

5

Site Descriptions and Cross-References

This section provides a brief description, including physical location and early operations, of DOE sites for which data currently exist in CEDR. **Figure 5-1** is a U.S. map that roughly indicates the locations of major DOE sites and other sites to which CEDR data pertain.

In addition, a summary table for each site lists the various CEDR holdings that pertain to that site. This information is particularly helpful for those sites where a number of studies were initiated or updated from time to time. A reader can quickly identify all CEDR data file sets that pertain to a particular site. The summary table for each site includes the CEDR name of each pertinent analytic and working data file set for Worker Health and Mortality Studies, occupational studies, and community studies. Data file sets generated for studies involving multiple sites are listed and summarized at the end of this section.

Detailed descriptions of data file sets pertaining to Worker Health and Mortality Studies are provided in Appendixes A and B. Those pertaining to dose reconstructions or other types of studies that do not focus on a particular DOE site, such as the radium dial painters and atomic bomb survivors studies, are given in Appendix C.

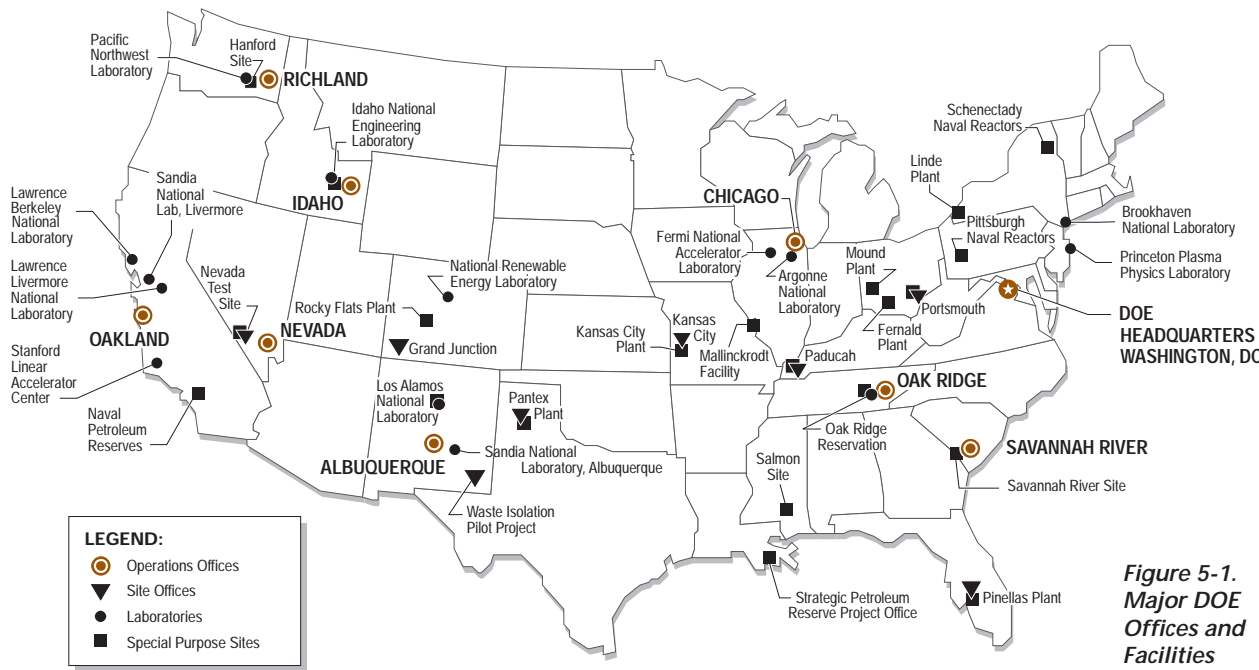
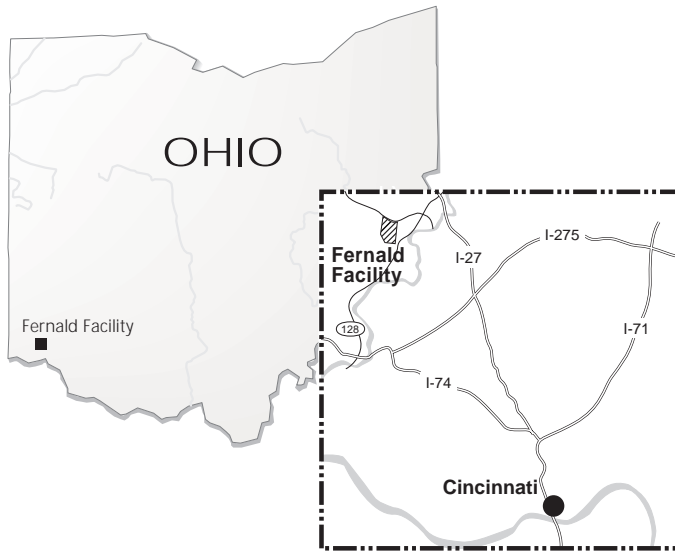


Figure 5-1.
Major DOE Offices and Facilities

Fernald Facility



The Fernald Facility, located at Fernald, Ohio, is approximately 20 miles northwest of Cincinnati. Construction of this complex began in 1951 with the mission to process feed materials. Early processes included receiving, sampling, and assaying foreign and domestic uranium ores; chemical processing; reduction of uranium tetrafluoride to metal; and fabrication of the metal by rolling and machining into fuel shapes. National Lead Company of Ohio (NLO), a subsidiary of National Lead Industries, was the original operating contractor of what was then called the Feed Materials Production Center. The processes changed somewhat in later years, and all plants at the facility were used for production of slightly enriched (less than 1% of U-235) metal. Employment at the facility peaked in 1956 and slowly decreased until operations halted in 1989. Since production operations were discontinued, the mission of the facility has been environmental restoration. Fernald Environmental Restoration Management Company (FERMCO), a subsidiary of Fluor-Daniel, began managing the facility in 1992.

CEDR Holdings Pertinent to the Fernald Facility*

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none"> • 1st version available in 1991 • 2nd version available in 1993
Analytic Data File Sets	
FRW83A01	<ul style="list-style-type: none"> • study published in 1983 • available in CEDR in 1993
FRC94A02	<ul style="list-style-type: none"> • available in CEDR in 1994
Report	
	<ul style="list-style-type: none"> • Epidemiologic Surveillance 1993 Annual Report

*Fernald workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

Working data for the Fernald Facility are included in ORISEWDS. There are two analytic data file sets in CEDR that support two cohort studies of white male workers at the Fernald feed materials plant. FRW83A01, published as a doctoral dissertation in 1983, is a cohort morbidity study of nonmalignant respiratory disease. FRC94A02, completed in 1994, is a cohort mortality study of 1,064 deaths from all causes. Workers in more than one data file set retain the same identifier.

Hanford Site



The Hanford Site, covering a 560-square-mile area of southeastern Washington State, is near Kennewick and Pasco, and immediately north of Richland. Activities at this site, founded in 1943, initially revolved around plutonium production. DuPont was the sole AEC contractor for the site until General Electric (GE) assumed this role in 1947. After GE left in 1965, Hanford operations have been divided among a number of contractors that performed various services:

- Battelle (1965 to present) - operating the Pacific Northwest Laboratory (PNL) for technology development and basic research missions;
- Computer Sciences Corporation (1965-1975) and Boeing Computer Services (1975 to present) - computing services;
- Douglas United Nuclear (1966-1967), Isochem (1966-1967), Atlantic Richfield Hanford Operations (1967-1977), and Westinghouse (1970-1987) - operating the Hanford Engineering Development Laboratory;
- United Nuclear Industries (1973-1987), Rockwell Hanford Operations (1977-1987), and Westinghouse Hanford (1987 to present) - nuclear/environmental missions and support services;
- Hanford Environmental Health Foundation (1965 to present) - occupational medical services; and
- International Telephone and Telegraph (1966-1971) - support services.

Over time, major activities shifted from plutonium production to nuclear power generation, advanced reactor design, basic scientific research, and research related to the development of nuclear weapons. Waste management and environmental restoration are now the largest part of the site's activities.

Hanford Site (cont.)

CEDR Holdings Pertinent to the Hanford Site*

Working Data File Sets	
HFW89W01	• 1st version available in 1993
HFSRCWOI	• 1st version available in 1993
Analytic Data File Sets	
HFC78A01	• study published in 1989 • available in CEDR in 1993
HFI89A01	• study published in 1993 • available in CEDR in 1993
HFS93A03	• study published in 1993 • available in CEDR in 1993
HFLCAA01	• study published in 1990 • available in CEDR in 1994
HFMCCA02	• study published in 1988 • available in CEDR in 1994
HFMPVA02	• study published in 1988 • available in CEDR in 1994
Reports	
• Epidemiologic Surveillance 1992 Annual Report	
• Guide to Epidemiologic Studies Conducted at Hanford - records inventoried in 1994	

*Hanford workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

The working data file sets that contain information pertaining to these Hanford worker studies are HFW89W01 and HFSRCW01. Information on some Hanford workers may also be found in ORISEWDS.

Six analytic data file sets in CEDR pertain to studies of Hanford workers and their offspring. Historical information, such as worker demographics, work histories, and radiation exposures, needed for these studies was compiled into a data base in 1979. They form the basis for three of the sets, HFC78A01, HFI89A01, and HFS93A03, which are similarly constructed and support cohort mortality studies conducted at various times.

In addition to the cohort mortality studies, a case-control study, HFLCAA01, of lung cancer among workers was conducted. Both a case-control and a prevalence study of congenital malformations among offspring of workers were conducted and supported by HFMCCA02 and HFMPVA02, respectively. The prevalence study also considered births in the communities near the Hanford Site. Workers in more than one data file set retain the same identifier.

Linde Plant



The Linde Plant, located in Buffalo, New York, was operated from 1943 to 1949 by the Linde Air Products Company. The primary operation at the plant was uranium processing, whereby Congo pitchblende and domestic uranium ores were converted to uranium tetrafluoride. The Linde Plant also developed and produced barrier material necessary for the Oak Ridge Gaseous Diffusion Plant (now the K-25 Site) to use in processes to enrich uranium. The Manhattan Engineer District constructed four buildings on land owned by Union Carbide Corporation. Upon termination of the contract with the Atomic Energy Commission, ownership of the facility was transferred to Union Carbide.

Working data for the Linde Plant are included in ORISEWDS. One analytic data file set, LND87A01, supports a cohort mortality study of workers at this plant. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the Linde Plant

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none"> • 1st version available in 1991 • 2nd version available in 1993
Analytic Data File Set	
LND87A01	<ul style="list-style-type: none"> • study published in 1987 • available in CEDR in 1993

Los Alamos National Laboratory (LANL)



LANL facilities occupy about 43 square miles (27,800 acres) on the Pajarito Plateau in Los Alamos County, New Mexico, approximately 60 miles north of Albuquerque and 25 miles northwest of Santa Fe. LANL was established in January 1943 as Project Y of the War Department's World War II Manhattan Engineer District. The mission of Project Y was the design and assembly of the first nuclear fission bomb. After World War II, LANL continued to design fission and, subsequently, fusion-based nuclear weapons. Additionally, LANL has played a major role in the research and development of nuclear reactors, and it has had a long-standing interest in nuclear fusion power generation. In the 1960s and 1970s, LANL broadened and expanded its research and development activities, and today its major activities include nuclear weapons safety, non-proliferation, and environmental restoration. The laboratory has been managed by the University of California since 1943.

Associated with LANL is one working data file set, LAMULW02, that contains data for both LANL and Zia workers. There are five analytic data file sets in CEDR that support studies of LANL workers. LAFEMA01 supports a mortality study of 5,234 white female workers employed between 1943 and 1978. LASUIA02 supports a nested case-control study of suicide among 136 white females. LAUPUA01 contains data supporting a follow-up study of 26 white male Manhattan Project workers exposed to plutonium during 1944-1945 at LANL. LAHSWA04 supports a mortality study of 241 white male and female workers with high exposures to plutonium, and LAMENA03 supports a mortality study of 15,727 male workers employed between 1943 and 1977. Workers in more than one data file set retain the same identifier.

Los Alamos National Laboratory (cont.)

Zia Company was a second major employer associated with the operation of LANL. In April 1946, the Zia Company replaced the U.S. Army Corps of Engineers Base Post as the provider of construction, maintenance, and quasi-governmental functions for LANL. In the early 1950s, quasi-governmental activities in Los Alamos County were turned over to the local government. On July 1, 1986, Zia was replaced by Pan American World Services. The current contractor is Johnson Controls World Services Incorporated. The Zia Company's offices were located in Los Alamos, New Mexico, and its employees worked throughout LANL facilities to provide construction and maintenance support.

As mentioned earlier, there is one working data file set, LAMULW02, that contains data for both LANL and Zia workers. The single analytic data file set associated with Zia, ZARADA01, supports a cohort mortality study of 5,424 radiation-monitored Zia workers employed at LANL between 1946-1979. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to LANL

Working Data File Sets	
LAFACW01	<ul style="list-style-type: none"> • 1st version available in 1993 • superseded by LAMULW02
LAMULW02	<ul style="list-style-type: none"> • 1st version available in 1994
ZAFACW01	<ul style="list-style-type: none"> • 1st version available in 1993 • superseded by LAMULW02
Analytic Data File Sets	
LAFEMA01	<ul style="list-style-type: none"> • study published in 1987 • available in CEDR in 1993
LAHSWA04	<ul style="list-style-type: none"> • paper in preparation • available in CEDR in 1994
LAMENA03	<ul style="list-style-type: none"> • study published in 1994 • available in CEDR in 1994
LASUIA02	<ul style="list-style-type: none"> • paper presented in 1988 • available in CEDR in 1993
LAUPUA01	<ul style="list-style-type: none"> • study published in 1991 • available in CEDR in 1994
ZARADA01	<ul style="list-style-type: none"> • paper in preparation • available in CEDR in 1994
Reports	
<ul style="list-style-type: none"> • Guide to Epidemiologic Studies Conducted at LANL - records inventoried in 1994 	

Mallinckrodt Facility



Mallinckrodt Chemical Works was one of the earliest and largest uranium-producing facilities in the United States. Headquartered in St. Louis, Missouri, the Mallinckrodt Facility was in operation from April 1942 through 1966. Its Uranium Division converted uranium ore to uranium dioxide and uranium metal. The uranium refining conducted at this facility was unique because the pitchblend ore was up to 60% pure uranium from 1946 through 1955. Uranium-processing was conducted at two sites: St. Louis from April 1942 through 1957 and Weldon Spring, Missouri, from 1958 through 1966.

Working data for the Mallinckrodt Facility are included in ORISEWDS. One retrospective cohort study of white male workers at the Mallinckrodt Facility was conducted. These data are contained in the analytic data file set MCD94A01. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the Mallinckrodt Facility*

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none">• 1st version available in 1991• 2nd version available in 1993
Analytic Data File Set	
MCD94A01	<ul style="list-style-type: none">• available in CEDR in 1994

*Mallinckrodt workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

Mound Plant



The Mound Plant, located on a 306-acre site in Montgomery County in southwestern Ohio, is within the Miamisburg city limits, approximately 10 miles south of Dayton and 31 miles north of Cincinnati. This facility was operated first by the Monsanto Chemical Corporation and later by EG&G. From 1943 to 1948, the work was done under the title of Dayton Project, when work was carried out at several locations within the city of Dayton. In 1948, operations were consolidated at the current central Mound Plant. In 1991, EG&G replaced Monsanto Chemical Corporation as the operating contractor. Historically, major operations included the separation, chemistry, and metallurgy of polonium-210 and the processing of plutonium-238 for heat sources. Other projects include work on explosives and tritium technology for manufacture of weapons components.

The working data file set that contains information pertaining to these Mound workers is MDFACW02. Three cohort mortality studies have been conducted of Mound workers, and data from these studies are contained in three separate analytic data file sets. MDSMRA01 consists of data used in a comparison of the mortality experience of white male workers employed between 1943 and 1979. MDEXTA02 focuses on white male workers employed between 1947 and 1979 who were monitored for external radiation. MDPOLA03 consists of data used in a cohort mortality study of workers employed during the 1944-1972 time period. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the Mound Plant

Working Data File Sets	
MDFACW01	<ul style="list-style-type: none"> 1st version available in 1993 superseded by MDFACW02
MDFACW02	<ul style="list-style-type: none"> 1st version available in 1994
Analytic Data File Sets	
MDEXTA02	<ul style="list-style-type: none"> study published in 1991 available in CEDR in 1993
MDPOLA03	<ul style="list-style-type: none"> study published in 1991 available in CEDR in 1993
MDSMRA01	<ul style="list-style-type: none"> study published in 1991 available in CEDR in 1993

Nevada Test Site



CEDR Holdings Pertinent to the Nevada Test Site

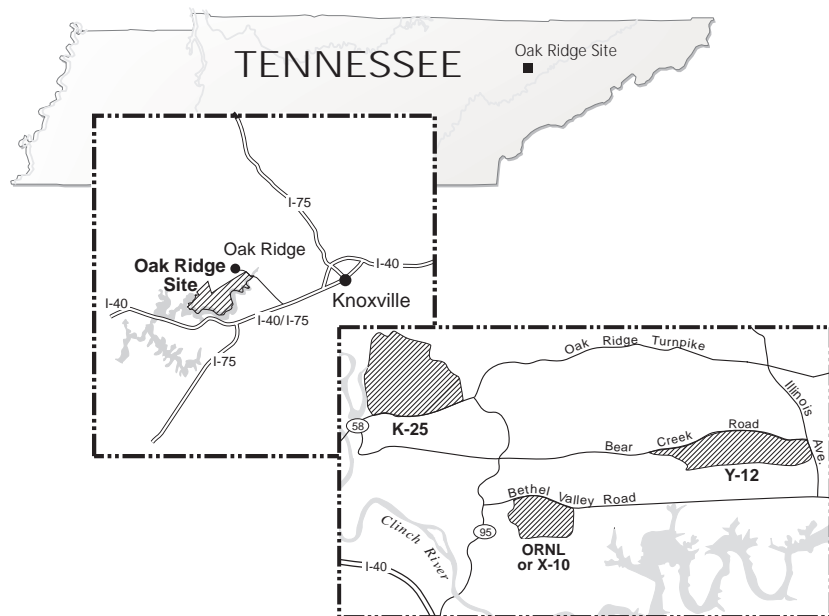
Dose Reconstruction Data File Set	
NTORPW01	• available in CEDR in 1995

The Nevada Test Site (NTS) is a government reservation, located approximately 65 miles northwest of Las Vegas, which has been used since 1951 for the testing of nuclear explosive devices. NTS, consisting of more than 1,350 square miles of Mojave and Great Basin desert terrain, is approximately the size of the State of Rhode Island. The Nellis Air Force Range surrounds NTS on three sides acting as a buffer between nuclear testing activities and off-site communities and ranches.

During the years of atmospheric nuclear testing, from 1951 through 1962, airborne radioactive debris from 74 nuclear tests was carried off-site by the winds. Subsequently, downwind residents expressed concerns regarding the health and safety of their families as a result of nuclear testing activities in Nevada. In 1979, the Off-Site Radiation Exposure Review Project (ORERP) was established to re-evaluate doses received by downwind communities from the fallout radiation. The data files generated by ORERP form the basis for the reconstruction of radiation doses to off-site populations.

The NTS dose reconstruction is currently represented in CEDR by a single data file set. The four files in the data file set contain some of the basic data, primarily times of fallout arrival and exposure rates for various locations, used in the project. Additional files will become available in the future.

Oak Ridge Site



CEDR Holdings Pertinent to Multiple Facilities at Oak Ridge*

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none"> • 1st version available in 1991 • 2nd version presented in 1993
Analytic Data File Sets (multi-facility only)	
ORMULA01	<ul style="list-style-type: none"> • study published in 1981 • available in CEDR in 1993
ORMULA02	<ul style="list-style-type: none"> • study published in 1990 • available in CEDR in 1993
ORMULA03	<ul style="list-style-type: none"> • study published in 1992 • available in CEDR in 1993
ORMULA04	<ul style="list-style-type: none"> • available in CEDR in 1998
ORMULA05	<ul style="list-style-type: none"> • available in CEDR in 1998

*Oak Ridge Site workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

The Oak Ridge Site, located about 20 miles from Knoxville, Tennessee, consists of three major facilities near Oak Ridge, Tennessee. These facilities are X-10 (Oak Ridge National Laboratory [ORNL]), Y-12, and K-25 (formerly called Oak Ridge Gaseous Diffusion Plant [ORGP]). Martin Marietta Energy Systems, Inc., the current contractor, has operated all three facilities since Union Carbide Corporation Nuclear Division gave up the contract in 1984. Detailed information about the operations conducted at each facility is provided in the sections immediately following this discussion.

During the 50 years that these facilities have been in operation, a number of epidemiologic studies have been conducted on the workers employed at one or more of the Oak Ridge facilities. Most of these were cohort studies that examined associations between mortality and occupational exposures to a variety of agents, including radiation, nickel, mercury, and uranium.

Various updated editions of the single working data file set, ORISEWDS, have been used to support all of the Oak Ridge worker studies as well as studies of workers at a number of other DOE sites. The analytic data file sets supporting studies that include workers who may have worked at more than one facility at the Oak Ridge Site, or that include certain types of workers regardless of the facility at which they worked, are listed in the table to the left. Additional data file sets for studies concerning the Oak Ridge Site but that focus on workers at only one Oak Ridge facility are listed on the following pages.

CEDR Holdings Pertinent to the K-25 Facility*

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none">• 1st version available in 1991• 2nd version available in 1993
Analytic Data File Sets	
ORK25A01	<ul style="list-style-type: none">• study published in 1984• available in CEDR in 1993
ORK25A02	<ul style="list-style-type: none">• available in CEDR in 1994
Report	
<ul style="list-style-type: none">• Guide to Records Relating to Cesium at the Oak Ridge K-25 Facility - records inventoried in 1994	

*K-25 workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

Oak Ridge K-25 Facility

The Oak Ridge K-25 Facility, previously called the Oak Ridge Gaseous Diffusion Plant (ORGDP), occupies a 1,500-acre area approximately 13 miles west of downtown Oak Ridge, Tennessee. Operated by Union Carbide Corporation Nuclear Division until 1984 when Martin Marietta Energy Systems, Inc., became the operating contractor, the K-25 Facility originally produced enriched uranium hexafluoride for defense purposes. Due to a declining demand for enriched uranium, the enrichment process at the K-25 Facility was placed on standby in 1985 and subsequently shut down in 1987. The K-25 Facility now serves as a center for applied technology and is the central location of many contractor staff and support functions, including the operation of waste treatment and storage facilities at K-25.

Working data for the K-25 Facility are included in ORISEWDS. There are two analytic data file sets that support two cohort mortality studies of K-25 workers. ORK25A01 supports a study examining the mortality experience of 8,378 white male workers exposed to nickel for at least 1 year between 1948-1953. ORK25A02 contains mortality data for 40,785 workers at K-25 during 1945-1990. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the X-10 Facility*

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none">• 1st version available in 1991• 2nd version available in 1993
Analytic Data File Sets	
ORX10A01	<ul style="list-style-type: none">• study published in 1985• available in CEDR in 1993
ORX10A02	<ul style="list-style-type: none">• study published in 1991• available in CEDR in 1993
ORX10A03	<ul style="list-style-type: none">• study published in 1983• available in CEDR in 1993
Report	
	<ul style="list-style-type: none">• Guide to Records Relating to RaLa, Iodine, and Cesium at the the Oak Ridge X-10 Facility - records inventoried in 1994

**X-10 workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).*

Oak Ridge X-10 Facility

The Oak Ridge X-10 Facility, also known as the Oak Ridge National Laboratory (ORNL), occupies several sites and covers approximately 2,900 acres in Melton Valley and Bethel Valley, 10 miles southwest of downtown Oak Ridge, Tennessee. The site has been in use since 1943, when it was referred to as Clinton Laboratories and was operated by the Monsanto Corporation. Operated by Union Carbide Corporation Nuclear Division from 1947 to 1984 when Martin Marietta Energy Systems, Inc., became the operating contractor, ORNL's mission is to conduct applied research and engineering development in support of DOE programs in fusion, fission, conservation, fossil, and other energy technologies and to perform basic scientific research in selected areas of the physical and life sciences.

Working data for the X-10 Facility are included in ORISEWDS. Three analytic data file sets support three cohort mortality studies of workers at ORNL. ORX10A01 consists of data for 8,375 white males employed at ORNL for at least 30 days between 1943-1972 and supports a study presenting internal comparisons of mortality between subgroups of the cohort according to radiation dose level and duration of employment in various job categories. ORX10A02 supports a mortality update study on 8,318 white males employed at ORNL for at least 30 days between 1943-1972 that resulted in two papers (one published in 1991 and one in 1993). ORX10A03 supports a cancer mortality study. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the Y-12 Facility*

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none">• 1st version available in 1991• 2nd version available in 1993
Analytic Data File Sets	
ORY12A01	<ul style="list-style-type: none">• study published in 1988• available in CEDR in 1993
ORY12A02	<ul style="list-style-type: none">• study published in 1984• available in CEDR in 1993
ORY12A03	<ul style="list-style-type: none">• study published in 1981• available in CEDR in 1993
ORY12A04	<ul style="list-style-type: none">• study published in 1980• available in CEDR in 1994
Report	
	<ul style="list-style-type: none">• Guide to the Y-12 Mercury Task Force Files - records inventoried in 1994

*Y-12 workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

Oak Ridge Y-12 Facility

The Oak Ridge Y-12 Facility occupies an 811-acre site in the Bear Creek Valley, approximately 2 miles from Oak Ridge, Tennessee. The Y-12 Facility, built in 1943 as part of the Manhattan Project, was established to separate uranium isotopes by the electromagnetic process. The original operating contractor was Tennessee Eastman Corporation (TEC). In May 1947, Union Carbide Corporation Nuclear Division became the operating contractor. At the time of this change, the work force at the plant had a significant turnover, and the processes changed from uranium enrichment to manufacturing and developmental engineering of enriched uranium metal products. For these reasons, two populations were identified for epidemiologic purposes. The workers employed at the plant when TEC was the operating contractor are known as the TEC population, while workers employed after May 1947 are known as the Y-12 population. The Y-12 facilities have been used for treating, storing, or disposing of hazardous radioactive wastes and materials.

Working data for the Y-12 Facility are included in ORISEWDS. There are four analytic data file sets that support four cohort mortality studies of workers at the Y-12 Facility. ORY12A01 pertains to 6,781 white male workers who were employed for at least 30 days between 1947-1974 and exposed to low levels of alpha and gamma radiation. ORY12A02 supports a study of the mortality experience of 5,664 white male workers who were employed for at least 4 months between 1953-1958 and exposed to elemental mercury and mercury vapors. ORY12A03 consists of mortality data used in a comparison study of 18,869 white male workers during 1943-1947. ORY12A04 supports a study of the mortality experience of 18,869 white male workers who were employed at Y-12 from 1943-1945 and exposed to phosphene. Workers in more than one data file set retain the same identifier.

Paducah Gaseous Diffusion Plant



CEDR Holdings Pertinent to the Paducah Site

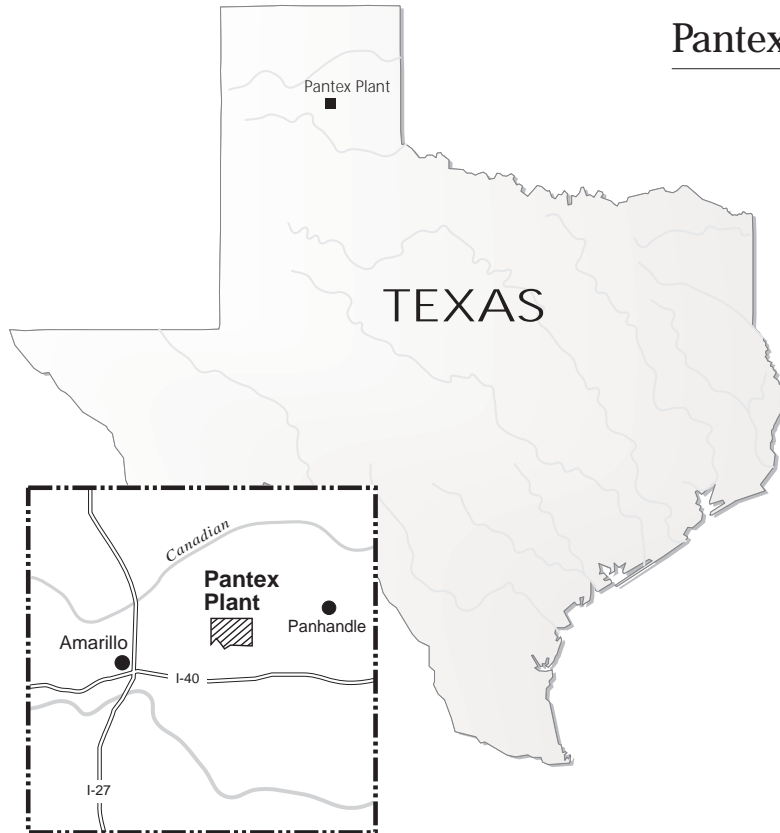
Working Data File Set

- | | |
|----------|---|
| ORISEWDS | <ul style="list-style-type: none">• 1st version available in 1991• 2nd version available in 1993 |
|----------|---|

The Paducah Gaseous Diffusion Plant (PGDP) is located on a 3,400-acre federal reservation in McCracken County, Kentucky. The plant, one of two uranium enrichment facilities currently operating in the United States, consists of 748 acres, about 15 miles west of Paducah, Kentucky. Completed in 1954, PGDP was the result of efforts to expand the production of atomic weapons, which also included the expansion of the Oak Ridge and Portsmouth uranium facilities.

PGDP's primary objective is the enrichment of uranium hexafluoride (UF_6) in the U-235 isotope by the use of a gaseous diffusion (cascade) process. The diffusion plant consists of four major process cascade buildings. There are other on-site facilities which recover and recycle valuable metals resulting from other DOE operations. PGDP is currently operated by Martin Marietta Energy Systems, Inc., as part of the U.S. Enrichment Corporation (USEC). During the 41 years the PGDP has been in operation, it has undergone two major improvement programs. The most recent improvement, which combined the Cascade Improvement Program and the Cascade Upgrading Program, was completed in 1982. Employment usually runs at about 1,500 workers.

Pantex Plant



The Pantex Plant is located on 9,100 acres in the panhandle of Texas in Carson County about 17 miles northeast of downtown Amarillo and 10 miles west of downtown Panhandle. The site was first used in 1942 by the Army Ordnance Corps for loading conventional ammunition shells and bombs during World War II. In 1951, new facilities for fabricating chemical high explosives used in nuclear weapons and for final assembly of nuclear weapons became operational. The Pantex Plant has been the nation's primary weapons assembly/disassembly plant. It receives conventional (nonnuclear) high-explosive materials and prefabricated nuclear weapons components to produce new nuclear weapons; maintain, modify, and quality assurance test nuclear weapons already in the military stockpile; and disassemble nuclear weapons for retirement. The plant also conducts research and development work on conventional high explosives to support weapons design and development programs.

There is one working data file set, PXFACW01, associated with the study of Pantex workers. The analytic data file set, PXSMRA01, supports a cohort mortality study of white male Pantex workers.

CEDR Holdings Pertinent to the Pantex Plant

Working Data File Set	
PXFACW01	• 1st version available in 1994
Analytic Data File Set	
PXSMRA01	• study published in 1985 • available in CEDR in 1993
Report	
	• Epidemiologic Surveillance Annual Reports

Portsmouth Gaseous Diffusion Plant



The Portsmouth Gaseous Diffusion Plant (PORTS) is located on 3,800 acres near Portsmouth, Ohio. The site consists of two major facilities: PORTS (constructed between 1952 and 1956) and the Gas Centrifuge Enrichment Plant whose construction was halted in 1985. Previously operated by the Goodyear Tire and Rubber Company (Goodyear Atomic Corporation), PORTS has been operated by Martin Marietta Energy Systems, Inc., since 1986. PORTS is one of the two uranium enrichment facilities currently operating in the United States.

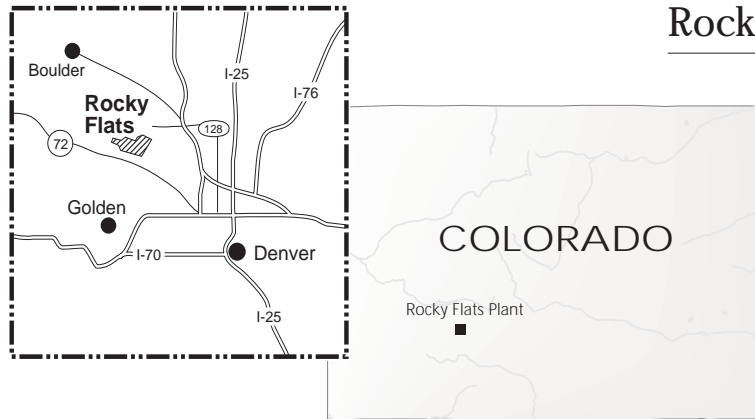
The primary objective of PORTS is the production of enriched uranium to meet private and government needs. Production at the PORTS site has been by the gaseous diffusion (cascade) process since 1955. Employment usually runs at about 2,300 workers.

CEDR Holdings Pertinent to the Portsmouth Site

Working Data File Set

- | | |
|----------|---|
| ORISEWDS | <ul style="list-style-type: none">• 1st version available in 1991• 2nd version available in 1993 |
|----------|---|

Rocky Flats Plant



The site for the Rocky Flats Plant consists of nearly 11 square miles, located near Golden, Colorado, in northern Jefferson County, about 16 miles northwest of Denver. Historically, major operations conducted at the plant in support of weapons manufacture included fabrication and assembly (of plutonium, beryllium, uranium, and other metal components), plutonium recovery, americium separation, and research and development. Construction of the plant began in 1951, and limited production operations commenced in 1952. By 1954, the plant was fully operational. In 1989, all production of nuclear weapons components ceased, and it is primarily environmental restoration activities that continue today. The plant has been operated by three contractors beginning with Dow Chemical Company (1951), followed by Rockwell International (1975), and by EG&G (1990).

The working data file set that contains information pertaining to Rocky Flats workers is RFFACW02. There are two analytic data file sets that support two cohort mortality studies at the Rocky Flats Plant. RFPLUA01 supports a cohort mortality study of 5,413 white male workers employed for 2 or more years between 1951 and 1979. RFANLA02 includes 9,490 workers employed between 1951 and 1979. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the Rocky Flats Plant*

Working Data File Sets	
RFFACW01	<ul style="list-style-type: none"> • 1st version available in 1993 • superseded by RFFACW02
RFFACW02	<ul style="list-style-type: none"> • 1st version available in 1994
Analytic Data File Sets	
RFANLA02	<ul style="list-style-type: none"> • available in CEDR in 1995
RFPLUA01	<ul style="list-style-type: none"> • study published in 1987 • available in CEDR in 1993
Other Data and Reports	
<ul style="list-style-type: none"> • Epidemiologic Surveillance Annual Reports • Guide to Inventory of Records for the September 1957 Fire - records inventoried in 1994 • Guide to Other Epidemiologic Records of Interest (seven volumes) - records inventoried in 1994 • Rocky Flats Complex Chemical Study (RFCHMW01) 	

*Rocky Flats Plant workers also were included in some studies of workers at multiple DOE sites (see Page 56 for details).

Salmon Site (previously Tatum Dome Test Site)



CEDR Holdings Pertinent to the Salmon Site

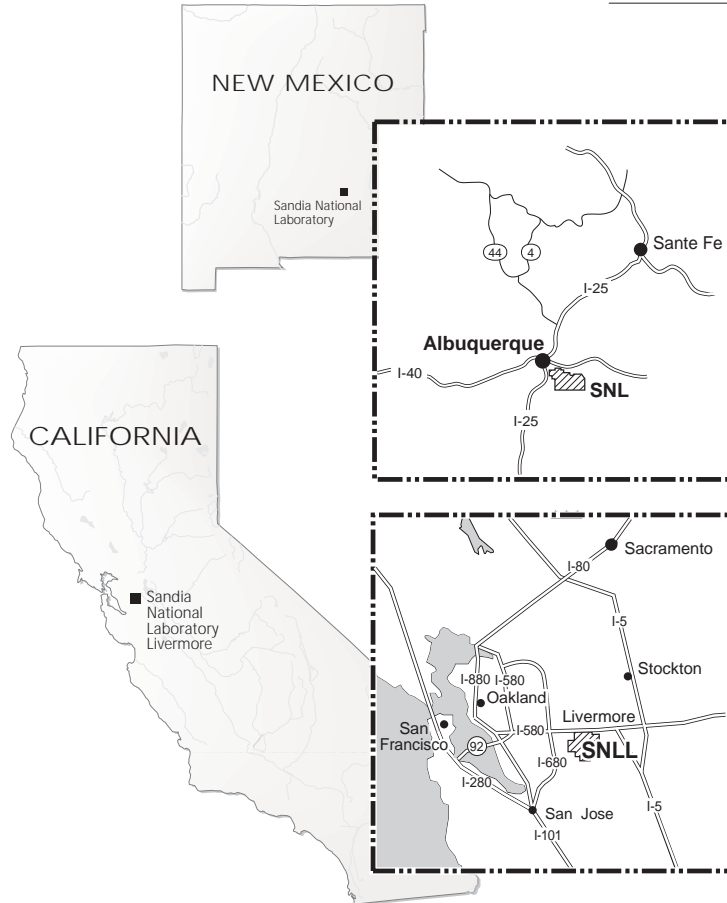
Descriptive Study

- Salmon Site Descriptive Study (TDBSRA01)

Lamar County, Mississippi, is the location of the Salmon Site, an underground salt dome, where two nuclear and two non-nuclear detonations occurred between the years 1964 and 1970. The Salmon Site is located in the piney woods area of the Gulf Coastal Plain, approximately 21 miles southwest of Hattiesburg, Mississippi. It is a large salt dome, about 5,000 feet in diameter and 1,500 feet below the ground surface. Upon completion of the testing program, the site was deactivated and decommissioned in June 1972.

A study of mortality among Lamar County residents was conducted and will be contained in the analytic data file set TDBSRA01.

Sandia National Laboratories



CEDR Holdings Pertinent to SNL

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none"> • 1st version available in 1991 • 2nd version available in 1993
Report	
	<ul style="list-style-type: none"> • Epidemiologic Surveillance 1993 Annual Report

Sandia National Laboratory (SNL) headquarters and main laboratory are located near Albuquerque at Kirtland Air Force Base. Until 1994, it was operated by Sandia Corporation, a subsidiary of American Telephone and Telegraph Company. The current contractor is Martin Marietta Energy Systems, Inc. These same contractors operate SNL Livermore (SNLL), which is located on a 400-acre site just west of Livermore, California, and across the street from the Lawrence Livermore National Laboratory (LLNL), with which they share some facilities.

SNL Albuquerque is the larger of the two laboratories. Its major activities are in research, development, and engineering associated with the production of nuclear explosives for integrated, functional weapons used by the Department of Defense's weapon delivery systems. Other areas of activities include energy efficiency research, development of technologies for remediation of contaminated sites, and technology transfer efforts. Employment usually runs at about 7,800 workers.

The smaller laboratory, SNLL, is also concerned with the design and evaluation of new and existing nuclear weapon systems. Other areas of interest are energy research, including combustion and fusion research, and research on nuclear and conventional weapons and space systems. Employment usually runs at about 1,000 workers.

Working data for Sandia National Laboratories are included in ORISEWDS. The 1993 Epidemiologic Surveillance Report that is available contains information only for workers at SNL Albuquerque.

Savannah River Site



The Savannah River Site (SRS) is located on 315 square miles near Aiken, South Carolina. At the inception of the plant in 1952, the primary process was the production of nuclear fuels and other materials. The facilities include five large production reactors, two chemical separation plants, plants for reprocessing irradiated nuclear fuel, a fuel fabrication plant, a heavy water manufacturing plant, and a variety of research and development laboratories. Currently, waste management operations and extensive environmental programs are conducted using advanced technologies. E.I. duPont de Nemours and Company was the original operating contractor until 1989, when the Westinghouse Savannah River Company assumed management of the operations.

Working data for SRS are included in ORISEWDS. Two analytic data file sets support two cohort mortality studies of SRS workers. SRC88A01 supports a study that examines the overall and cause-specific mortality experience of 9,860 white males hired between 1952-1974 and employed for at least 90 days during this time period. SRC94A02 supports an updated mortality study of the same 9,860 white male workers. Workers in more than one data file set retain the same identifier.

CEDR Holdings Pertinent to the Savannah River Site

Working Data File Set	
ORISEWDS	<ul style="list-style-type: none"> • 1st version available in 1991 • 2nd version available in 1993
Analytic Data File Sets	
SRC88A01	<ul style="list-style-type: none"> • study published in 1988 • available in CEDR in 1993
SRC94A02	<ul style="list-style-type: none"> • available in CEDR in 1994
Report	
	<ul style="list-style-type: none"> • Epidemiologic Surveillance Annual Reports

Studies Involving Multiple Sites

Analytic Data File Sets	Various DOE Sites	
HFMULA01	<ul style="list-style-type: none"> • study published in 1989 • available in CEDR in 1994 	Hanford, Rocky Flats, and Oak Ridge
MFD94A01	<ul style="list-style-type: none"> • available in CEDR in 1994 	Fernald, Mallinckrodt, Oak Ridge TEC, or Y-12
MFF94A02	<ul style="list-style-type: none"> • available in CEDR in 1994 	workers at various facilities with 5 rem exposure
MFI93A01	<ul style="list-style-type: none"> • study published in 1994 • available in CEDR in 1994 	Rocky Flats, Hanford, and X-10
MFS93A01	<ul style="list-style-type: none"> • available in CEDR in 1994 	Hanford, Oak Ridge, and Fernald
Reports		
<ul style="list-style-type: none"> • Guide to Epidemiologic Studies Conducted at the Oak Ridge Institute for Science and Education (ORISE) - records inventoried in 1994 • Guide to Epidemiologic Studies Conducted at LANL - records inventoried in 1994 		

Some studies include workers from more than one DOE site. Five analytic data file sets derived from five such studies are included in CEDR. The first data file set, HFMULA01, supports a combined mortality study of monitored white male workers at Hanford, Rocky Flats, and Oak Ridge. The second data file set, MFD94A01, consists of 12 files generated from a nested case-control study of respiratory cancer through 1982 for workers employed at four uranium processing or fabrication operations in Missouri, Ohio, and Tennessee. These 12 analytic files contain information on 790 cancer cases and 790 matched controls. The third data file set, MFF94A02, consists of a single file generated from a retrospective cohort study of mortality and morbidity of 3,145 workers. This study cohort represents all workers throughout the United States who received at least 5 rems of penetrating ionizing radiation in one calendar year prior to 1979 while employed at DOE nuclear facilities or U.S. Navy's nuclear reactor propulsion plants. The fourth data file set, MFI93A01, consists of 14 files pertaining to the three U.S. nuclear sites included in a international study of cancer mortality among nuclear industry workers, conducted by the International Agency for Research on Cancer. The 14 files contain information on workers at the Hanford Site, Oak Ridge X-10 Facility, and Rocky Flats Nuclear Weapons Plant. The fifth data file set, MFS93A01, consists of two files that support a combined mortality study, which has not yet been published, of workers at Hanford, Oak Ridge, and Fernald.