for creating, downloading, viewing, storing, copying, or transmitting sexually-explicit or sexually-oriented materials
 - (5) Online gambling is strictly prohibited
 - (6) Use does not include social networking by any means, including the following or any similar networking tool: Facebook, My Space, Twitter, LinkedIn, YouTube, and blogs (except technical or scientific blogs)
 - (7) Use does not include access to your personal email accounts
 - (8) Use must conform to your management's direction to restrict use based on one's organizational needs

Every time an employee logs on to a government system, you are reminded that you have no expectation of privacy. This includes any incidental personal use.

See your Human Resource Manual (SRNS, 5B manual; Liquid Waste Contractor, S16 manual) for a complete discussion of what constitutes acceptable personal use of Site internet and email.

4. Political Activities

Political activities must be conducted on your own time and with your own resources. Do not display campaign literature, buttons, etc., in the workplace. There is no ban on political bumper stickers on vehicles.

5. Conflicts of Interest

- a) If you have an outside business interest, it must not (1) divert time and attention that prevents you from meeting your company's responsibilities and (2) outside interests may require you to update your Ethics Questionnaire; if so, do so prior to engaging in the outside activity.
- b) If you used to work for a subcontractor to the Site but accept a job with SRNS or the Liquid Waste Contractor, you may not be put in a position of responsibility (oversee, inspect, audit, etc.) over your former subcontractor company for two years.
- c) If you leave employment with SRNS or the Liquid Waste Contractor to work for a subcontractor to the site, you must inform your management or your STR. This must be reviewed by your respective Ethics Office.

6. Insider Trading

Beware of insider trading. It is against the law for a SRNS or a Liquid Waste Contractor employee, or anyone, to trade in any company's stock while in possession of material, nonpublic information.



Compliance and Disclosure

1. You are responsible for your ethical behavior, for reporting suspected violations of the Ethics Code to your supervisor and/or the appropriate Ethics Office, and for cooperating with investigations regarding those violations or any other company investigation.
2. The SRNS Ethics Office Help Line is **803-725-8181**. The Liquid Waste Contractor Ethics Office Help Line is **803-557-8000**. The Offices maintain 24-hour answering machine service. The telephones have no caller ID capacity and the calls are not taped. If you call the Ethics Help Line during work hours, you will be referred to an Ethics Officer. After work hours, you may leave a message and you will be contacted the following work day. You may report anonymously, if you prefer.

Summary

Remember, we are all responsible for performing our jobs in compliance with the applicable laws, regulations, procedures, applicable DOE/NNSA orders and directives, and standards of ethical and moral conduct. Address your questions about ethics to the SRNS Ethics Office at 803-725-8181 or the Liquid Waste Contractor Ethics Office at 803-557-8000, anonymously if you prefer. Report noncompliance to your supervisor or the appropriate Ethics Office.

SRS ACRONYMS

ADR	Alternative Dispute Resolution Process	OCI-SRFO	Office of Counterintelligence Savannah River Field Office
ALARA	As Low As Reasonably Achievable	OE	Operating Experience Program
AMS	Asset Management Specialist	OSHA	Occupational Safety and Health Administration
ARGOS	Advanced Research and Global Observation Satellite	OUO	Official Use Only
BBS	Behavior-Based Safety	PA	Protected Area
CAT	Consolidated Annual Training	PAAA	Price Anderson Amendment Act
CI	Counterintelligence	PACA	Prohibited and Controlled Article
CND	Criticality Neutron Dosimeter	PCM	Personnel Contamination Monitor
CoC	Code of Conduct	PFMD	Personal Fitness Monitoring Device
COI	Conflict of Interest	PII	Personally Identifiable Information
CUI	Controlled Unclassified Information	POE	Point of Entry
dB	Decibel	PPA	Property Protection Area
DNO	Do Not Operate	PPE	Personal Protective Equipment
DOE	Department of Energy	QA	Quality Assurance
DOE-SR	Department of Energy-Savannah River	QAP	Quality Assurance Program
DPO	Differing Professional Opinions Process	R&D	Research and Development
DWPF	Defense Waste Processing Facility	RBA	Radiological Buffer Area
EAP	Employee Assistance Program	RFTRF	Radio Frequency Transmitter Review Form
ECA	Environmental Compliance Authority	RP	Radiological Protection
ECF	Entry Control Facilities	RWP	Radiological Work Permit
ECP	Employee Concerns Program	SAS	Safety Alarm System
EEO	Equal Employment Opportunity Program	S/CI	Suspect/Counterfeit Item Program
EIS	External Information Systems	SCA	Soil Contamination Area
EMS	Emergency Medical Services	SDS	Safety Data Sheet
EOC	Emergency Operating Center	SIPM	Security Incident Program Manager
EPP	Environmental Protection Program	SME	Subject Matter Expert
ERO	Emergency Response Organization	SNM	Special Nuclear Material
ESSH	Environment, Safety, Security, and Health Department	SPO	Security Police Officer
GAA	General Access Area	SREL	Savannah River Ecology Lab
GERT	General Employee Radiological Training	SRS	Savannah River Site
HAZCOM	Hazard Communications Program	SRSOC	Savannah River Site Operations Center
HEC	Hazardous Energy Control Program	SRNL	Savannah River National Laboratory
HPI	Human Performance Improvement	SRNS	Savannah River Nuclear Solutions
IH	Industrial Hygiene	S&S	Safeguards and Security Program
IOSC	Incident of Security Concerns	STR	Subcontract Technical Representative
ISMS	Integrated Safety Management System	TEF	Tritium Extraction Facility
LA	Limited Area	TSCM	Technical Surveillance Counter Measures
L/T	Lockout/Tagout	TSO	Technical Security Officer
MAA	Material Access Area	UCI	Unclassified Controlled Information
mrem	Millirem	UCNI	Unclassified Controlled Nuclear Information
NEPA	National Environmental Policy Act	USFS	United States Forest Service
NMC&A	Nuclear Material Control and Accountability	URMA	Underground Radioactive Material Area
NNSA	National Nuclear Security Administration	VPP	Voluntary Protection Program
NFPA	National Fire Protection Association	WBC	Whole Body Count
		WPV	Workplace Violence

Answers to Self-Check Questions

SRS Vision, Mission, Facilities, and Course Description

1. (B) Centerra-SRS
2. (A) Department of Energy – SR (DOE-SR)
3. (D) Savannah River National Laboratory (SRNL)

Health and Safety Program

1. (D) Employees have the right to express concerns about worker Safety and Health
2. (A) Taking shortcuts through construction areas
3. (C) A pool of water spilled on the floor
4. (D) Define the scope of work, identify the hazards, and develop controls to mitigate the hazards, perform work within the boundary of the controls, and provide feedback for continuous improvement
5. (C) The SRS Fire Department

General Employee Radiological Training (GERT)

1. (A) The risks from working in the nuclear industry are lower
2. (D) X-Rays, glow in the dark exit signs, smoke detectors
3. (D) 100 mrem/year
4. (B) Posting radiological signs colored yellow and magenta
5. (A) Keep your radiation exposure As Low As Reasonably Achievable (ALARA)
6. (C) Do not enter. Contact your supervisor so he can arrange a radiological worker escort for you.
7. (B) Personnel Contamination Monitor (PCM)
8. Cosmic, Radon, Human Body, Earth's Crust

SRS Safeguards and Security Program

1. **(B)** Ammunition
2. **(A)** Property Protection Area (PPA)
3. **(C)** Valid driver's license, proof of insurance, and vehicle registration
4. **(D)** To prevent unauthorized persons from obtaining access to classified areas and/or information, and to address persons not wearing a security badge
5. Property Pass
6. **(D)** Immediately notify Technical Surveillance Counter Measures at 803-952-6820

Emergency Management Program

1. **(D)** All of the above
2. Buzzer or Chirp/Fire – Evacuate the immediate area and walk briskly to your designated Rally Point

Alarm Bell/Nuclear Incident Monitor – Evacuate the immediate area and walk briskly to your designated Rally Point

Warble/Emergency Alarm – Listen to public address announcement and follow public address instructions

Voice (All Clear) – Return to your normal work activities
3. **(A)** Ensure their communication equipment is turned on and working
4. **(C)** Listen for more information over the public-address system
5. **(C)** Evacuating to the “ad hoc” rally point

Fire Safety Program

1. Incipient
2. **(D)** Buzzer
3. Pull, Aim, Squeeze, and Sweep
4. **(C)** Have an exit behind you and back toward the exit.
5. **(C)** Ensure egress doors and routes are not blocked.

SRS Hazard Communication Program

1. (C) To protect every employee's "Right to Know" about chemical hazards in the workplace
2. (A) Written Program, Safety Data Sheets (SDS), Container Labeling, Chemical Inventory, and Training Requirements
3. (B) Nervous system
4. (A) Any chemical that is a physical hazard or a health hazard
5. (D) Chemical Coordinator
6. White - Special, Yellow - Instability, Red - Flammable, Blue – Health

Environmental Protection Program

1. Radiological, Hazardous, Non-radiological and Non-hazardous, Mixed, and Polychlorinated biphenyls (PCBs), Universal Waste
2. (B) Environmental Compliance Authority
3. (D) 3Q Environmental Compliance Manual

SRS Policies and Procedures

1. (D) Reporting to and staying at work free from the effects of drugs and/or alcohol
2. (B) To provide confidence that quality is achieved
3. (A) Stop work as soon as it is safe to do so and notify your supervisor
4. (D) Not following requirements on the Radiological Worker Permit
5. (D) Employee Concerns Program



TREGGETASTGD000116

Effective: February 10, 2020