APPENDIX B SITES DISCUSSED IN THIS REPORT

This appendix lists the sites discussed in this report that contributed to the production and utilization of highly enriched uranium (HEU). Sites are grouped into four geographical regions: (1) northeast, (2) southeast, (3) midwest, and (4) west. Within each region, sites are listed in alphabetical order along with location and a brief description of activities in support of HEU production and utilization.

The intent of this appendix is not to provide information on the final disposition of each site or on the environmental legacy remaining at each site. Such information is outside of the scope of this HEU report. However, when such information was available, it was included in this appendix.



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HIGHLY ENRICHED URANIUM: STRIKING A BALANCE

NORTHEAST



BETTIS ATOMIC POWER LABORATORY

The Bettis Atomic Power Laboratory, established in 1948 near Pittsburgh, Pennsylvania, is engaged solely in research and development for design and operation of naval nuclear propulsion plants. Bettis operates the Naval Reactors Facility at the Idaho National Engineering and Environmental Laboratory. These facilities used HEU fuel in the design, construction, and testing of prototype reactors for the Naval Nuclear Propulsion Program.

BROOKHAVEN NATIONAL LABORATORY

The Brookhaven National Laboratory was established in 1947 in Upton, New York. The facilities at Brookhaven have been used primarily for research and training. The Brookhaven Medical Research Reactor, a light-water cooled, tank-type reactor, uses HEU as fuel. It reached initial criticality in 1959 and is used for medical purposes. The High Flux Beam Reactor at Brookhaven, which has been shut down, is a heavy water reactor that used HEU as fuel. It reached criticality in October 1965 and has been used for studies in chemistry, physics, materials science, medicine, and biology.

COMBUSTION ENGINEERING

Combustion Engineering, located in Windsor, Connecticut, began designing a submarine nuclear power plant facility for the AEC in 1955, which ultimately led to the manufacture, assembly, testing, and operation of the S1C Prototype Reactor Facility. Work for the AEC also included the fabrication of HEU fuel elements for the reactor facility. These activities continued through 1967.

GULF UNITED NUCLEAR CORPORATION

Gulf United Nuclear Corporation, located in New Haven, Connecticut, fabricated uranium fuel from the late 1960s to the mid-1970s. In 1976, the site was decommissioned.

INDIAN POINT 1

The Indian Point Nuclear Power Station, Unit #1, was a pressurized water reactor, owned and operated by the Consolidated Edison Company. It began operation in 1962 and was located on the Hudson River in Buchanan, New York, approximately 35 miles north of New York City. The first reactor core used HEU and thorium fuel and was subsequently reprocessed at the Nuclear Fuel Services facility in West Valley, New York, in 1969. In 1974, Indian Point 1 was permanently shut down.

KNOLLS ATOMIC POWER LABORATORY

The Knolls Atomic Power Laboratory (KAPL), established in 1947, is engaged solely in research and development for the design and operation of naval nuclear propulsion plants. The KAPL has sites at Windsor, Connecticut (known as the KAPL - Windsor Site); and Niskayuna (known as the KAPL - Schenectady Site) and West Milton (known as the KAPL - Kesselring Site), New York. These facilities used HEU fuel in the design, construction, and testing of prototype reactors for the Naval Nuclear Propulsion Program.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

The National Institute of Standards and Technology (NIST), formerly known as the National Bureau of Standards, is located in Gaithersburg, Maryland, and has a research reactor owned by the U.S. Department of Commerce. Since the 1960s, this research reactor has focused on research activities directed towards the establishment of measurements and standards. The NIST research reactor uses HEU fuel enriched to 93 percent uranium-235 and provides a neutron source for industry researchers and scientists.

NATIONAL LEAD COMPANY

The National Lead Company, located in Albany, New York, began manufacturing uranium products in the 1950s. Work at the site included production of uranium metal, oxides and compounds from uranium hexafluoride, fabrication of uranium fuels, and chemical processing of nonirradiated uranium scrap. HEU activities at the site continued through the early 1970s. As of the date of this report, the site is undergoing environmental restoration.

NUCLEAR MATERIALS AND EQUIPMENT CORPORATION

The Nuclear Materials and Equipment Corporation (NUMEC) began operation of the uranium fuel fabrication plant, in Apollo, Pennsylvania, in 1957. From 1967 to 1971, the Atlantic Richfield Company was the operator. In 1971, the Babcock and Wilcox (B&W) Company became the owner of the site. The primary operation at the facility was the chemical conversion of both low- and highly enriched uranium hexafluoride (UF₆) gas into uranium dioxide (UO₂) and other uranium materials for use by the Government and nuclear power industry. On April 15, 1997, the U.S. Nuclear Regulatory Commission (NRC) announced its release of the Apollo site and its removal from the NRC Site Decommissioning Management Plan.

SHIPPINGPORT ATOMIC POWER STATION

The Shippingport Atomic Power Station, located in Shippingport, Pennsylvania, was the first large-scale nuclear power electrical generating plant in the United States. This plant achieved criticality and began full power operation in December 1957. Shippingport was a pressurized water reactor that used HEU as fuel. The primary objective of the Shippingport plant was to advance reactor technology and develop information useful in the design and operation of nuclear power plants. Owned by DOE, the plant was shut down on October 1, 1982, and decommissioning was completed in December 1989.

SYLVANIA ELECTRIC PRODUCTS

The Sylvania Electric Products, Sycor Division, was located in Hicksville, New York. Sylvania fabricated uranium fuels from the mid-1950s to the mid-1960s.

TEXAS INSTRUMENTS

Texas Instruments, Inc., originally established in 1952 as Metal and Controls, Inc., was located in Attleboro, Massachusetts. In 1959, Metal and Controls, Inc. merged with Texas Instruments. From 1952 through 1965, Texas Instruments fabricated uranium fuel elements for the Naval Nuclear Propulsion Program. During the period 1965 through 1981, the Texas Instruments facility fabricated fuel for the High Flux Isotope Reactor at ORNL and other Government-owned research reactors. The facility began cleanup of uranium contamination in 1981, after operational activities ceased. Decontamination and decommissioning was concluded at the facility in February 1997, and the NRC license has since been terminated.

UNITED NUCLEAR CORPORATION, NAVAL PRODUCTS DIVISION

The United Nuclear Corporation (UNC) Naval Products Division began fabricating reactor fuel elements in the 1950s for the Naval Nuclear Propulsion Program at the Montville, Connecticut, facility. This facility was authorized for the fabrication and inspection of unclad fuel components, incapsulation of the fuel into corrosion-resistant materials, and the assemblage of these into larger components or into reactor cores. In 1990, UNC began performing decontamination and decommissioning activities while concurrently completing work on existing contracts.

UNITED NUCLEAR CORPORATION, WOOD RIVER JUNCTION PLANT

The UNC Recovery Systems facility, located in Wood River Junction, Rhode Island, began processing scrap material in 1964 to recover enriched uranium. This material consisted primarily of nonirradiated uranium; however, some slightly irradiated fuel from zero power reactors was also processed. Uranium-235 enrichments in the scrap material ranged from a few percent to greater than 90 percent. Processing operations continued until 1980, when UNC terminated operations and initiated decommissioning. Decommissioning was completed, and the license was terminated in September 1995.

WESTINGHOUSE ELECTRIC CORPORATION

The Westinghouse Electric Corporation is located in the Pittsburgh, Pennsylvania area. From the mid-1950s to the late 1960s, Westinghouse was involved in several projects that utilized HEU, including the Naval Nuclear Propulsion Program and the Nuclear Engine for Rocket Vehicle Application (NERVA) program. The company designed reactor cores and fabricated fuel elements for naval reactors. The Astronuclear Laboratory of Westinghouse was involved in developing nuclear rocket engine technology as part of the NERVA program, which ended in 1971.

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SOUTHEAST



BWX TECHNOLOGIES

BWX Technologies, Inc. (BWXT), formerly the Babcock and Wilcox (B&W) Company, Naval Nuclear Fuel Division (NNFD) facility is located approximately five miles east of Lynchburg, Virginia. Beginning in 1956 and continuing through today, BWXT NNFD has been manufacturing enriched uranium nuclear reactor fuel for research purposes and naval propulsion reactors. The fuel production cycle at this facility begins with either uranium metal or oxide (or uranium in a form provided by a fuel vendor) and ends up with fuel elements and/or reactor cores for use by the customer.

FORT BELVOIR

Fort Belvoir, located in Springfield, Virginia, was the headquarters of the Army Nuclear Power Program (ANPP). This program was initiated in 1954, and during its lifetime, it designed, constructed, operated, and deactivated nine nuclear power plants as described in Appendix D of this report. By 1977, due to changing military requirements and funding limitations, major program

activities ceased when the last ANPP facility was deactivated. Oversight responsibility for deactivated ANPP facilities rests with the U.S. Army Nuclear and Chemical Agency (USANCA) located at Ft. Belvoir.

HATTIESBURG, MISSISSIPPI

In October 1964 and December 1966, two underground nuclear tests were conducted in Hattiesburg, Mississippi, to evaluate the seismic response of salt deposits to nuclear explosives. The first test, named Project Salmon, had a yield of 5.3 kilotons and was part of the Vela Uniform Program. The second test, named Project Sterling, had a yield of 380 tons and was also part of the Vela Uniform.

K-25 SITE

The K-25 Site is located approximately eight miles west of Oak Ridge, Tennessee. It was established in 1943 and was originally known as the Oak Ridge Gaseous Diffusion Plant. The K-25 Site was the first of three gaseous diffusion plants built to perform large-scale separation and enrichment of uranium, and one of two to supply HEU for nuclear weapons. Operations ceased in 1985, and the site was permanently shut down in 1987. The site currently is a center for applied technology and operates waste treatment and storage facilities under the DOE environmental management program.

NUCLEAR FUEL SERVICES

The Nuclear Fuel Services, Inc. (NFS) facility is approximately 0.5 miles southwest Erwin, Tennessee. Beginning in the early 1960s, this facility manufactured HEU for DOE, the Naval Nuclear Propulsion Program, and other customers, and recovered enriched uranium from process scrap. The basic processing services consisted of recovery and purification of uranium from heterogeneous scrap materials generated both onsite and from offsite customers. The facility is still operating.

OAK RIDGE NATIONAL LABORATORY

The Oak Ridge National Laboratory (ORNL), originally known as Clinton Laboratories, was established in 1943 to pioneer a method for producing and separating plutonium. The High Flux Isotope Reactor at ORNL achieved initial criticality in 1965 and utilized 93 percent HEU. The Oak Ridge Research Reactor at ORNL, which also used HEU fuel, achieved initial criticality in 1958 and was shut down in 1987. Today, the multiprogram laboratory is responsible for the development

of new energy sources, technologies and materials, and for advancing knowledge in the biological, computational, environmental, radiochemical, physical, and social sciences.

PADUCAH GASEOUS DIFFUSION PLANT

The Paducah Gaseous Diffusion Plant, near Paducah, Kentucky, was established in 1951 and was the second gaseous diffusion plant constructed. It produced massive quantities of uranium enriched to about 1.0 percent uranium-235 (low enriched uranium). This material was shipped from Paducah to the Portsmouth Gaseous Diffusion Plant and the K-25 Site for further enrichment. In 1993, management of the Paducah Plant was transferred to the United States Enrichment Corporation (USEC). USEC was created by Congress in the Energy Policy Act of 1992 in an attempt to transform DOE's uranium enrichment enterprise into a profitable business. As part of this activity, the Paducah Gaseous Diffusion Plant produces enriched uranium for civilian power reactors.

SAVANNAH RIVER SITE

The Savannah River Site (SRS), formerly known as the Savannah River Plant, is located near Aiken, South Carolina. SRS was established in 1950 to produce nuclear materials (primarily plutonium and tritium) for national defense. The major nuclear facilities at SRS include fuel and target fabrication facilities, nuclear material production reactors, chemical separation plants used for recovery of plutonium and uranium isotopes, a uranium fuel processing area, and the Savannah River Technology Center, which provides process support. During times of full operation, HEU was shipped from the Y-12 Plant to SRS where it was fabricated into fuel for the production reactors. Residual HEU was recovered from fission products and recycled.

Y-12 PLANT

Located in Oak Ridge, Tennessee, the Y-12 Plant was established in 1943 as part of the Manhattan Project. The site's first mission was the separation of uranium-235 from natural uranium using electromagnetic separation. The Y-12 Plant is the primary receiver, processor, and interim storage site of HEU, where material from disassembled warheads is shipped from the weapons stockpile to the Plant. Additionally, the Y-12 Plant continues to maintain the capability to fabricate materials (i.e., HEU) into components, inspect and certify the components, and produce weapons subassemblies from the components. The Y-12 Plant also performs some stockpile surveillance activities to ensure reliability of the nuclear weapons stockpile.



ARGONNE **N**ATIONAL LABORATORY - EAST

Argonne National Laboratory - East was established in 1946 near Chicago, Illinois. The laboratory conducts many missions, including basic research in energy and environmental technologies, computing and communications, biotechnology, and manufacturing technology. Argonne also conducts nuclear chemistry research and conducts small-scale demonstrations of advanced technology systems.

DIAMOND ALKALI COMPANY

Diamond Alkali Company (also known as Diamond Magnesium Company) was located in Painesville, Ohio. In the early to mid-1960s, Diamond Alkali processed uranium-coated particles

from uranium hexafluoride. As of September 1996, the site was owned by the Uniroyal Chemical Company and was undergoing environmental restoration.

ELK RIVER REACTOR

The Elk River Reactor, located in Elk River, Minnesota, was a 58-megawatt thermal boiling water reactor that used HEU fuel and was operated by the Rural Cooperative Power Association. The operating license was issued in 1962, and the plant was shut down in 1968. In 1974, the reactor was dismantled and removed from the site.

ENRICO FERMI ATOMIC POWER PLANT, UNIT 1

The Enrico Fermi Atomic Power Plant, Unit 1, also known as Fermi I, is located in Lagoona Beach, Michigan. Fermi I is a 200-megawatt thermal sodium-cooled fast reactor. Its operating license was granted in 1963, and the plant was shut down in 1972.

FEED MATERIALS PRODUCTION CENTER (FERNALD)

The Feed Materials Production Center (currently known as the Fernald Environmental Management Project), is located 18 miles northwest of Cincinnati, Ohio. The site was established in 1951 to produce uranium metal. The mission at Fernald includes the removal or dispositioning of all site materials, decommissioning and decontaminating all site buildings and facilities, and returning the site to public use.

IOWA ARMY ORDNANCE PLANT

The Iowa Army Ordnance Plant, in Burlington, Iowa, was established in 1947 primarily as a weapons assembly facility. This facility also manufactured high-explosive components for nuclear weapons from 1947 to 1975. In 1975, functions at the Burlington plant were transferred to the Pantex Plant, which remains the DOE's sole facility for weapon assembly, modification and dismantlement to the present day.

KERR-MCGEE CORPORATION

The Kerr-McGee Corporation facility is located near Crescent, Oklahoma. This facility was operational from 1966 to 1975 and was operated by subsidiaries of Kerr-McGee Industries, Inc.

under an AEC license. There were two plants operating under NRC licenses: a Mixed Oxide Fuel Fabrication Plant and a Uranium Plant, which produced enriched uranium fuel. As of September 1996, this facility was included as part of the Nuclear Regulatory Commission (NRC) Site Decommissioning Management Plan and was in the final stages of decommissioning.

MINNESOTA MINING AND MANUFACTURING

Minnesota Mining and Manufacturing (3M), located in St. Paul, Minnesota, fabricated uranium fuel elements in the early to mid-1960s. As of September 1996, this site was included as part of the NRC Site Decommissioning Management Plan and was undergoing decommissioning activities.

PANTEX PLANT

The Pantex Plant (formerly known as the Pantex Army Ordnance Plant), in Amarillo, Texas, was first used by the U.S. Army for loading conventional ammunition shells and bombs from 1942 to 1945. In 1951, the AEC began rehabilitating the plant for nuclear weapons operations. In the past, the Pantex Plant was primarily responsible for the fabrication of nonnuclear high-explosive components for nuclear weapons and for the assembly and final delivery of nuclear warheads to the Department of Defense. The Pantex Plant's mission includes the fabrication of chemical high explosives for nuclear weapons; assembly, disassembly, maintenance, and surveillance of nuclear weapons in the stockpile; dismantlement of nuclear weapons being retired from the stockpile; and interim storage of plutonium components from dismantled weapons. Weapons activities involve the handling (but not processing) of uranium, plutonium, and tritium compounds, as well as a variety of nonradioactive hazardous or toxic chemicals.

PORTSMOUTH GASEOUS DIFFUSION PLANT

The Portsmouth Gaseous Diffusion Plant is located approximately 20 miles north of Portsmouth, Ohio, and approximately 4 miles southwest of Piketon, Ohio. The Plant was established in 1951 and was the last of the three gaseous diffusion plants constructed to enrich uranium. The primary mission of the site was to produce HEU for use in nuclear weapons. In the 1960s, it began serving the commercial nuclear power industry. In 1964, Portsmouth ceased producing HEU directly for nuclear weapons. From 1964 until production of HEU was terminated in 1992, the HEU produced at Portsmouth was provided for the Naval Nuclear Production Program. In 1993, management of the Portsmouth Gaseous Diffusion Plant was transferred to the USEC. USEC was created by Congress in the Energy Policy Act of 1992 in an attempt to transform DOE's uranium enrichment

enterprise into a profitable business. As part of this activity, the Portsmouth Gaseous Diffusion Plant produces enriched uranium for civilian power reactors.

UNITED NUCLEAR CORPORATION, CHEMICAL OPERATIONS PLANT

The United Nuclear Corporation Chemical Operations Plant was built in 1956 and is located in Hematite, Missouri. Processing capabilities included conversion of uranium (in gaseous form) to uranium compounds and uranium metal, operation of a small scrap recovery facility, and blending of uranium compounds in the formation of pellets in a product form. All operations involving HEU were closed in 1974, and the facility was decontaminated. As of September 1996, the Plant was operating as an LEU facility.

WELDON SPRING, MISSOURI

The Weldon Spring Plant is about 30 miles west of St. Louis, Missouri, and consists of a chemical plant and a quarry. Located on the site of a former Army ordnance production facility, Weldon Spring operated from 1956 to 1966 to sample and refine uranium ore for the AEC and manufacture production reactor fuel. The site is currently known as the Weldon Spring Site Remedial Action Project and is undergoing environmental restoration.





AEROJET-GENERAL NUCLEONICS

Aerojet-General Nucleonics, a subsidiary of the Aerojet-General Corporation, is located in San Ramon, California. From the late 1950s to the early 1970s, Aerojet-General Nucleonics was the prime contractor involved in developing nuclear rocket engine technology as part of the NERVA program, which ended in 1971.

AMCHITKA ISLAND TEST SITE

In October 1965, October 1969, and November 1971, three underground nuclear tests were conducted at the Amchitka Island Test Site in Alaska. The first test, named Project Long Shot, had a yield of approximately 80 kilotons and was part of the Vela Uniform Program. The second test,

named Project Milrow, had a yield of one megaton and was a weapons-related test. The third test, named Project Cannikin, had yield of less than five megatons and was also a weapons-related test. As of the date of this report, the site is undergoing environmental restoration.

ATOMICS INTERNATIONAL

Atomics International (a subsidiary of North American Aviation, Inc.) operated the Liquid Metal Engineering Center (LMEC), located in Canoga Park, California, as part of the AEC's sodium breeder program. Beginning in 1966, Atomics International utilized HEU in conducting research primarily related to the development of sodium-cooled nuclear power plants and space power systems and as fuel for Training, Research, Isotope, General Atomics (TRIGA) reactors. In 1978, LMEC was renamed as Energy Technology Engineering Center and was operated by Rockwell International. As of the date of this report, this facility has been decommissioned.

CARLSBAD, NEW MEXICO

The Project Gnome test was conducted in bedded salt approximately 31 miles southeast of Carlsbad, New Mexico, in December 1961. The purpose of the test was to determine the effects and products of a nuclear explosion in a salt medium. This underground nuclear detonation had a yield of 3 kilotons and was part of the Plowshare Program. As of the date of this report, the site is undergoing environmental restoration.

CENTRAL NEVADA TEST AREA, NEVADA

In January 1968, a subsurface nuclear test, named Project Faultless, was conducted at the Central Nevada Test Area. Project Faultless was detonated to determine the suitability of the area for additional testing. The site was decommissioned in 1973 and is currently undergoing environmental restoration.

FALLON, NEVADA

In October 1963, an underground nuclear test, named Project Shoal, was conducted at Fallon, Nevada. Project Shoal was designed to determine the behavior and characteristics of seismic signals generated by nuclear detonations and to differentiate them from seismic signals generated by earthquakes. This detonation had a yield of 12 kilotons and was part of the Vela Uniform Program. As of the date of this report, the site is undergoing environmental restoration.

FARMINGTON, NEW MEXICO

The Gasbuggy Site, located approximately 55 miles east of Farmington, New Mexico, was the location of a single subsurface nuclear test in December 1967. The purpose of the test was to determine whether or not nuclear explosions would stimulate release of natural gas not recoverable by conventional methods. This detonation had a yield of 29 kilotons and was part of the Plowshare Program. As of the date of this report, the site is undergoing environmental restoration.

FORT ST. VRAIN NUCLEAR GENERATING STATION

The Fort St. Vrain Nuclear Generating Station, operated by the Public Services Company of Colorado, is a high-temperature, gas-cooled reactor located in Platteville, Colorado. Fort St. Vrain first produced power in December 1976 with a capacity of 342 megawatts and used HEU fuel enriched to approximately 93.15 percent. In August 1989, the Fort St. Vrain reactor was shut down and subsequently decommissioned.

GENERAL ATOMIC COMPANY

Beginning in 1959, the General Atomic Company operated a facility in San Diego, California, that developed and fabricated nuclear fuel for TRIGA reactors, the AEC's Space Nuclear Propulsion Program and gas-cooled reactors, including Fort St. Vrain. This facility had HEU for blending of fuel material, and extrusion and finishing of fuel elements. In 1996, General Atomic began decommissioning the site.

GENERAL ELECTRIC COMPANY

The General Electric Company, Nuclear Energy Division, was located in San Jose, California. From the late 1950s to the mid-1970s, General Electric fabricated uranium fuel elements for use as reactor fuel and for research and development.

HANFORD SITE

The Hanford Site is located in southeastern Washington State just north of Richland. The site was established in early 1943 as part of the Manhattan Project with a purpose of building the first fullsize reactors for the production of plutonium for nuclear weapons. Although defense production was a primary mission, the site now focuses on environmental restoration and waste management and related scientific and environmental research. As of September 1996, Hanford stored small quantities of HEU.

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

The Idaho National Engineering and Environmental Laboratory (INEEL) was established in 1949 as the National Reactor Testing Station with a purpose of providing an isolated location where prototype nuclear reactors could be designed, built, and tested. It is located near Idaho Falls, Idaho and is comprised of the INEEL and the Argonne National Laboratory - West (ANL-W). Over 52 research and test reactors at the INEEL have been used through the years to test reactor systems, fuel and target designs, and overall reactor safety. Facilities at INEEL that have used HEU include the Advanced Test Reactor, Engineering Test Reactor, Experimental Breeder Reactor II, Idaho Chemical Processing Plant, Materials Testing Reactor, and the Naval Reactor Facility. The Experimental Breeder Reactor II is located on the ANL-W portion of the INEEL site and was used to demonstrate the Integral Fast Reactor concept. The Idaho Chemical Processing Plant reprocessed spent reactor fuels in order to recover enriched uranium and other materials.

LAWRENCE LIVERMORE NATIONAL LABORATORY

The Lawrence Livermore National Laboratory (LLNL) was established in 1952 as a nuclear weapons design laboratory and was formerly known as the Lawrence Radiation Laboratory. Its facilities are near Livermore, California. LLNL is a multidisciplinary research and engineering facility engaged in a variety of programs for DOE and other Government agencies. LLNL maintains research, design, development, testing (including nuclear testing), surveillance, assessment, and certification capabilities in support of the Stockpile Stewardship and Management Program.

LOS ALAMOS NATIONAL LABORATORY

The Los Alamos National Laboratory (LANL) was established as a nuclear weapons design laboratory in 1943 and was formerly known as the Los Alamos Scientific Laboratory. Its facilities are located about 25 miles northwest of Santa Fe, New Mexico. LANL is a multidisciplinary research and engineering facility engaged in a variety of programs for DOE and other Government agencies. LANL maintains research, design, development, testing (including nuclear testing), surveillance, assessment, and certification capabilities in support of the Stockpile Stewardship and Management Program. Since the end of the Cold War, LANL has conducted pit surveillance and has manufactured some nonnuclear components due to termination of the nuclear weapons mission at other DOE sites.

NELLIS AIR FORCE BASE

Nellis Air Force Base is located approximately 8 miles north of Las Vegas, Nevada, and covers more than 11,000 acres. The primary mission at Nellis is to advance the training of combat aircrews. Additionally, the Air Force conducts follow-on operational testing and tactics development and evaluation using the latest weapons systems. From 1957 through 1963, five nuclear tests were conducted at Nellis. Of these, four were storage transportation tests and one was a safety experiment.

NEVADA TEST SITE

The Nevada Test Site (NTS) is about 65 miles northwest of the city of Las Vegas. The primary mission of NTS is to ensure the safety and reliability of the Nation's nuclear weapons stockpile. The first nuclear test at NTS was conducted in January 1951, with the last nuclear test occurring September 1992. Since the signing of the *Threshold Test Ban Treaty* in 1974, NTS has been the only U.S. site used for nuclear weapons testing. Today, the site retains the capability to resume testing, if authorized.

RIFLE, COLORADO

The AEC conducted the Rulison and Rio Blanco tests under the Plowshare Program to increase natural gas production from low-permeability sandstone. The Project Rulison detonation took place in September 1969 in a sandstone formation near Rifle, Colorado, and consisted of a yield of 40 kilotons. In May 1973, the Project Rio Blanco test, which was located approximately 36 miles northwest of Rifle, consisted of the nearly simultaneous detonation of three 33-kiloton devices.

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

The Rocky Flats Environmental Technology Site (RFETS), formerly known as the Rocky Flats Plant, is near Golden, Colorado. Established in 1951, RFETS was one of the major nuclear weapons component fabrication sites. It began manufacturing HEU, plutonium, and depleted uranium pit parts in 1952. Ceasing nuclear component production in 1990, RFETS is no longer part of the DOE nuclear weapons complex. With the discontinuation of nuclear component production, the RFETS mission now focuses on special nuclear materials stabilization, and deactivation and decommissioning of facilities.

SANDIA NATIONAL LABORATORIES

Sandia National Laboratories (SNL) was established in 1945 as a nuclear weapons design laboratory. SNL has facilities in three locations: Albuquerque, New Mexico; Livermore, California; and Tonopah, Nevada. SNL is a multidisciplinary research and engineering facility engaged in a variety of programs for DOE and other Government agencies. SNL maintains research, design, development, testing (including nuclear testing), surveillance, assessment, and certification capabilities in support of the nuclear weapons Stockpile Stewardship and Management Program.

UNITED NUCLEAR HOMESTAKE SITE

The United Nuclear Homestake Site was a uranium milling facility located near Grants, New Mexico. The site was established in 1957 by the Phillips Petroleum Company and was later operated by the United Nuclear Corporation and the Homestake Mining Company. Work at the site included the milling of uranium ore into $U_3O_{8'}$, and the extraction of uranium from mine water using an ion exchange system. As of September 1996, the site was undergoing environmental restoration.

WHITE SANDS MISSILE RANGE

The White Sands Missile Range is located near Alamogordo, New Mexico. On July 16, 1945, the first U.S. nuclear weapons test, code-named Trinity, was detonated at White Sands to test the feasibility of using nuclear weapons in warfare. The Trinity test was detonated above ground and had a yield of 21 kilotons.