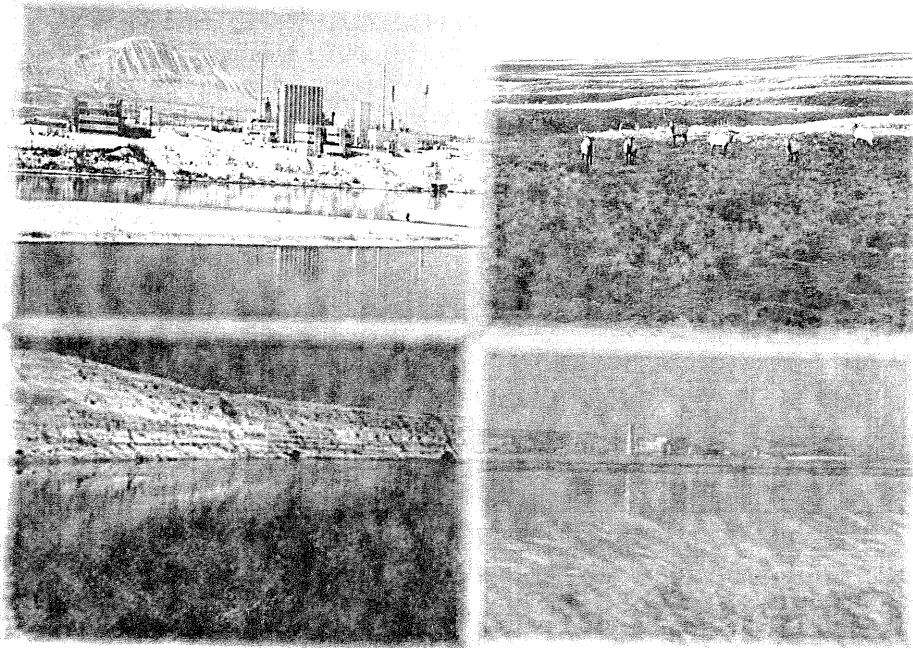


Visitor Orientation



Welcome to the Hanford Site



U.S. Department of Energy,
Richland Operations Office

PLEASE KEEP THIS PAMPHLET WITH YOU DURING YOUR VISIT

Issue Date: 11/30/2006

Hanford Focus

We Take Safety, Security, And Environmental Protection Seriously

The safety and health of our employees, the public, and those who visit the Hanford Site, in addition to protection of the environment, are fundamental values of the U.S. Department of Energy (DOE) and its contractors. We strive to achieve and sustain a worksite that is free of accidents, injuries, environmental impacts, and security events. Once you step foot on the Hanford Site, you become a part of our *Zero Incident* culture. We expect that every individual will go home in the same condition that brought them to the Hanford Site. We are dedicated to impeding unwanted events by preventing unsafe acts, eliminating or mitigating unsafe conditions, and responding properly to near misses and emergency situations. Rather than just reacting to occurrences and correcting contributing factors, our objective is to be proactive and prevent them from happening in the first place.

Our Roadmap To Zero Incidents

To achieve our goal of daily excellence in the protection of the worker, the public, and the environment, we apply an aggressive approach to integrated safety and security management. To support this process, visitors are responsible for the following.

- Clearly understand the work to be performed.
- Practice and promote safe behaviors and proper work habits.
- Recognize hazards.
- Use good judgment.
- Comply with the standards and guidance described herein (and as otherwise defined by your escort or host).
- Provide notification of unsafe work areas and work processes.

You also have the right to know:

- The potential hazards associated with the areas to which you are exposed.
- The measures to be taken to protect you from the dangers these hazards may impose.

You play a meaningful role in contributing to our success.

Key Visitor Responsibilities

Key Visitor Responsibilities

- **Respond to all building and facility alarms** as detailed on page 8. Follow instructions of your escort or the facility occupants during an event.
- **Inform your escort or host of any medical restrictions** or physical limitations that may prevent you from performing safely, or of any onset of illness you are experiencing (e.g., dizziness, general feeling of discomfort).
- **STOP WORK immediately** (or cease what you are doing) when you identify a potential hazard or problem, and when directed to do so by anyone on the Hanford Site.
- Obey all posted signs and rules at the Hanford Site.
- Conduct only those activities and access only those work areas approved for your visit.
- Wear your security badge conspicuously above the waist and in plain view on your outer-most layer of clothing.
- Do not remove artifacts, disturb wildlife, or pick flowers.
- Do not bring prohibited articles onto the Hanford Site. Prohibited articles are detailed on page 9. NOTE: Visitors are subject to search at all times on the Hanford Site.
- Do not enter a radiation zone without an escort and additional training.
- Complete special safety training if performing any of the designated hazardous activities listed on pages 6 and 7.

Visitor Responsibilities

To a large degree, visitors have safety and security responsibilities similar to those of our own employees. When you enter the Hanford Site, you agree to abide by our policies and procedures and adhere to the following responsibilities.

Occupational Safety and Health

YOU are responsible for your safety.

YOU are expected to take an active role to ensure that you act safely.

YOU have the right to enter a safe worksite, and the responsibility to keep it safe.

- Conduct only those activities and access only those work areas approved for your visit.
- Inform your escort or host of any medical restrictions or physical limitations that may prevent you from performing safely, or of any onset of illness you are experiencing (e.g., dizziness, general feeling of discomfort).
- STOP WORK immediately (or cease what you are doing) when you identify a potential hazard or problem, and when directed to do so by anyone on the Hanford Site.
- Report accidents, injuries/illnesses, near misses, unusual occurrences, unsafe conditions, and potential hazards to your escort or host in a timely manner. Report emergency conditions immediately via the Hanford Site phone (911) or cell phone (373-3800).
- Use established walkways and crosswalks in your foot-travel, maintaining a personal awareness of tripping and slipping hazards and uneven walking surfaces.
- Use handrails when accessing stairways.
- Know the location of fire exits and means of egress in and out of buildings on the Hanford Site.
- Maintain our work environment and equipment in a clean and orderly condition.

Visitor Responsibilities

Security

- Carry photo identification with you at all times. Promptly report to your host, escort, or your temporary supervisor any actual or suspected acts of intentional damage, theft, misuse of government property, or security discrepancies that come to your attention.
- Wear your badge conspicuously above the waist and in plain view on your outer-most layer of clothing.
- Use your badge for official use only. Protect your badge from loss and misuse. Do not transfer or loan your badge to anyone.
- Show your badge and photo identification at all access points. Hanford Patrol may be required to touch your badge.
- Return your photo security badge to your host/escort or any access control clerk at the end of your visit or assignment.
- Notify your host/escort or Hanford Patrol immediately if you lose or misplace your security badge during your visit.
- Only access government computers after you receive approval from company officials and have completed computer security training.

General

- Obey all instructions of your host or escort and request guidance if you have questions.
- Obey all signs and postings. Safety, security, and radiological postings are located throughout the Hanford Site for your protection.
- Obey Washington State traffic laws.
- Do not remove artifacts, disturb wildlife, or pick flowers.
- Be alert for deer and other wildlife that may be on the road.
- Stay on designated roads and walkways.
- Park in designated parking areas. Handicapped parking permits are required to park in handicapped spaces on the Hanford Site.

Visitor Responsibilities

- Be prepared for changes in road conditions or slow-moving vehicles.
- Do not smoke in any DOE-owned or contractor-leased facility; in any government vehicles; or near flammable gases, liquids, and dry vegetation. Smoking is permitted outside in designated areas only.
- Dispose of litter and cigarettes in the proper depository.

Job Specific








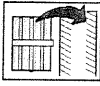
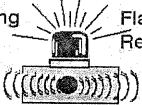

- Obtain permission from your host or escort to operate any project or facility equipment and machinery.
- Wear clothing suitable for exposure to the environment and activities to which you will be exposed. Use the prescribed personal protective clothing and equipment specified by your escort or host (at a minimum, hard hat, safety glasses, and appropriate footwear).
- Stay clear of overhead work activity and moving equipment/vehicles.
- Review applicable Material Safety Data Sheets before handling hazardous material (e.g., chemicals).
- Do not smoke or use open flames/heating sources in proximity to combustible or flammable material.
- Do not enter any radiological areas or work with any hazardous materials without specific authorization and training.
- Designated hazardous activities: Special training will be required before undertaking any of the following activities. Discuss your needs with your host, in advance.
 - Handling hazardous materials and substances (e.g., chemicals, toxics, waste)
 - Required use of respiratory protection
 - Access into a confined space
 - Access onto a roof
 - Exposure to temperature extremes (hot or cold)
 - Working alone
 - Operating power tools or equipment

Visitor Responsibilities

- Manual lifting and associated material-handling tasks
 - Use of forklifts, cranes, or hoists to rig and/or transport loads
 - Use of fall arrest or fall restraint systems (including body harness)
 - Lockout and/or tagout to control hazardous energy
 - Use of lasers
 - Exposure to noise
 - Use of ladders (for any purpose)
 - Accessing temporary work platforms or scaffolds
 - Operation of aerial devices or elevating work platforms
 - Accessing a below-grade trench (excavation)
 - Use of compressed gases
 - Welding, burning, or other "hot work"
- Keep your exposure "**As Low As Reasonably Achievable**" (ALARA) (see page 14).
 - Do not bring sealed or unsealed radioactive sources on the Hanford Site without prior written approval of the appropriate contractor's Radiological Control organization.
 - Health Care Centers are located at Building 2719-WB (200 West Area) and at 1979 Snyder Street. Any injury, illness, or potential exposure must be reported to an escort or you may request assistance from the nearest employee.

Emergency Preparedness and Response

- Call 911 (or 509-373-3800 from a cellular phone) for fire, medical, Hanford Patrol, hazardous material response, or whenever you believe an emergency situation exists.
- Call 375-2400 for emergencies at Pacific Northwest National Laboratory (PNNL).
- A tape recording of emergency signals, with response instructions, may be heard by dialing 373-2345. In the 400 Area, dial 376-4444.
- In the event of emergency, or during a drill, follow the instructions of your escort. If you become separated from your escort, or if you do not have an escort, seek assistance from the nearest employee. NOTE: Facility Emergency Response Organization personnel wear orange vests.
- Facility-specific orientation provides response information related to emergency alarms, location of proper emergency exits, and location of staging areas.
- In case of a Hanford Site emergency, visitors must have a pre-designated method to communicate with their host.

SIGNALS	MEANINGS	ACTIONS
 <p>HOWLER AH-OO-GAH</p>	Criticality	<p>RAPIDLY EVACUATE</p> 
 <p>GONG or HORN</p>	Fire	<p>EVACUATE</p> 
 <p>WAVERING SIREN, WAVERING TONE for 3-6 min.</p>	Take Cover	 <p>STAY INSIDE</p>
 <p>STEADY SIREN, STEADY BLAST for 3-6 min.</p>	Evacuation	<p>GO TO STAGING AREA</p> 
<p>Ringing Bell</p>  <p>Flashing Red Light</p>	High Airborne Radioactivity	<p>EXIT AREA (one airspace away)</p> 

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Prohibited Articles

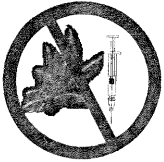
The following items are prohibited articles anywhere on the Hanford Site or in Site-associated facilities without prior authorization:



- Dangerous weapons or ammunition.



- Explosives or incendiary devices.



- Controlled substances (e.g., illegal drugs and associated paraphernalia, but not prescription medication).



- Alcoholic beverages (including “near” and “non-alcoholic” beer).



- Pets and animals, except for guide dogs.

NOTE: Prohibited knives include fixed or folding knives with blades exceeding four inches; knives with blades that are automatically released by spring or mechanical mechanism; knives that open, fall, or are ejected into position by force of gravity; and swords, machetes, hatchets, axes, straight razors, and similar cutting devices.

If you are in possession of any of the above items, **DECLARE THEM NOW!**
To claim prohibited articles after normal business hours, contact Hanford Patrol at 373-3800.

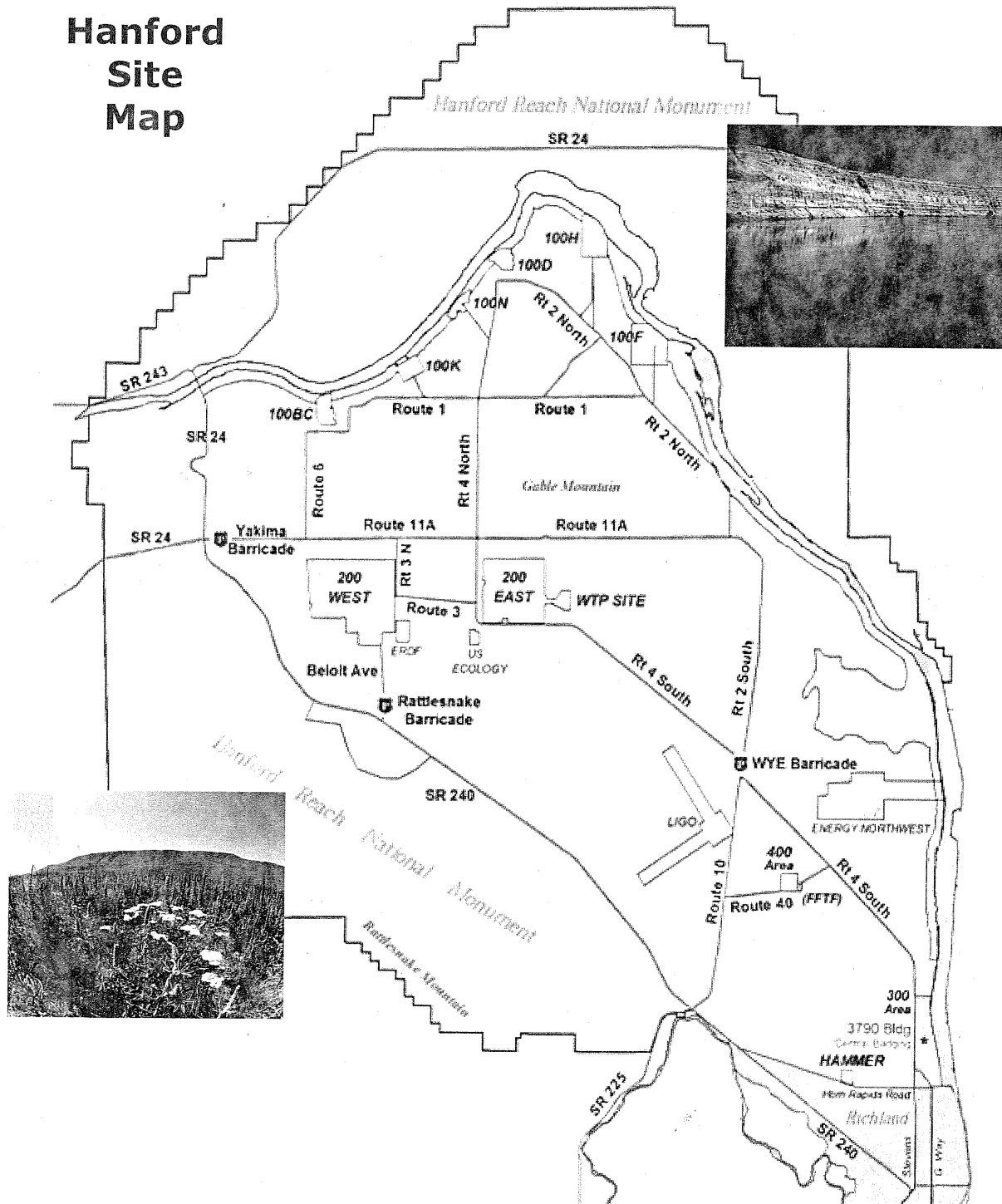
Emergency Phone Numbers

Emergency (Medical/Fire) 911
 (509/373-3800 cell phone)
 PNNL 375-2400
 Hanford Patrol..... 373-3800
 Hanford - Benton County Sheriff's..... 376-1022
 Office

General Information Phone Numbers

DOE 376-7411
 FH 376-7411
 CH2M 376-7411
 PNNL 375-2121
 WCH 375-4640
 AdvanceMed 376-3333

Hanford Site Map



Job-Specific and Background Information

The remainder of this booklet contains requirements only for specific types of work, together with background information about the Hanford Site. Read those sections that apply to you and any other material in which you may have an interest. If you will be making an unescorted entry into a radiologically controlled area, you will be asked to sign a document which will mean you have read and understand the Radiation Safety Training section of this pamphlet.

Hanford Site Security Area Access

Without prior authorization, the following controlled articles are prohibited within areas that process or control classified matter or quantities of special nuclear material. These limited areas, protected areas, and material access areas have barriers and are clearly identified.

- Radio frequency transmitting equipment.
- Cellular telephones.
- Computers and associated media (includes personal electronic devices, e.g., personal digital assistants [PDA]).
- Recording equipment (audio, video, and data).
- Cameras (still, motion-picture, and video).
- Electronic equipment with a data exchange port capable of being connected to automated information system equipment.

NOTE: Government-provided desktop computers and associated media are not considered controlled articles.

In addition to the items listed above, all personal protective sprays (e.g., mace, pepper spray) are prohibited within protected and material access areas.

The following items are prohibited in rooms in which classified information is processed or discussed. These items are prohibited in such locations even if they are listed on a valid prohibited/controlled article pass.

- Cordless and cellular telephones.
- Recording equipment (audio, video, and data).
- Cameras (still, motion-picture, and video).
- Electronic equipment with a data exchange port capable of being connected to automated information system equipment.
- Radio frequency transmitting equipment.

Radiation Safety Training

Because we process nuclear materials, the Hanford Site contains radiological hazards, hazards that are invisible and not normally dealt with in everyday life. This section describes the basics of radiological hazards and the protective measures we take to minimize any risk.

Basic Radiation Concepts

What Is Radiation?

Radiation is energy that is emitted from an unstable atom. It can be in the form of a particle (alpha, beta, or neutron radiation) or a ray (gamma or x-ray).

Radiation also can be classified as **ionizing or non-ionizing**. Ionizing radiation has enough energy to remove electrons from the atoms through which it passes. This section of the booklet covers ionizing radiation. Non-ionizing radiation lacks the energy to remove any electrons from neighboring atoms. Examples of non-ionizing radiation are radiowaves, lasers, and microwaves.

Another term associated with radiation is **radioactive contamination**. In simple terms, radioactive contamination is having radioactive material in an unwanted location. Radioactive contamination areas are strictly controlled at the Hanford Site to prevent the spread of contamination.

What About Radiation Exposure?

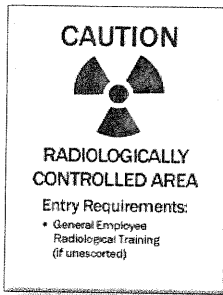
Everyone is exposed to naturally occurring radiation every day. This exposure is expressed as a dose equivalent. The unit of its measure is called "rem." The vast majority of exposure at the Hanford Site is measured in millirem or "mrem," which is 1/1000 of a rem. In the United States, the average person receives a radiation dose of approximately 360 mrem each year from naturally occurring background radiation and manufactured sources.

How Do I Identify Radiological Hazards?

Any area in which there is a potential for exposure above background to radioactive materials is strictly controlled. A combination of special training, administrative controls, and physical controls (including radiological postings [signs] and barriers) is used to restrict access to these areas. Examples of these areas are:

- Fixed contamination areas.
- Underground radioactive material areas.
- Radioactive material areas.
- Radiological areas.

Radiation Safety Training



All radiological hazards at the Hanford Site are easily identifiable by the use of the international sign for radiation—a black or magenta trefoil on a yellow background with the words “Caution” or “Danger.” Entry into any of these areas requires specific training and strict compliance with access requirements.

Radiation Risks

Exposure to ionizing radiation may increase your chances of developing cancer. Although the scientific community lacks consensus on how much exposure is acceptable, most experts believe that you should limit your exposure to radioactive materials.

- Remember that it is impossible to prevent your exposure to naturally occurring sources of radiation exposure. However, you can control your exposure to manufactured sources of radiation.

Chronic exposure occurs when an individual receives a dose of radiation (typically a low dose) over an extended period of time (usually months to years). Exposure to naturally occurring background radiation is an example of chronic exposure.

Acute exposure occurs when an individual receives a high dose of radiation in a short period of time (seconds to days). Firefighters at the Chernobyl Plant received acute doses of radiation.

Heritable effects are passed from one generation to the next. High levels of radiation exposure to animals have been demonstrated to produce such effects. However, no heritable effects have been observed in humans as a result of radiation exposure.

Is There A “Safe” Dose Of Ionizing Radiation?

The scientific community has not developed a definitive answer to this question. The potential risk of working with or around radioactive materials can be compared to other accepted risks in our everyday lives.

Radiation Safety Training

The following data addresses the expected effect on the average life span of a large population of individuals subjected to the listed risk factor/behavior. The subsequent

Health Risk	Estimated Days of Life (Expectancy Lost)
Smoking (1 pack/day)	3500
15% Overweight	777
Alcohol Consumption (U.S. Average)	365
Construction Worker	227
Driving a Motor Vehicle	205
All Industry	60
Radiation Dose of 100 mrem/year (for 70 years)	10
Coffee (U.S. Average)	6

In summary, the estimated risk associated with radiation exposures, when compared to other risks, is considered to be within the normal range of the public's risk tolerance.



How Are Radiological Risks Managed At The Hanford Site?

The key to managing radiological risks at the Hanford Site is to keep exposures to radiation and other hazardous materials “**As Low As Reasonably Achievable**” or “**ALARA.**” The cornerstone of the ALARA philosophy is to evaluate all hazards before operations begin and design appropriate controls into the project.

The main **ALARA tools** are:

- Reduce **TIME** near the hazard.
- Increase the **DISTANCE** from the hazard.
- Increase the **SHIELDING** between you and the hazard.
- Reduce the amount of radioactive material (e.g., decontamination).

What Are The Radiological Controls At The Hanford Site?

Engineered and administrative controls keep radiation exposures ALARA.

Radiation Safety Training

Engineered controls are physical and/or mechanical devices used to reduce the risk from hazards (radiation, chemical, etc.). Engineered controls are the primary means of controlling radiation exposure at the Hanford Site. They include:

- Shielding.
- Proper ventilation.
- Containment devices, such as gloveboxes.
- Interlocks on enclosures.

Administrative controls are procedures and policies used to minimize the risk from hazards. Administrative controls supplement engineered controls to provide a safer workplace. Administrative controls include:

- Warning signs (e.g., radiological postings).
- Safety procedures.
- Radiological Work Permits.

The DOE dose limit for general employees is 5000 mrem/year. General employees who are also qualified as Radiological Workers are assigned an administrative control level starting at 500 mrem/year in order to control annual occupation radiation exposure well below DOE dose limits. **Visitor (member of the public) doses are controlled to below 100 mrem/year.**

What About Pregnant Women?

The embryo/fetus is more sensitive to radiation and other environmental hazards than adults. If you are pregnant, you must decide if the expected benefits of your visit outweigh any risks associated with the embryo/fetus potentially receiving radiation exposure. Radiological workers who declare their pregnancy have their exposure controlled such that the embryo/fetus is limited to less than 500 mrem for the duration of the gestation period. Individuals have the right to declare their pregnancy for the purpose of protection of the embryo/fetus from occupational radiation exposure, and to revoke their declaration. Individuals also have the right to elect not to declare their pregnancy. If you are unsure or have any concerns or you want to declare your pregnancy, talk to your host/escort, who will contact the Radiation Protection organization to discuss radiation effects during pregnancy.

How Do I Protect Myself And Others In The Event Of A Radiological Event Or Emergency?

- Refer to the "Emergency Preparedness and Response" section of this booklet.

Radiation Safety Training

What Are The Rights And Responsibilities Of Each Person Accessing The Hanford Site?

- Refer to the "Visitor Responsibilities" and "Host/Escort Responsibilities" sections of this booklet.

Will I Have To Wear A Dosimeter At Hanford?

A **dosimeter** is a device used to measure an individual's exposure to external radiation. Typically, most employees do not receive a measurable occupational dose. Radiological workers wear dosimeters to measure their dose. **Most likely, you will not be entering areas that require dosimeters to be worn.** You will be issued a dosimeter if you will enter areas where dosimeters are required, or if you have the potential to receive a dose that requires dosimetry.

Are There Any Special Instructions For Wearing And Caring For A Dosimeter?

If you are required to wear a dosimeter, follow these instructions.

- Wear the dosimeter facing out on the upper part of your body, with no obstructions that may shield the dosimeter (including plastic cards).
- Do not wear your Hanford Site dosimeter at facilities other than those at the Site.
- If you have received or will be receiving medical treatments involving radiopharmaceuticals, do not wear the dosimeter. Notify your host/escort, who will in turn notify the Radiation Protection organization.
- Do not expose your dosimeter to excessive heat or moisture.
- If you lose or damage your dosimeter, immediately report the occurrence to the Radiation Protection organization.

Dose Reports

Dosimeters must be returned when you finish your visit. Visitors assigned a dosimeter will receive a report 30 to 90 days after their visit. You may request a dose report by calling PNNL Dosimetry at (509) 376-6790.

Host /Escort Responsibilities

Host Responsibilities

- Follow company hosting procedures and processes.
- Determine the facilities and areas where access will be required.
- Determine training, escort, and personal protective equipment requirements for the areas to be visited and the scope of activity related to the visit.
- Arrange for appropriate training, escort(s), and dosimetry.
- Provide for facility-specific training and orientation, where applicable.
- Ensure that your visitor receives the appropriate training before permitting access to radiological areas.
- Special approval and training are required to host someone who is not a citizen of the United States. For more information, contact the Foreign National Visits and Assignments Office at 376-3066.
- Complete history forms for visitors issued a dosimeter for entry into those areas listed in HNF-5173, *PHMC Radiological Control Manual*.

Escort Responsibilities

- Ensure that your visitor accesses only the areas and/or materials authorized by the visit including sensitive and proprietary information.
- Ensure that your visitor wears his or her badge and dosimeter (if one was issued).
- Ensure that your visitor's picture badge is returned at the end of the visit or assignment.
- Limit the visitor's access into radiological areas.
- Ensure prohibited items are not brought onto the Hanford Site. Refer to the "Prohibited Articles" section.

The location of dangerous waste and other hazards must be communicated to the visitor.

Except for public access areas, security badges are required in all Hanford Site areas and all DOE contractor-leased or government-owned facilities. In some cases, a building-specific badge will be issued in lieu of a visitor's badge. A self-expiring visitor badge with a large "S" does not authorize personnel access beyond the in-town administrative areas.

Hanford Patrol personnel are authorized to confiscate security badges that are mis-used, damaged, or invalid.

General Hanford Information

The DOE manages the Hanford Site through six major contractors. A brief description of services is as follows.

- *AdvanceMed Hanford (AMH)* provides a full range of occupational health services.
- *Bechtel National, Inc. (BNI)* is designing, constructing, and commissioning a Waste Treatment Plant to vitrify the Hanford's Site tank waste.
- *CH2M HILL Hanford Group, Inc. (CH2M HILL)* manages the storage, characterization, and retrieval of underground tank wastes.
- *Fluor Hanford, Inc. (FH)* is the prime contractor for Project Hanford and nuclear legacy cleanup activities.
- *Pacific Northwest National Laboratory (PNNL)* provides research and development in environmental science and technology.
- *Washington Closure Hanford LLC (WCH)* is the river corridor closure contractor executing cleanup of contaminated soil, groundwater, and inactive nuclear facilities.

The Federal government acquired the Hanford Site in 1943. The Site occupies ~586 square miles (~1517 square kilometers) in southeastern Washington State. Facilities are grouped together in the following eight major areas:

100 Area	The site of nine de-activated plutonium production reactors
200 Areas (East & West)	Laboratory support, waste characterization, and environmental restoration
300 Area	Nuclear research and development facilities
400 Area	Fast Flux Test Facility (FFTF) and related support facilities
600 Area	Hanford Site not designated as 100, 200, 300, and 400 Areas
700 Area	Administrative buildings in Richland (e.g., Federal Building)
Richland Industrial Center	Site support services (e.g., general stores and transportation maintenance)
3000 Area	Facilities for Battelle Memorial Institute (Pacific Northwest National Laboratory)

Other Hanford Information

Additional information related to the Hanford Site is available at www.hanford.gov

TO RECYCLE: If you do not intend to re-use this booklet,
please deposit it at any plant mail station.



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Richland Operations Office

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