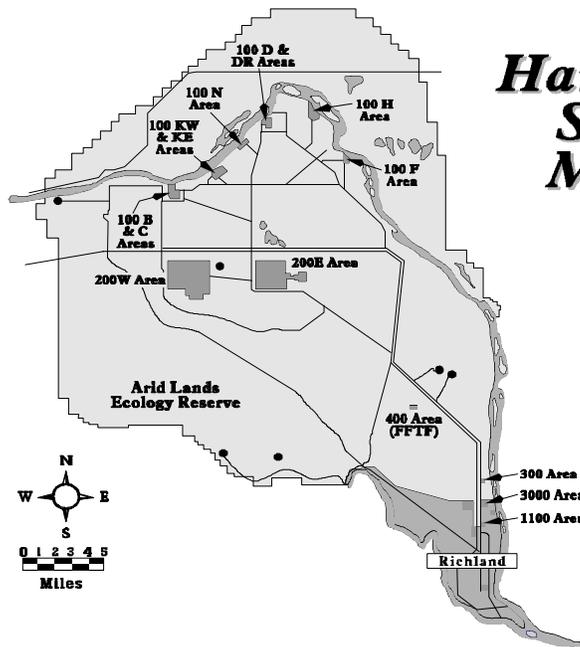




*Welcome to the Hanford Site*

# Visitor

# Orientation



*Hanford Site Map*

Persons who receive only Visitor Orientation training are not allowed to enter Radiologically Controlled Areas unless escorted by a person who has successfully completed General Employee Radiological Training or Radiological Worker training.

*For security requirements, safety measures and radiological orientation*

## General Information

This booklet applies to visitors of the Hanford site. It provides essential safety, health, environmental, radiological and security rules and information to help assure your safety, health and well being while visiting this Department of Energy (DOE) facility.

For your safety and the safety of others, you are to become familiar with the contents of this booklet. Your Point-of-Contact (e.g., escort, host, facility representative, contract technical representative) will provide you more complete instructions relative to unique requirements for the area(s) you will be accessing. Specific locations will require that you be physically accompanied by a designated escort. You will be notified of these areas prior to entering.

You are required to act safely, encouraged to ask questions about matters which are not fully understood and report any situation which you believe may cause an accident or injury to yourself or others.

The Hanford site was acquired by the federal government in 1943 and covers 560 square miles (1440 square kilometers) of arid land in southeastern Washington state. Facilities are grouped together in seven major areas.

<b>100 Area</b>	De-activated plutonium production reactors
<b>200 Areas</b> (East & West)	Chemical processing and waste management facilities
<b>300 Area</b>	Energy research and development facilities
<b>400 Area</b>	Fast Flux Test Facility (FFTF) and related support facilities
<b>600 Area</b>	Hanford site not designated as 100, 200, 300 and 400 Areas between the Wye and Yakima barricades
<b>700 Area</b>	Administrative buildings in Richland (e.g., Federal Building)
<b>1100 Area</b>	Site support services (e.g., general stores and transportation maintenance)
<b>3000 Area</b>	Facilities for Battelle Memorial Institute (Pacific Northwest National Laboratory)

## Mission

The Hanford missions are to safely clean up and manage the site's legacy wastes, and to develop and deploy science and technology.

The Hanford site is managed by the Department of Energy (DOE) Richland Operations Office through four prime contractors. The four contractors are:

- ***Battelle Memorial Institute*** (Battelle) operates the Pacific Northwest National Laboratory (PNNL), one of five national multiprogram energy research laboratories in the DOE complex.
- ***Bechtel Hanford, Inc.*** (BHI) provides site environmental restoration activities as the Environmental Restoration Contractor (ERC). CH<sup>2</sup>M Hill Hanford and Thermo Hanford serve as subcontractors supporting the ERC mission
- ***Hanford Environmental Health Foundation*** (HEHF) provides occupational health services.
- ***Fluor Daniel Hanford, Inc.*** (FDH) is the primary management contractor for Project Hanford, having the ultimate responsibility for the entire project with emphasis on safety, high quality of work and performance of all functions on time. Project Hanford is supported by FDH, its major subcontractors, and enterprise companies.

## Safety

At Hanford, the safety and health of our workers and the public is a fundamental value. We place a high priority on managing risks through the integration of safe work requirements into all processes. Work conducted on site is controlled by safety regulations, policies, directives, and procedures — all designed to ensure a safe and healthful site environment for all personnel.

During your time on the Hanford site, you are responsible **to adhere to all instructions provided by your point-of-contact** and for the following:

Report immediately to your point-of-contact:

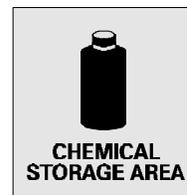
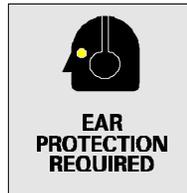
- 1) any personal accident or sustained injury occurring on site
- 2) any unusual occurrence or unsafe condition that could result in personal injury or property damage
- 3) perceived exposure to a hazard.

Report emergency situations (medical, fire, etc.) and obtain assistance:

- 1) dial 375-2400 from any on-site or personal cellular phone, stating your name, location and nature of emergency
- 2) in event of injury or illness, provide name(s) of individual(s) affected and brief description of problem (if known) — for example; difficulty breathing, bleeding, etc.
- 3) stay on the line and follow any instructions given.

Accident prevention warnings and notices in the form of signs, labels, tags and

*(Continued on page 5)*



## **Safety (cont d)**

barriers are used extensively throughout the site to communicate hazard information to personnel. Watch for them, read them and comply with the posted message. NEVER cross over or through erected barricades or other physical boundaries.

When required, wear the prescribed personal protective equipment provided to you — such as; hard hats, eye protection, hearing protection, hand protection or special protective clothing.

Wear appropriate footwear for the work location and weather conditions anticipated.

Operation of any equipment or machinery is prohibited, unless expressly permitted by management.

Become familiar with the location of fire exits and means of egress in and out of buildings.

Use handrails when using stairways.

Do not climb any access ladders without express permission from your point-of-contact.

Use designated walkways and crosswalks, maintaining a personal awareness of tripping/slipping hazards and uneven walking surfaces.

Stay clear of overhead work activity and moving equipment/vehicles.

## **Basic Radiation Protection**

### **Basic Radiation Concepts**

People are continuously exposed to radiation. Radiation, simply defined, is energy emitted through space and matter. Radiation is the emission of particles or waves of energy from unstable atoms. These energetic, invisible particles or waves can injure living organisms under certain conditions.

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## Basic Radiation Protection (cont d)

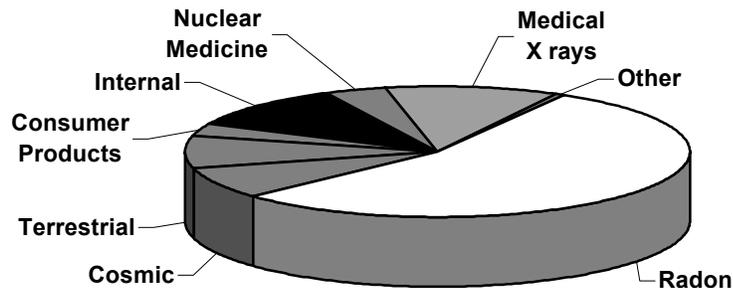
We are exposed to this energy or radiation from our environment and from materials inside our bodies.

Measurement of radiation doses to human tissue is expressed in rem or mrem (1,000 mrem (10 millisievert) = 1 rem ( .01 sievert)).

The average annual radiation dose to a member of the general population is about 360 mrem (3.6 millisievert) a year. This amount is a combination of both natural background and man-made sources of radiation.

The Department of Energy (DOE) and Hanford contractors are firmly committed to having a Radiological Control Program of the highest quality.

### Typical Sources of Yearly Radiation Exposure



Maintaining occupational exposure to radiation and radioactive materials As Low As Reasonably Achievable (ALARA) is an integral part of all Hanford activities.

*(Continued on page 7)*



## Basic Radiation Protection (cont d)

### Risks of Low Level Radiation

A chronic radiation dose refers to small amounts of ionizing radiation received over a long period of time. Examples of chronic radiation dose are natural background and occupational radiation exposure.

Biological effects from chronic doses of radiation may occur in the exposed individual or in the future children of the exposed individual.

There is a slight risk that cancer may be caused by chronic radiation doses. This risk is small when compared to the natural occurrence of cancer.

A heritable effect is a genetic effect that is passed on to an offspring. Heritable effects from radiation have never been observed in humans, but have been observed in laboratory studies of plants and animals.

### Risk of Prenatal Exposure

Biological effects are dependent upon cell sensitivity and amount of radiation received. A developing embryo/fetus is more sensitive to environmental factors such as radiation. Possible effects include:

- slower growth
- inhibited mental development
- childhood cancer

The risk of these occurring is minimized by having protective measures for the embryo/fetus and by keeping exposure ALARA. A 500 mrem (5 millisievert) limit has been set by DOE and a 450 mrem (4.5 millisievert) limit has been set by the Hanford contractors during gestation period for a declared pregnant woman.

*(Continued on page 8)*

## **Basic Radiation Protection (cont d)**

### **Radiological Signs and Postings**

**It is each visitor's responsibility to read and comply with all the information identified on radiological postings, signs and labels, and follow escort instructions.**

In support of the ALARA concept, radiological controls are established in order to protect individuals from exposure to radiation and radioactive materials. These include:

- Identification system using magenta trefoil symbol on yellow background
- All radiological areas posted with yellow and magenta rope or chain and signs
- Yellow plastic wrapping or a labeled container and labels
- Designated storage areas for radioactive material

Postings are used to alert personnel of a potential or known radiological condition. Only **SPECIALLY TRAINED** workers are permitted to enter areas controlled for radiological purposes or handle radioactive material.

Visitors are only allowed to enter these areas with a proper escort, the proper dosimetry and Visitor Orientation. For unescorted access, visitors must have completed General Employee Radiological Training.

Visitors are limited to observation and auditing activities unless further training is obtained.

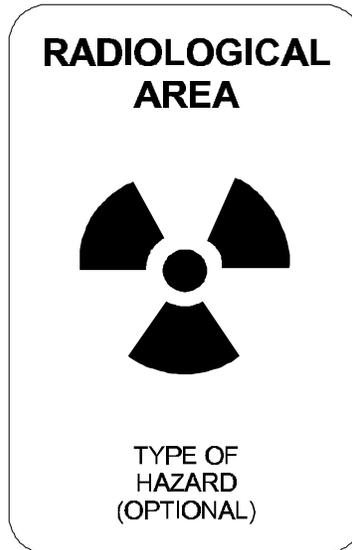
Individuals who anticipate becoming involved in handling radioactive materials shall qualify as Radiological Workers and shall meet applicable area entry requirements.

Portal monitors, hand and foot monitors and personnel contamination monitors (PCMs) are located at many exits of facilities at Hanford. You are required to use these monitors upon exiting the facility or radiological area. **DO NOT** use handheld portable instruments. If needed, the survey will be performed by a Radiological Control Technician (RCT).

*(Continued on page 9)*

## (Basic Radiation Protection cont d)

### More about Signs and Postings



There are three general principles for keeping exposure from external radiation ALARA:

- Minimize the **TIME** you are exposed.
- Maximize your **DISTANCE** from radiation sources. Radiation levels fall quickly with increasing distance.
- Use **SHIELDING** to minimize exposure.

### Protection Policies and Procedures

The DOE and Hanford contractors' radiation dose limit for non-radiological workers and visitors to the Hanford site from occupational exposure is 100 mrem (1 millisievert) per year.

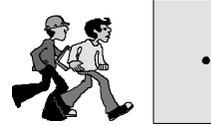
If a visitor is required to wear a radiation dosimeter, additional information will be provided by Field Dosimetry.

## Emergency Preparedness

There are several health care centers located throughout the site. Any injury, illness or potential exposure must be reported to an escort or assistance may be requested from the nearest employee.

Call 375-2400 for emergencies at PNNL.

A tape recording of these emergency signals, with response instructions, may be

SIGNALS	MEANINGS	ACTIONS
<p><b>Howler</b>  </p>	<b>Criticality</b>	<p><b>Run</b>  </p>
<p><b>Gong or Horn</b>  </p>	<b>Fire</b>	<p><b>Evacuate</b>  </p>
<p><b>Siren. Wavering Tone for 3 - 6 mins.</b>  </p>	<b>Take Cover</b>	<p><b>Stay Inside</b>  </p>
<p><b>Siren. Steady Blast for 3 - 6 mins.</b>  </p>	<b>Evacuation</b>	<p><b>Go to Staging Area</b>  </p>
<p><b>Ringin Bell &amp; Flashing Red Light</b>  </p>	<b>High Airborne Radioactivity</b>	<p><b>Evacuate Area</b>  </p>

heard by dialing 373-2345. In the 400 Area, dial 376-4444.

In case of an emergency or during an emergency drill, you must participate.  
*(Continued on page 11)*

## **Emergency Preparedness (cont d)**

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.

Facility specific orientation will discuss response to emergency alarms, location of proper emergency exits and location of staging areas.

## **Visitor & Host/Escort Responsibilities**

### **Visitor Responsibilities**

- Obey all instructions of your host or escort.
- Obey all signs and postings. There are safety, security and radiological postings located throughout the Hanford site for your protection.
- Do not enter any radiological areas or work with any hazardous materials without specific authorization and training.
- Entry into a Radiologically Controlled Area by visitors having only Visitor Orientation requires a GERT or radworker trained escort.
- Comply with emergency procedures.
- Keep your exposure ALARA.
- Sealed and unsealed radioactive sources shall not be brought on site by external organizations without the prior written approval of the appropriate contractor's Radiological Control Organization.
- If you are going to be on site for more than one week or will be performing work in a radiological area, you need additional training. Check with your host/escort.

*(Continued on page 12)*

## Visitor & Host/Escort Responsibilities (cont d)

### Host/Escort Responsibilities

- Any visitor you are hosting who is employed by, working under the direction of, or working in conjunction with DOE, a DOE contractor, or DOE subcontractor, or utilizing a DOE facility, AND will be entering a Radiological Buffer Area, Radiological Material Area, Radiation Area, Radiation Contamination Area or Soil Contamination Area is required to complete additional training.
- Ensure your visitor receives the appropriate training prior to permitting access to radiological areas.
- Complete history forms for visitors issued a dosimeter for entry into those areas listed in the HSRCM.
- Have any visitor who will be accessing a radiological controlled area bring their current year's radiation exposure with them.
- Provide facility specific training where applicable
- Ensure visitor accesses only the areas and/or materials authorized by the visit.
- Limit the visitor's access into Radiological Areas. The whole body limit for visitors is 100 mrem (1 millisievert) per year.
- Ensure prohibited items are not brought onto the Hanford site. Refer to section on "Prohibited Articles."
- Obtain special approvals and training to host foreign nationals.

## Security Badge Responsibilities

With the exception of Public Access Areas, security badges are required in all Hanford site areas and all DOE contractor-leased or government-owned facilities. Protective force personnel are authorized to confiscate security badges that are misused, damaged, or invalid.

### Visitor Responsibilities

- Carry photo identification with you at all times.
- 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 else.
- Show your badge and identification at all access points. Patrol may be required to touch your badge.
- Stay in contact with your assigned host or escort.
- **RETURN YOUR SECURITY BADGE TO YOUR HOST/ ESCORT OR ANY ACCESS CONTROL CLERK AT THE END OF YOUR VISIT OR ASSIGNMENT.**
- If you lose or misplace your security badge during your visit, notify your host/escort or the Hanford Patrol immediately.

### Host/Escort Responsibilities

- Ensure that your visitor is wearing his or her badge and dosimeter (if one was issued).
- **ENSURE THAT YOUR VISITOR S BADGE IS RETURNED AT THE END OF THE VISIT OR ASSIGNMENT.**

A sample visitor badge form. The badge has a rounded rectangular shape with a grey header section at the top containing the word "VISITOR" in bold, black, uppercase letters. Below the header, there are three lines of text, each followed by a horizontal line for a signature or date: "Name: \_\_\_\_\_", "Sponsor: \_\_\_\_\_", and "Expires: \_\_\_\_\_". A large, diagonal watermark reading "SAMPLE" is overlaid across the entire badge area.

## Prohibited Articles

Certain articles are not allowed while visiting the Hanford site without prior authorization. These items include:



- illegal drugs, drug paraphernalia or alcohol (includes “near beer”). Prescription narcotics must be in a container containing information on patient, narcotic and physician;



- explosives or incendiary devices;



- dangerous weapons or ammunition  
EXCEPTIONS: kitchen knives, pocket knives and cutting tools specifically related to a job, such as an electrician’s knife, carpenter’s cutting tools, etc.;



- privately owned cameras or computers and associated media are not permitted in limited or protected areas (areas used to protect classified matter and special nuclear materials);



- privately owned recording or transmitting devices are not permitted in limited or protected areas;



- pets and animals, except for guide dogs.

**Caution:** Visitors are subject to vehicle and personal article searches at any time during a visit while on the Hanford site or in a government-owned or contractor-leased facility.

## While at Hanford



Obey Washington state traffic laws. The Benton County Sheriff's office is responsible for traffic and criminal investigations on the Hanford Site. Report unsafe conditions and practices to your host/escort.



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 site.



Observe and obey all posted signs and barricades.



Be prepared for changes in road conditions or slow moving vehicles.



Smoking is prohibited in all DOE-owned or leased facilities, all government vehicles and near flammable gases, liquids, and dry vegetation. Smoking is permitted outside in designated areas only.



Dispose of litter and cigarettes in proper repository.

Do not pick flowers, disturb wildlife or remove any artifacts.

## General Information Phone Numbers

DOE.....376-7411  
FDH.....376-7411  
PNNL.....373-9346  
BHI.....372-9041  
HEHF.....373-3155

## General Information Phone Numbers

Emergency..... 375-2400  
Hanford Patrol..... 373-3800  
Benton County Sheriff  
Hanford Substation..... 376-1022

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



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Richland Operations Office

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