ROCKY FLATS HISTORY

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ATOMIC ENERGY COMMISSION (AEC) CHAIRMEN

- David E. Lilienthal – 1946
- Gordon E. Dean – 1950
- Major General Kenneth D. Nichols – 1953
- Brig. General Kenneth E. Fields – 1955
- John A. McCone – 1958
- Loren K. Olson – 1961
- Dr. Glenn T. Seaborg – 1961
- James R. Schlesinger – 1971
- Dr. Dixy Lee Ray – 1973

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION (ERDA)

- Dr. Robert C. Seamans Jr. – 1975

DEPARTMENT OF ENERGY (DOE) SECRETARIES

- James R. Schlesinger – 1977
- Charles W. Duncan Jr. – 1979
- James B. Edwards – 1981
- Donald P. Hodel – 1982
- John S. Herrington – 1985
- Admiral James D. Watkins – 1989
- Hazel Rollins O'Leary – 1993
- Federico F. Pena – 1997
- Bill Richardson – 1998
- Spencer Abraham – 2001-Present

DOE/ROCKY FLATS FIELD OFFICE, MANAGERS

- Gilbert C. Hoover – 1952
- Seth R. Woodruff Jr. – 1956
- Frank E. Abbott – 1969
- Bill W. Colston – 1973
- William M. Lamb – 1974
- Donald Ofte – 1979
- James Nicks – 1982
- Earl Whiteman – 1985
- David P. Simonson – 1989
- Robert M. Nelson Jr. – 1990
- Terry A. Vaeth – 1992
- Robert M. Nelson Jr. – 1992
- Mark N. Silverman – 1993
- Jessie Roberson – 1996
- Barbara A. Mazurowski – 2000
- Gene Schmitt – 2002
- Frazer Lockhart 2003-Present

CONTRACTOR GENERAL MANAGERS/PRESIDENTS

- F. Heine Langell – 1951, Dow
- Luther Evans – 1961, Dow
- Lloyd M. Joshel – 1964, Dow
- James H. Hanes – 1971, Dow
- Herb Bowman – 1974, Dow
- Robert O. Williams Jr. – 1975, Rockwell
- Jack M. Dorr – 1981, Rockwell
- Dominick J. Sanchini – 1986, Rockwell
- B. Philip Warner – 1990, EG&G
- James O. Zane – 1990, EG&G
- Harry P. Mann – 1993, EG&G
- Anson P. Burlingame – 1994, EG&G
- George D. O'Brien – 1995, Kaiser-Hill
- Robert G. Card – 1996, Kaiser-Hill
- Alan M. Parker – 2001, Kaiser-Hill
- Nancy Tuor – 2004-Present, Kaiser-Hill

Beyond the Buildings

at the place called "Rocky Flats"

A timeline of more than 50 years of Rocky Flats history

Authored by Patricia Buffer, July 2003

In 1945, the Allies won World War II. Weighing in heavily in the success was the U.S. Nuclear Program, the Manhattan Project.

The Manhattan Project formulated the environment to successfully produce the bomb at unprecedented speed before the Axis powers could. After the war ended, however, the threat of nuclear weapons in enemy hands had not faded. The Soviet Union had already begun developing its own atomic bomb. As the relationship between the two powers grew more strained, a new "war" – the Cold War – developed between the U.S. and the USSR.

The nuclear arms race had begun in earnest. With national security at stake, the defense program continued on its fast-track, high-priority course for large-scale production of nuclear weapons. By the early 1950s, additional facilities were constructed across the country, including Rocky Flats. Despite the complexity and hazards inherent in nuclear materials processing, Rocky Flats began production in April 1952 – just one year after the Atomic Energy Commission selected the site 16 miles northwest of downtown Denver.

From 1952 to 1989, the primary mission of Rocky Flats was the processing and machining of plutonium and other materials into detonators, also called "triggers," for nuclear weapons. These triggers initiate the self-sustaining chain reaction of fission (the splitting of a nucleus of an atom of heavy elements, such as uranium and plutonium) that releases the tremendous amount of energy when a nuclear weapon is detonated. Although the plutonium, uranium and other hazardous substances used at Rocky Flats posed a risk to humans and the environment, the urgency of the nuclear arms race placed a national priority on weapons production and testing. During Rocky Flats' role as a production facility, cleanup was an activity associated primarily with responding to human error and leaking containers.

Since its establishment more than 50 years ago, Rocky Flats has been operated by only four companies. During full production from 1951-1975, the site was run by Dow Chemical and from 1975-1989, by Rockwell International. The contracts were structured on a cost-reimbursable basis, paying the contractors for the hours worked and materials purchased – plus a profit, based on subjective performance ratings. And the contractors were protected from most financial risks.

Then, in 1989, Rocky Flats was raided by the FBI/EPA for alleged environmental violations, and all nuclear operations were suspended to address any environmental and safety concerns. Rockwell was replaced by EG&G.

From January 1990 through June 1995, EG&G managed and operated the site. Weapons component production was never to resume but safety and security still required a sizable work force and budget to maintain the facility. However, the sudden shutdown in 1989 prompted by the FBI/EPA raid had left large quantities of plutonium and other hazardous substances in various stages of processing and storage. In addition, some past practices of waste disposal and material storage posed potential environmental and health risks. Environmental cleanup, which became a higher priority, was estimated at more than $36 billion and take 65 years.

The Strategic Arms Limitation Talks (SALT) held between 1969 and 1979 set limitations on weapons types, quantities and their deployment. After the U.S. and the USSR had stockpiled more than 70,000 nuclear weapons, the two parties began discussing limiting the production and distribution of those weapons to apply until Jan. 1, 1985.

In 1993, the Secretary of Energy announced that the site's nuclear weapons production mission was officially over.

With Rocky Flats' production of nuclear weapons components ended, the site's mission changed to one of cleanup and closure. "To manage waste and materials, clean up and convert the Rocky Flats site to beneficial use in a manner that is safe, environmentally and socially responsible, physically secure and cost effective," became the site's new mission. Attention was then focused on the activities necessary to stabilize and consolidate radioactive and hazardous materials and ship them off site, deactivate and decommission facilities, clean up contaminated sites and disposition more than 500,000 pieces of property and millions of classified documents.

The Lindsay Ranch is the last sign of rural living at Rocky Flats

The change in national priorities resulted in new objectives for the Department of Energy and, consequently, a new way of doing business. DOE's contract reform initiatives, implemented in 1994, emphasized competition and the development of results-oriented performance criteria and measures, with contractors required to demonstrate sound business practices and assume greater financial accountability. The Rocky Flats contract was put out for bid and Kaiser-Hill was awarded the contract in 1995. Under the new contract reform, Kaiser-Hill said it would clean up Rocky Flats in 2010 for $7.3 billion.

Kaiser-Hill's performance-based integrating management contract was the first contract awarded at the major DOE program level. As the management integrator, Kaiser-Hill would assign and integrate tasks among its subcontractors. Eighty-five percent of Kaiser-Hill's fee was based on measurable performance, and all subcontracts were also performance-based. When actual performance did not meet the agreed-to performance measure, the fee would decrease or be forfeited altogether, depending on the specific contractual requirements.

On Jan. 24, 2000, the U.S. Department of Energy and Kaiser-Hill signed a first-of-its-kind closure contract to complete the safe, accelerated cleanup of the Rocky Flats Environmental Technology Site by a target date of Dec. 15, 2006, at a target cost of nearly $4 billion. This contract represented the next generation of DOE contract reform and contained key provisions for increased contractor responsibility and unprecedented safety performance incentives.

A significant feature of the contract at Rocky Flats involved "projectizing" the work – treating the contract as a project with a discrete end – and taking the steps to achieve the goal. In the past, the contractor kept the plant operating and/or maintained the facilities. The Rocky Flats Closure Project meant cleaning up the site, closing it down and leaving it in a safe condition for other uses. The contract focused on reducing urgent risks while maintaining rigorous safety standards to protect workers, the public and the environment.

DOE and Kaiser-Hill remain committed to closure by the end of 2006 while ensuring nothing less than full compliance with safety, health, environmental and safeguards and security requirements and employee safety and protection. Furthermore, both are insistent that the closure of Rocky Flats will not take one day longer or cost one dollar more than is necessary to do the job safely.

the 40s

. . . Public TV broadcasting begins in the United States.
. . . The first jet airplane takes flight.
. . . Japan declares war on the United States Dec. 7, 1941, when Nipponese planes bomb U.S. air and naval forces at Pearl Harbor where 19 ships are sunk or damaged and 2,300 die.
. . . The U.S. enters World War II.
. . . Scientists trigger the first atomic chain reaction.
. . . The D-Day invasion marks the end of World War II in Europe in 1944.
. . . An atomic bomb, hailed as the most destructive force in history and as the greatest achievement of organized science, is dropped on Japan.
. . . Germany surrenders and Victory Day is celebrated May 8, 1945, officially ending the European phase of World War II.
. . . Jackie Robinson joins the Brooklyn Dodgers in 1947, breaking the color barrier in major league baseball.

1940 –

- The poor and rocky soil of the Rocky Flats area is mostly used for grazing cattle. Peaceful and quiet, the site hosts coyotes and rattlesnakes and several hundred cattle roam the lands. Occasionally, burros and mules wander in and get lost, as large herds of deer roam aimlessly.
- In addition to ranching and some farming, the area is also mined for clay and coal.
- Families that ranch, farm and mine the land include the Churches, the Hartnagles, the Lindsays, the Rogers, the Rancons, the Spicers and the Hogans.

1941 –

- In 1940 and 1941, a research group headed by Physicist Glenn T. Seaborg at the University of California in Berkeley, produces the first, submicroscopic amount of Plutonium-239.

Closeup of the Lindsay Ranch located in the Rocky Flats buffer zone

1942 –

- President Franklin Roosevelt charges the U.S. Army Corps of Engineers with constructing industrial plants that will produce Plutonium-239 and Uranium-235. To accomplish this task, a new division, the Manhattan Engineer District (MED) is established in New York City – it is formed to secretly build the atomic bomb.
- A group of scientists, led by Physicist Enrico Fermi, achieves the first man-made, self-sustaining nuclear chain reaction in a lab at the University of Chicago.
- Roosevelt approves detailed plans for building production facilities and producing atomic bombs.
- Brigadier General Leslie R. Groves is named to head the MED, and Groves selects Oak Ridge, Tenn., as site for the pilot plant.

1943 –

- Design and development of the first nuclear weapons, the plutonium-fueled Fat Man and uranium-fueled Little Boy, takes place at the Los Alamos, N.M., facility established by the MED in 1943. The effort is the beginning

of what has become the nationwide laboratory and industrial complex of the Department of Energy (DOE).

- The decision is made to shift the plutonium production plant from Tennessee to another location and the Hanford site in Washington is selected for the first, full-scale plutonium production plant.
- The MED moves its headquarters to Oak Ridge, Tenn.

1944 –

- The Manhattan Project's chances for success advance from doubtful to probable as Oak Ridge and Hanford produce increasing amounts of fissionable material, and Los Alamos makes progress in chemistry, metallurgy and weapon design.

1945 –

- After the death of President Roosevelt in April, Groves briefs President Harry S. Truman on the Manhattan Project.
- The first nuclear test detonation, code named Trinity, is conducted in central New Mexico on what is now the White Sands Missile Range – the first detonation has a yield of 19 kilotons.
- The first combat use of nuclear weapons occurs when the gun model uranium bomb "Little Boy" is dropped on Hiroshima, Japan, and the implosion model plutonium bomb "Fat Man" is dropped on Nagasaki, Japan.
- Japan surrenders and World War II ends.

1946 –

- The Cold War begins.
- As a result of the Atomic Energy Act (AEA) of 1946, the newly formed and civilian-managed U.S. Atomic Energy Commission (AEC) takes over the nation's atomic energy program; the Commission assigns the mission of nuclear weapons research, development, testing, production and storage to the AEC-directed Santa Fe Operations in Albuquerque, N.M.
- Dec. 31, 1946, responsibilities of MED are transferred to AEC.

1947 –

- Jan. 1, 1947, the newly created AEC takes formal control of America's atomic program.
- In August, the MED is abolished.

1949 –

- The Soviet Union explodes its first atomic bomb.

the 50s

. . . The U.S. Census shows the U.S. population has jumped to 150.6 million and the average weekly wage reaches a new high of $60.53.
. . . Julius and Ethel Rosenberg, convicted of espionage for revealing atomic secrets to the Soviet Union, are executed on June 19, 1953.
. . . The U.S. sends troops to defend South Korea in 1950, and the Korean War officially ends in 1953 at the cost of an estimated 33,667 American lives.
. . . For an unprecedented fifth straight year, the New York Yankees win the World Series.
. . . The U.S. Supreme Court unanimously rules that segregation in public schools is unconstitutional.
. . . Disneyland, a dream of cartoon illustrator Walt Disney, opens in Anaheim, Calif.
. . . Soviets launch Sputnik, the first space satellite, and the space race begins.
. . . The Hoola Hoop replaces the Frisbee fad.
. . . Alaska becomes the 49th state and Hawaii becomes the 50th state.
. . . NASA picks its first seven candidates for space travel, calling them astronauts.

1950 –

- President Truman authorizes production of the H-bomb.
- Congress authorizes stepping up America's nuclear weapons program. To do this, the AEC singles out the Dow Chemical Company of Midland, Mich., and Dow is asked to consider contracting with the Atomic Energy Commission (AEC) to participate in a new and important defense project.

1951 –

- Just after the first of the year, F.H. Langell of Dow Chemical is offered the job of starting and managing the new AEC facility and on Jan. 18, a 28-page contract between Dow and AEC is signed.
- Later in January, a site survey, referred to as Project Apple, is conducted to select the future location of the new facility.
- In mid-March, a location northwest of Denver on 2,600 acres in Boulder and Jefferson counties is chosen.
- On March 23, news of the $65 million project is reported in the media.
- Austin Company of Cleveland, Ohio, is almost immediately selected as the principal contractor for both architecture engineering and construction – they were chosen because of favorable working relationships with Dow during earlier projects.
- In mid-May, construction of temporary structures on the plant site begins with the building of a small guard shed.
- On July 10, ground is broken on the first permanent building – Building 91.
- In November, excavation begins on Building 71 and in December, work gets underway on buildings 44 and 81.
- Employment at the plant is at 133.

Judge Orders Cop Freed
THE DENVER POST
U.S. TO BUILD $45 MILLION A-PLANT NEAR DENVER

The Denver Post reports plans to build the Rocky Flats plant

Safety has been a priority at Rocky Flats since the beginning

Construction begins on the west gate

Building 444 under construction in 1951

1952 –

- Rocky Flats begins operations, with Dow Chemical as the primary contractor.
- The vehicle fleet at the site grows from three sedans to 21 vehicles including "flat rack" trucks, pickups, passenger cars and a 1947 Ford station wagon converted to an ambulance.

Rocky Flats initial vehicle fleet

- No personal cars are allowed on plantsite. The one access road to the site is a dirt road and employees park outside the fence and are bused on site.
- Work at the site is a highly guarded secret. Protective force personnel are housed in a fire barn until quarters are built for them in June.
- Because the Power Plant has not yet been completed and there is concern about heating occupied buildings, a 1200-series locomotive is brought in and its steam power is used for temporary heat. Later, the plant is heated by gas or switched to oil.

1953 –

- The average hourly wage of Dow workers at Rocky Flats is $2.31 per hour.

The Rocky Flats Fire Department in 1953

- Bomb component production begins at Rocky Flats.
- After permanent buildings are constructed on plantsite, temporary administrative buildings are sold, one of which is used in construction of what is known as the Rocky Flats Lounge on Highway 93.
- In February, the first photo of the Rocky Flats Plant is published in the local press – it is an outside view of the administration Building 11.

1954 –

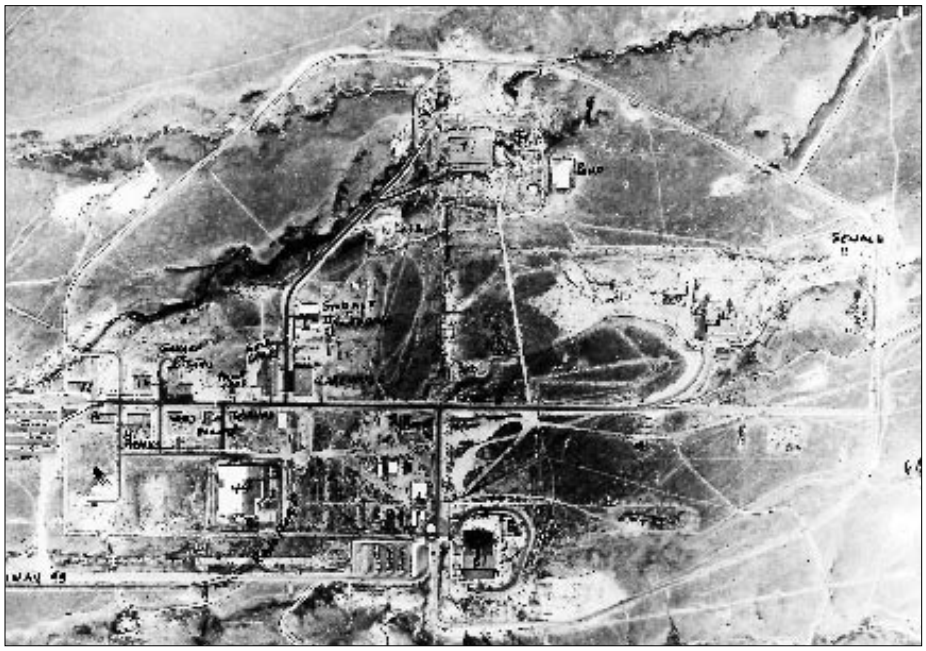
- The Company and Union establish the first progression program; lab assistants and technicians are able progress through a testing procedure.
- AEC and Dow agree to a pension plan for both hourly and salary employees.

1955 –

- The plant's production is linked to the manufacture of atomic bombs; prior to this, Rocky Flats is referred to as an "atomic plant," giving the implication of an energy-producing not a weapons components-producing facility.

Building 444 Machine Shop

- In August, the Credit Union is organized with 35 percent of the plant's employment joining.
- AEC announces further expansion of the plant by construction of new buildings (83, 76, 77 and 99) and additions to buildings (44, 81, 64 and 71).



Aerial view of the site in 1953

Building 771 stack

Building 776/777

- Dinner-dance events become a form of recognition for safe performance at Rocky Flats.

1956 –

- Dow Chemical is honored by the National Safety Council for completing more than 3,000,000 hours of work without a disabling injury.

- Many construction, expansion and additions to the plant are completed – Building 99, Building 64, the evaporation pond on the east side of the plant, both exhaust stacks for Building 83 and additions to Building 47, Building 44 and Building 81.
- Many Rocky Flats employees scan the skies for jets and large planes as part of an air defense program called Operation Skywatch. Rocky Flats had been designated a ground observer post in 1956 and volunteer plant personnel were trained and served as observers until the program came to a close in early 1957.

Rocky Flats water tower with Building 44 in the foreground

1957 –

- $21 million of expansions are completed, making the plant a $65 million facility comprised of 27 structures. This includes two new production buildings, 76 and 77.

Building 76 and 77, under construction

- A fire occurs in a glovebox in a fabrication development line in Room 180 of plutonium processing Building 71. The accident results in contamination of the building and an estimated property loss of $818,600.

1958 –

- The plant encounters its first reduction in work force. The drop of approximately 60 employees occurs primarily from a sudden readjustment of production loads within the AEC Complex.

Worker in a test lab environment

- The Rocky Flats invention of a gamma spectrometer, an instrument to confirm the presence of plutonium in wounds, becomes public knowledge. Working together, Ed Putzier, John Mann and Val Johnson had developed the instrument; however, a patent wasn't issued until 1963.
- An incinerator, used for burning plutonium-contaminated waste, is installed in Building 71. The incinerator is the only one of its kind in the country and perhaps in the world.

The site was proud of its safety record

1959 –

- It is discovered that waste drums are leaking radioactive waste onto an open field. The leakage isn't admitted until 1970 when winds redistribute contaminated soil particles throughout the Denver metro area.
- At a time when Rocky Flats desperately needs engineers and draftsmen, there is a shortage.
- The Rocky Flats Apprenticeship Program is started with the training of toolmakers.
- Employment at Rocky Flats reaches 1,813.

the 60s

. . . Baby boomers swell the nation's population to 179.3 million.
. . . The civil rights movement picks up momentum, and major race riots occur in the Watts area of Los Angeles, Chicago and Detroit.
. . . Alan Shepard becomes the first American to fly into space when he rockets 115 miles above Earth in the tiny Mercury capsule for a 15-minute ride.
. . . Astronaut John Glenn becomes the first American to orbit the Earth, circling the globe three times before splashing down in the Atlantic Ocean in the spacecraft Friendship 7.
. . . In 1964, Congress passes the landmark Civil Rights Act outlawing segregation.
. . . The Central Intelligence Agency-backed invasion of Cuba at the Bay of Pigs fails.
. . . The Berlin Wall is erected between West and East Berlin.
. . . The United States military forces enter the Vietnam War.
. . . President Kennedy advises Americans to build fallout shelters.
. . . President Kennedy is assassinated by a sniper as his motorcade travels through Dallas, Texas, and Vice President Lyndon B. Johnson is sworn in as president.
. . . Pandamonium reigns as shrieking, fainting fans celebrate the first U.S. visit by the Beatles.
. . . Civil rights leader the Rev. Dr. Martin Luther King Jr. is killed by an assassin at a motel in Memphis, Tenn., sparking rioting in cities across the nation.
. . . Astronaut Neil Armstrong becomes the first human to walk on the moon in the culmination of a journey by Apollo XI.
. . . A weekend rock concert featuring marijuana, mud, free love and music, draws a Woodstock Nation of 400,000 to a farm near Bethel, N.Y.

1960 –

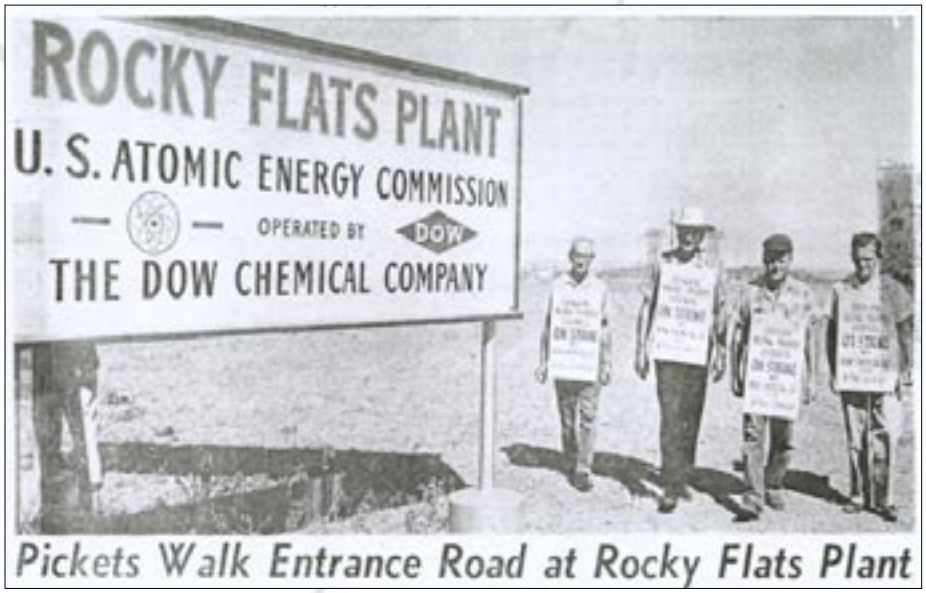
- The first aerial photograph of the Rocky Flats site is published in The Denver Post.
- The United Mine Workers challenge the Denver Metal Trades Council for representation of Rocky Flats workers, however, the petition fails and the Denver Metal Trades Council retains representation.

1961 –

- The plant receives the National Safety Council Award of Honor, a special AEC trophy and a congratulatory message from Colorado Governor Steve McNichols in recognition of a record 14,939,076 hours worked without a disabling injury.

1962 –

- Some 1,580 hourly employees return to work in September, ending a 25-day strike, the first strike in the history of the facility. The hourly workers had rejected offers of revised work schedules and pay raises of a little more than 2 percent over a two-year period.



Dow Chemical workers on strike

1963 –

- In January, temperatures fall to 10-year record lows on three different occasions – to minus 20, minus 26 and minus 25.
- Due to a shortage of office space at the site, Dow Employment, Purchasing and some Engineering offices are moved to a Wheat Ridge site in the Wadsworth Medical Arts Building at 40th and Wadsworth.
- The first patent is granted for the Rocky Flats invention of an automatic hand counter for alpha radiation.

John Mann received the site's first patent for an automatic hand counter

- Apprenticeship programs are established for electricians, pipefitters, glass workers and operating engineers and the existing program continues for machinists and toolmakers.

1964 –

- In October, access to the plant from the east side is made possible.

Construction of the East Access Road

- Hourly and salary employees began staggered shifts to help alleviate plant traffic.
- Security guards vote for representation by the International Guards Union of America.

Heavy firepower was an integral part of security at Rocky Flats

1966 –

- The average hourly pay rate for security guards and firefighters is $2.91.

1967 –

- Large-scale leaking of waste oil drums is discovered at the 903 Pad where more than 3,500 drums containing machining lubricants and chlorinated solvents contaminated with plutonium are stored; it is also discovered that soil contaminated by the low-level leakage has been spread by the wind.

Leaking waste oil drums were discovered on the 903 Pad.

- Black and white security badge photos are replaced by color photos.

1968 –

- Buildings on plantsite are assigned three-digit numbers.
- The Building 779A Plutonium Laboratory, the Building 750 Production Engineering Support Facility and enlarged cafeteria and the Building 559 Plutonium Analytical Lab begin operations.

1969 –

- A major fire in a Building 776/777 glovebox results in the costliest industrial accident in the U.S. at that time. Cleanup takes approximately two years and some 600 workers participate in cleanup efforts. As a result of the fire and in an effort to prevent similar fires from occurring, major new safety features are implemented – water sprinklers and more firewalls are installed and all plutonium work is to be conducted in an inert atmosphere.

1969 fire damage

- The 903 Pad is covered with gravel fill and coated with asphalt.
- The 18,000-square-foot Building 440 production control warehouse begins operations.
- Employment at the end of 1969 is 3,534.

the 70s

. . . The nation's population soars to 203.2 million.
. . . With statistics showing Americans creating 3.5 billion tons of waste annually, environmentalists stage Earth Day to promote cleanups, marches and education about pollution.
. . . Ruling in the Texas case Roe vs. Wade, the Supreme Court overturns all state laws that restrict or deny a woman's right to obtain an abortion in the first trimester of pregnancy.
. . . The nation marks its 200th birthday with revelry coast to coast.
. . . The official cease-fire agreement ending the U.S. combat role in Vietnam is signed in Paris.
. . . Facing impeachment as a result of the Watergate scandal, President Richard M. Nixon resigns and Vice President Gerald R. Ford is sworn in as 38th U.S. President.
. . . Videocassette recorders, skateboards and pet rocks become toys of choice.
. . . The first mass market of personal computers is launched (1977).
. . . The Vietnam War ends with the unconditional surrender of South Vietnamese forces to the communist Vietcong.
. . . Human error and stuck valves expose the fissioning core of a reactor at the Three Mile Island Nuclear Power Plant near Harrisburg, Pa., releasing radioactive gases and threatening a meltdown – the worst nuclear accident in U.S. history.

1970 –

- The massive, two-story Building 707 production operations facility introduces the module concept to isolate work areas.

Gloveboxes were part of the modular work area isolation concept

- Members of the Boulder Workshop in Nonviolence hike from the Boulder County Courthouse to Rocky Flats in protest against "the many institutions of society which serve death and destroy life" – the hike signals the start of a five-day protest.
- In April, an announcement is made that women can wear slacks to work.
- A strike by the United Mine Workers lasts from June 28 to Sept. 5.
- The first waste management group is established.
- The first Rocky Flats Family Day takes place May 2-3.
- The new non-plutonium material and process development laboratory Building 865 begins operations.

1971 –

- A policy prohibiting beards in production areas is implemented.

1972 –

- Congress approves the allocation of $6 million to purchase a 4,600-acre Buffer Zone around Rocky Flats.

1973 –

- Higher than normal levels of tritium are discovered in Walnut Creek and the Great Western Reservoir, Broomfield's water supply. It is determined that the tritium came from contaminated scrap material delivered to the site from Lawrence Livermore Laboratory. The tritium release is discovered by the Colorado Department of Health and leads to investigations by the AEC and EPA, resulting in several corrective actions, including the checking of all shipments onto plantsite for beta activity, routine monitoring of buildings reprocessing nuclear materials, extensive modification of water routes to divert runoff around the plant, retention of storm water by three dams for testing before release, and the eventual construction of an osmosis facility to recycle process waters.

In 1971, Rocky Flats workers could no longer wear beards

- The "Life is Fragile – Handle with Care" safety program is kicked off.
- Contract negotiations with the United Steelworkers of America, Local 8031, lasts from March until September when an agreement is finally reached.
- Ground is broken on Building 371, a plutonium recovery and waste treatment facility.
- Due to a gasoline shortage, employees are asked to refrain from using government vehicles except for emergencies and the daily mail service runs are cut from four to two.
- A 3,700-square-foot, low-level radiation surveillance laboratory is completed as an addition to Building 123.

1974 –

- Higher than normal plutonium levels on plantsite in the topsoil southeast of the 903 Pad are found.
- Following their 1974 election to office, Governor Richard Lamm and Congressman Tim Wirth appoint a citizens' task force (Lamm-Wirth Task Force) to prepare a report on the public and employee safety issues surrounding Rocky Flats.
- More than 4,500 acres of Buffer Zone are purchased for approximately $6 million.
- In recognition of superior performance in safety, environmental control, production and energy use reduction, Dow Rocky Flats employees are each paid cash rewards equivalent to 6.5 percent of their 1973 base pay.

1975 –

- Rockwell International replaces Dow chemical as managing contractor.

Rockwell takes over Rocky Flats' operations

- Area landowners sue Rocky Flats for property contamination.
- The change in contractor is preceded by the breakup of the Atomic Energy Commission, with the Weapons Complex facilities becoming the responsibility of the newly created Energy Research and Development Administration (ERDA).
- Correspondence Control is initiated in order to have one central file on all incoming and outgoing correspondence referring to company matters.
- Rockwell begins a monthly public tours program.

1976 –

- Rocky Flats is selected as a test and research center for Small Wind Energy Conversion Systems.

1977 –

- A personal vehicle identification sticker system goes into effect.
- In October, ERDA becomes the Department of Energy.

1978 –

- About 3,500 demonstrators descend on Rocky Flats to express their displeasure with the plant – some 25 remain on site, set up a tent and camp on railroad tracks south of the West Access Road, hoping to attract the attention of President Jimmy Carter, who plans to visit Colorado. Daniel Ellsberg, who gained fame when he leaked classified information to the New York Times, is with the group. The group lays down on the railroad tracks to impede the progress of trains coming onto the site to haul away nuclear waste. After three days of protests and seminars, about 75 protestors, including author Daniel Ellsberg and poet Allen Ginsberg, are arrested after plant officials refuse a suggestion to close the site in commemoration of the bombings of Hiroshima and Nagasaki.

1979 –

- Some 9,000-10,000 protestors show up at the plant in April for a two-day demonstration and there are 287 arrests.

10,000 protestors demonstrated for two days in April 1979

- Citizens for Energy and Freedom, a group supporting nuclear power and U.S. nuclear defense policies, hold a pro-nuclear rally at the site in June. And, in August, a pro-nuclear rally "Power for the People," sponsored by Citizens for Energy and Freedom (a grassroots organization dedicated to promoting the continued development of nuclear power) is held at the plant's northern boundary attracting some 16,000 nuclear supporters.
- Negative public outcry egged on by a report by Dr. Carl Johnson, director of the Jefferson County Health Department, suggests that incidents of cancer are higher near Rocky Flats.
- Congressman Tim Wirth announces the initiation of a DOE study regarding future activities and possible relocation of Rocky Flats; Wirth and Colorado Governor Richard Lamm announce they will appoint 12 individuals to a "blue ribbon" committee to oversee the DOE study.
- The two-story, 3,000-square-foot Fluidized Bed Incinerator in Building 776 makes its first continuous 108-hour run after nine years of research and development.
- Employment at the site reaches 3,324.

the 80s

. . . The American population reaches 226.5 million, according to Census figures.
. . . In Washington State, Mount St. Helens erupts, hurling almost a cubic mile of earth and ash into the atmosphere.
. . . Doctors in the U.S. and France track an illness that has caused numerous deaths among homosexuals and Haitian immigrants, identify the disease and give it a name – AIDS (Acquired Immune Deficiency Syndrome).
. . . The Chernobyl nuclear plant explosion results in the death of an estimated 7,000.
. . . A record television audience of 125 million tunes in for the final chapter of the anti-war series "M*A*S*H."
. . . All seven astronauts die aboard the space shuttle Challenger as it explodes 73 seconds after liftoff from Cape Canaveral.
. . . Fueled by an extended drought, a dozen separate wildfires in Yellowstone National Park consume more than 88,000 acres of timberland.
. . . Americans watch in horror as Chinese soldiers kill hundreds of pro-democracy demonstrators in Beijing's Tiananmen Square.
. . . "Post-It" notes are introduced by 3M Corporation.
. . . The Berlin Wall falls as East Germany lifts travel restrictions.
. . . The World Wide Web revolutionizes the Internet.

1980 –

- The third annual Anti-Rocky Flats Rally attracts approximately 10,000 protestors to the northeast corner of the site at Highway 128. The rally is organized by the Rocky Flats Coalition, the Rocky Flats Truth Force and American Friends Service as well as other student and community organizations, and features folk singer Peter Yarrow, Senator Patricia Schroeder, activist Daniel Ellsberg and others.
- After 11 years of construction, in April a public dedication ceremony takes place for the $215 million plutonium recovery and waste treatment facility, Building 371/374.

1981 –

- The DOE releases its health study that demonstrates lower cancer rates in male Rocky Flats employees than in a national control group.
- The $2.8 million Wind Systems Test Center building is completed and dedicated.
- Rockwell, DOE and EPA call the trial burn of one gallon of PCBs using the Fluidized Bed Incinerator a major success.

Building 371/374

1982 –

- Two Catholic nuns enter the plantsite by counterfeiting security badges. They raise a flag with the words "Death Factory" printed on it near Building 111. They are arrested by Plant Security as they attempt to hang a sign comparing the plant to Nazi concentration camps on the fence near Building 750.
- The Blue Ribbon study is completed and shows that it would cost $2.06 billion and take 10 to 15 years to relocate the plant.

1983 –

- The $5.5 million Perimeter Security Zone (PSZ) with guard posts is completed and four new guard towers are installed.
- Drawing massive media attention, some 12,000 peaceful demonstrators show up on Oct. 15, but fall short of their goal of totally encircling the plant. Traffic on Colorado 93 is jammed for hours following the demonstration.
- In July, 3,500 employees and retirees of the plant gather to celebrate

30 years of nuclear production, "Production for Freedom."

Celebrating 30 years of nuclear production

- The first radioactive waste is processed through the aqueous recovery system in B371 resulting in the production of a plutonium button.

Pu Button processed from radioactive waste

1984 –

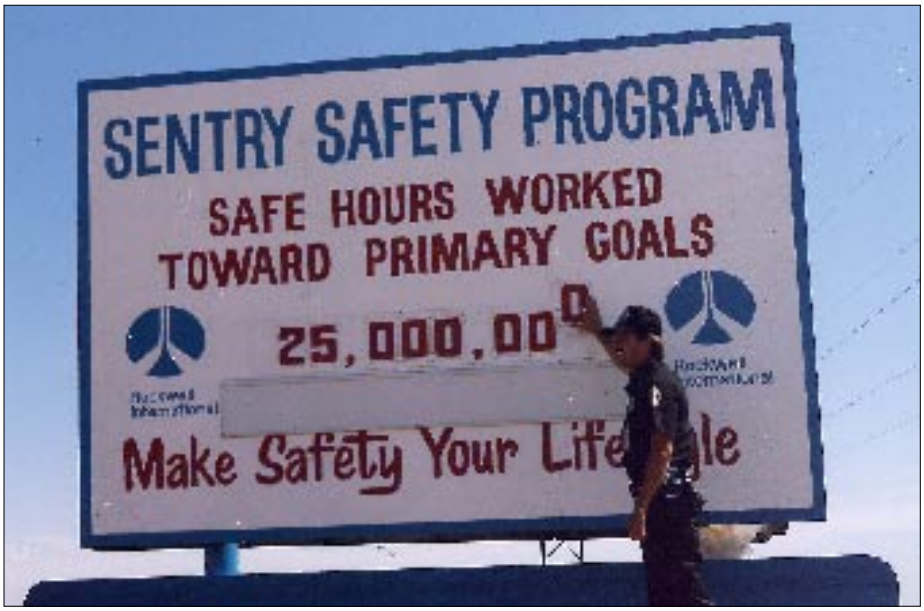
- Construction is completed on Building 850, an administration building.
- Precision Forge in Oxnard, Calif., becomes a part of Rocky Flats.
- New coded vehicle permits to be displayed to security guards before a vehicle is allowed to enter plantsite are issued.

1985 –

- New east and west access control gates and guard stations are open.
- The plant switches from its 497-telephone prefix to 966- to accommodate the large volume of calls made from Rocky Flats daily.
- A plantwide smoking policy goes into effect establishing designated smoking areas.
- Employees begin receiving weekly paychecks – prior to that, they are paid every two weeks.
- For a week in August, a Boulder-based group of anti-nuclear activists, calling itself Action at Rocky Flats, set up a peace camp on land adjacent to Colorado Highway 93, in commemoration of the 40th anniversary of bombs being dropped on Hiroshima and Nagasaki.
- The 229,000-square-foot B460, designed to consolidate all non-nuclear manufacturing at Rocky Flats into one facility, becomes operational.
- Real-Time Radiography, a sophisticated system for inspecting transuranic (TRU) waste is implemented. The new technology inspects waste packaged in drums or crates for shipment to the Nevada Test Site or the Idaho National Engineering Laboratory is used to characterize waste.
- Employees celebrate as they surpass a 22-year record for continuous safe work hours under the SENTRY Safety Program when they rake in 25,000,000 continuous safe hours.
- Rockwell earns the coveted IR-100 Award for the ferrite waste treatment process which significantly improves the method for removing actinide contamination from waste-water at Rocky Flats.
- The new Perimeter Intrusion Detection Assessment System (PIDAS) is installed, allowing the detection of any unauthorized passage through the Protected Area, then known as the PSZ.
- The plant is shut down Sept. 3-8 when Rockwell and DOE take cost-reduction actions.

1986 –

- DOE, the Colorado Department of Health and the Environmental Protection Agency sign an agreement to allow regulation of radioactive/hazardous waste at Rocky Flats.
- The Advanced Size Reduction Facility (ASRF) in Building 776 is completed.
- The site receives a National Safety Council Award of Honor for outstanding safety performance.
- A bomb threat incident results in a two-hour temporary closure of the plant.
- Construction continues with the completion of buildings 130 and 131 which includes a Visitor's Center and warehouse space.



25 million safe work hours

1987 –

- Colorado Governor Roy Romer and Congressman David E. Skaggs establish the Rocky Flats Environmental Monitoring Council.
- Construction is completed on Building 115 which houses DOE personnel.
- The site mourns the death of J.D. Martinez, an electrician, who dies as the result of burns received Jan. 14 while performing electrical work in Building 371.

1988 –

- A U.S. DOE safety appraisal of the plant is highly critical of safety procedures and recommends major changes.
- An Energy Department report on modernization of nuclear bomb facilities recommends phasing out plutonium operations at Rocky Flats over the next 20 years.
- Rockwell is fined by the EPA for leaks of cancer-causing PCBs from an electrical transformer.
- On Jan. 25, the Rocky Flats Environmental Monitoring Council is established.
- In March, it is disclosed for the first time that DOE is considering closing the plant as part of its plan called the "2010 Report."
- Design work begins on the Supercompactor and Repackaging Facility.
- The site discovers that the cemented waste form, pondcrete, has not cured properly and is seeping from its containers.
- The new Emergency Operations Center in Building 115 is put into operation, and Building 119 housing the Alarms & Surveillance and Communications Systems groups as well as the physical fitness facility for security inspectors, is officially opened.
- A boxcar loaded with TRU waste is returned to plantsite following Idaho Governor Cecil Andrus' refusal to allow further shipments of radioactive waste into his state.

1989 –

- Chromic acid is released from Building 444 when a plating bath tank overflows due to an employee leaving a faucet running – the chromic acid winds up in the sanitary waste water treatment system.
- Certified detection dogs are brought on site as part of a new DOE policy to prevent the introduction of illegal drugs or explosives onto government property.
- On June 6, some 80 Federal Bureau of Investigation (FBI) and Environmental Protection Agency (EPA) agents storm the plantsite in search of evidence to support alleged criminal environmental violations, including violations of the Resource Conservation and Recovery and Clean Water Acts. The agents enter the plantsite armed with guns and a search warrant filed in the U.S. District Court of Colorado. Agents remain on site until June 26.
- The first complex-wide, Five Year Plan establishes the year 2019 as the goal for completion of the cleanup of weapons production facilities across the U.S.
- The Energy Department announces an agreement to end Rockwell's contract and EG&G is chosen to take over operations.
- Office space is prepared for Colorado Department of Health and U.S. Environmental Protection Agency personnel to work full time at the plantsite.

PACS 1 opens

- Plutonium production is suspended because of safety violations.
- The Personnel Access Control System (PACS) that includes a hand-geometry reader and log-in system becomes operational for access to the Perimeter Security Zone.
- Employment at the site reaches 5,243.

The FBI raided Rocky Flats in June 1989

the 90s

. . . In the final decade of the millennium, the U.S. population tops 250 million.
. . . The USSR dissolves, Mikhail Gorbachev resigns and Boris Yeltsin takes over.
. . . The phenomenon of the Internet dominates and Americans lead the way.
. . . Operation Desert Storm is launched by the U.S. and coalition forces to drive Iraq out of Kuwait.
. . . 80 members of the Branch Davidian cult die in a standoff with federal agents at Waco, Texas.
. . . The worst flooding in U.S. history kills 50 people and submerges 20 million acres of Midwest farmland causing damage estimated at $12 billion as the Mississippi River and its tributaries overflow their banks in the wake of torrential rains.
. . . The strongest earthquake to hit Los Angeles in this century, measuring 6.6 on the Richter scale, kills 34 people, crumples freeways and causes more than $7 billion in property damage.
. . . A powerful truck bomb reduces the Alfred P. Murrah Federal Building in Oklahoma City to rubble, killing 168 people.
. . . Two Littleton, Colo., students go on a shooting spree at Columbine High School, killing 15 people including themselves.
. . . The world population reaches the 6 billion milestone, and the U.S. population rises by 13.2 percent during the 1990s.

1990 –

- EG&G takes over operation of the Rocky Flats Plant and establishes itself as an avid supporter of operations performed according to procedure and in the safest possible manner. The EG&G came from the initials of the three founders of the company – Edgerton, Germeshausen and Grier.

EG&G replaces Rockwell

- Conduct of Operations, a formalized, disciplined and accountable approach to conducting work safely, is implemented and a Management and Operations Accountability rule is implemented, making contractors responsible for costs that arise from the negligence or willful misconduct of employees or subcontractors.
- Construction begins on the 130 Trailer Complex west of Building 130 to accommodate a portion of the 1,200 new employees expected to be hired in 1990.
- "Central Avenue" a quarterly news video program, is introduced and mailed to employees' homes.
- The New York Times and The Denver Post publish copyrighted stories that more than 60 pounds of plutonium is in the ductwork at Rocky Flats.
- Ten double-trailer rigs loaded with repackaged "pondcrete" crates leave Rocky Flats for disposal at the Nevada Test Site.
- Groundbreaking begins for construction of a system to remove chemical and radioactive contaminants from groundwater at the 881 Hillside Area, a high-priority cleanup site.
- The United Steelworkers of America, Local 8031, wins the prestigious A.Q. Evans Award for outstanding accomplishment in the field of occupational safety and health.
- Rocky Flats comes to the aid of Limon, Colo., tornado victims when badly needed protective equipment and clothing are delivered to the recovering community.
- Construction is completed on the $2.7 million Radiation Calibration Laboratory Building 790. The lab is one of only a handful of facilities in the U.S. qualified to perform federally certified radiation calibration.
- The Court rules in the Sierra Club versus Rockwell case that Rocky Flats must manage plutonium residues as hazardous waste.
- Wackenhut Services takes over responsibility for protective services at the site.
- President George Bush declares the end of the Cold War as relations ease with the Soviet Union.
- The Defense Nuclear Facilities Safety Board (DNFSB) becomes well known, as members of this board are responsible for making

recommendations to the Secretary of Energy regarding the resumption effort.

- Large tent-like structures are constructed at the east side of the site to house expanding pondcrete disposal operations.

Pondcrete disposal operation

- The Senate Armed Services Committee votes against funding for the Plutonium Recovery Modification Project (PRMP), a $600 million expansion of the Building 371 plutonium-processing facility.

1991 –

- A new dosimetry program is implemented that requires only radiation workers to wear dosimeters.
- At a special ceremony, the American flag originally scheduled to be flown after resumption of operations, is raised in support of those serving in the Persian Gulf.

Rocky Flats workers support the troops in the Persian Gulf

- An Interagency Agreement between DOE, the Colorado Department of Health and the U.S. Environmental Protection Agency is signed, outlining multi-year schedules for environmental restoration studies and remediation activities fully integrated with anticipated national Environmental Policy Act documentation requirements.
- As a result of an 18-month effort, the Complex Reconfiguration Study is officially released by DOE Headquarters. The study specifies several options that would create a Weapons Complex that is smaller, less diverse and less expensive to operate.
- Environmental assessment activities at the 881 Hillside and 903 Pad areas begin.
- A new hand geometry identification/ verification system to enhance the plant's security by tightening entry into the Protected Areas goes into full effect.

New hand geometry identification system enhances site security

- More than 30 members of the local news media tour B559. This is the first time the news media have entered the plant's Protected Area.
- Rocky Flats receives a permit issued by the Colorado Department of Health and required under the Resource Conservation and Recovery Act for treatment and storage of nine hazardous and low-level mixed waste sites. It is the first such permit issued in the country.
- Energy Secretary James Watkins proposes phasing out plutonium operations. Watkins announces transfer of non-nuclear production from the plant and says production of triggers for the W88 warhead is virtually the 'only thing left for Rocky Flats to do.'
- Jefferson County begins organization of the Rocky Flats Local Impacts Initiative, a coalition of local and municipal governments, for the purpose of managing the economic impacts of proposed employee layoffs resulting from the change of mission at the plant.
- A U.S. District Court Judge denies an injunction requested by the Sierra Club that would have kept plutonium activities from resuming until certain mixed residue waste issues are settled.
- The Beryllium Health Surveillance Program officially begins on July 1.
- DOE announces plans to move some production work from Rocky Flats to Kansas City.

1992 –

- In his State of the Union address, President George Bush announces cancellation of submarine-based missiles, including the W88 produced at Rocky Flats.
- Energy Secretary Watkins announces elimination of 4,000 Rocky Flats jobs by 1996 with 4,500 workers to remain on site for a $1 billion cleanup.
- After more than two years of Grand Jury investigation, Rockwell pleads guilty to criminal violations and pays an $18.5 million fine. In the investigation of wrongdoing at

Rocky Flats, it is confirmed that the charges of midnight burnings and experimentation with exotic chemicals are unfounded.

- Several hundred employees, their families and members of the public turn out at a rally on March 28 to show their support for Rocky Flats and appreciation for Rocky Flats workers. The rally is organized by two site maintenance persons and is held on the steps at the State Capitol.
- EG&G signs a five-year lease for 42,000 square feet of office space at Interlocken in Broomfield to house the Environmental Management Division.
- The Rocky Flats Plant Transition Plan is released outlining the process for moving the plant from weapons production to environmental restoration and cleanup.
- DOE reveals that 28 kg of plutonium are in exhaust ductwork in six plutonium buildings.
- Just seven months after Watkins' announcement of pending reductions, 478 Rocky Flats employees leave plantsite through an early retirement program.
- An Economic Development Office is established to examine future uses for the plantsite.
- The Nevada Test Site grants approval for the resumption of low-level radioactive waste shipments from Building 559.

1993 –

- The actual transition from DOE Headquarters Defense Programs to Environmental Restoration and Waste Management begins with the transfer of five buildings and their support facilities; mid-year, most of the remaining buildings are transferred to environmental management.
- On Feb. 8, DOE releases its Five-year Plan for environmental restoration and waste management within the Nuclear Weapons Complex, including future use of the Rocky Flats Plant.
- In June, in anticipation of work force restructuring, a Career Assistance Center is established.
- DOE announces a one-year salary freeze for Fiscal Year 1993 for all salaried contract employees – this is preceded by EG&G's Jan. 6 announcement of a general freeze on merit increases for that current year.
- The first shipment of uncontaminated enriched uranium is sent to the Oak Ridge Plant.
- DOE transfers landlord responsibilities at the Windsite to National Renewable Energy Laboratory (NREL) for use in wind energy research efforts. The Windsite had been used during the 70s and 80s as an energy research center and in recent years as a Wackenhut Services training center for the guard force.
- The Colorado Department of Health and the Environmental Protection Agency form a 29-member Citizens Advisory Board to provide advice on technical and policy decisions related to cleanup and waste management activities at Rocky Flats.
- In mid-November, after nine months of intricate planning, the first shipment of plutonium pits is sent to Los Alamos in New Mexico. The shipment, consisting of 10 pits, is the first such shipment in four years.
- Secretary of Energy Hazel O'Leary announces an "Openness Initiative," a comprehensive plan to make DOE facilities and information more open to the public.
- At a December news conference, announcement is made of the nation's first economic conversion project at a DOE facility – the announcement is made by Governor Romer's office and DOE in cooperation with the CDH and the EPA. The pilot project at Rocky Flats would clean and transition buildings for use by a private, industrial manufacturer to recycle contaminated scrap metals.

1994 –

- Rocky Flats gains approval to resume low-level radioactive waste shipments to the Nevada Test Site for disposal, and the first shipment of waste since 1990 is sent in early February.
- The Supercompactor and Repackaging Facility (SARF) in Building 776 begins full operations.
- Cleanup workers finish emptying 200,000 gallons of sludge from the

Solar Evaporation Ponds

solar evaporation ponds.

- A new name for the site – Rocky Flats Environmental Technology Site – is chosen by a stakeholder panel to more accurately reflect the site's environmental restoration and cleanup mission.
- Secretary of Energy Hazel O'Leary presents a check for $9 million to the site as part of the National Conversion Pilot Project (NCPP), a program designed to make available the unique skills of former defense workers and the technological resources of facilities for commercial ventures.
- An unprecedented collaborative agreement between Rocky Flats and the Los Alamos National Laboratory is signed. The agreement provides for development of unique technical approaches to environmental cleanup and restoration activities at the site.
- The final Rocky Flats Strategic Plan is submitted to DOE Headquarters – the plan is a collaborative site-wide effort with input from employees and stakeholders.
- Construction begins on a new site sanitary landfill in the Buffer Zone.
- Studies of the Preble's Meadow Jumping Mouse that populates the Rocky Flats Buffer Zone becomes news as the tiny creature vies for a spot on the threatened or endangered species listings.
- Twelve Russians visit Rocky Flats as part of the reciprocal inspection program between the U.S. and Russia, and in November, a seven-member delegation from Kazakhstan visits Rocky Flats in an economic conversion information-sharing effort.
- The final shipment of approximately 235,000 pounds of depleted uranium is shipped off site for use at other DOE facilities.
- Construction is completed on the 25,000-square-foot Centralized Waste Storage Facility, Building 906.

1995 –

- The last of the five Solar Ponds that make up Operable Unit 4 are emptied when sludge removal is completed days ahead of schedule.

Workers remove sludge from the Solar Evaporation Ponds

- The Plutonium Working Group Report on Environmental, Safety and Health Vulnerabilities Associated with the Department's Plutonium Storage, a 28-volume, 8,300-page report, is officially released. The report looked at plutonium environmental, safety and health vulnerability issues at DOE facilities complex-wide and listed Rocky Flats as having five of the 14 most vulnerable facilities – Building 771 (No. 1), Building 776 (No. 2), Building 779 (No. 7); Building 707 (No. 8), and Building 371 (No. 9).
- At the Rocky Flats Summit (a meeting of community activists, regulators, state officials and Rocky Flats staff and oversight group members), the slogan, "Make it safe. Clean it up." is suggested.
- Twenty-one drums of contaminated soil from the 881 Hillside are shipped to Envirocare of Utah. This marks the first time in five years that mixed waste from the site is shipped off-site for disposal and is the first time Rocky Flats ships radioactive waste of any type to a commercial facility.
- In April, announcement is made of the award of the Rocky Flats Performance-Based Integrating Management contract to Kaiser-Hill Company effective July 1.
- Kaiser-Hill offers a proposal to DOE to release 4,100 acres of the site's Buffer Zone for general public access.
- Seventy-five pallets of protective clothing and safety equipment are donated as part of a Denver-area relief shipment to assist rescue workers at the site of the bombing of the Oklahoma City, Okla., Federal Center building.
- The largest layoff in the history of Rocky Flats occurs when 1,226 employees leave the site and Kaiser-Hill takes over the facility.
- Kaiser-Hill and DOE kick off interim end state, a project calling for an aggressive approach to consolidation of material, stabilization and cleanup of the site, actively involving stakeholders throughout the process.
- The project outlining the path the site will take to closure takes on a new name – Accelerated Site Action Project (ASAP).
- A new automated system for employees entering the site is put in place. The automated system requires each employee to have a key tag to authorize access to the site.
- Workers complete venting of 2,696 solid residue drums nine months ahead of schedule. The residue drums are vented to prevent pressurization and flammable gas accumulation and as a worker safety precaution.

1996 –

- As part of the DOE's Economic Conversion Plan, DOE sells the Oxnard Facility in California. For more than 10 years, the metal-working and welding facility had produced

high-precision forgings from stainless steel and other used metals to support Rocky Flats' manufacturing processes.

- In a push to consolidate all operations to the site, five off-site leases are terminated – Boulder, Building 030; Denver West, Building 051; McIntyre, buildings 013, 014 and 015.
- Rocky Flats is the first Department of Energy site in the Complex to receive and operate prototype equipment for a Plutonium Stabilization and Packaging system (PuSPS).

PuSPS under contruction

- Kaiser-Hill signs a Decontamination and Decommissioning (D&D) Agreement with the United Steelworkers of America, Local 8031, providing the classifications and other terms and for the Steelworkers to perform cleanup activities in addition to production and maintenance work.
- U.S. DOE Assistant Secretary for Environmental Management Alvin L. Alm issues a memorandum directing all EM sites, including Rocky Flats, to develop draft 10-year plans to serve as the unifying DOE EM Program direction which would drive future budget decisions, sequencing of projects and actions taken to meet EM Program objectives. And Rocky Flats develops a draft plan to ensure consistency with the final RFCA and the site's own cleanup plan known as the ASAP.
- The final Rocky Flats Cleanup Agreement (RFCA) and the Rocky Flats Vision are signed in Governor Roy Romer's office at the State Capitol in Denver. The RFCA is the result of more than two years of negotiations among the U.S. Department of Energy, the Colorado Department of Public Health and Environment, the U.S. Environmental Protection Agency and the lieutenant governor and describes the process to be followed to accomplish the vision and defines the legal relationship between the agencies that regulate the site.
- Two fuel oil tanks that once held more than 2.3 million gallons of fuel oil on site, are demolished. The tanks, constructed in the mid-50s store No. 6 fuel oil that was initially used as the fuel source for generating steam at the site steam plant. Later, the oil was retained as a backup fuel source.

One of two fuel oil tanks that once held more than 2.3 million gallons

- The walls come down on Building 889. A former uranium and beryllium waste repackaging facility, it is the first radioactively contaminated structure at Rocky Flats to be demolished.
- Work is completed on the removal of

Building 889, the first radioactively contaminated structure to be demolished

contaminated soils from a small area of ground at Trenches 3 and 4, two of the top 10 hazardous substance sites and used in the past primarily for the disposal of radioactively contaminated sanitary sewage sludge.

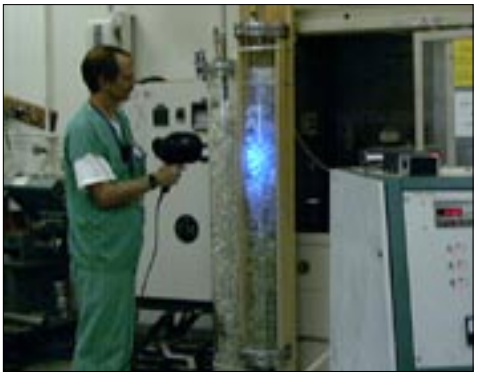
- DOE Rocky Flats Field Office

Contaminated soil remediation

Manager Jessie Roberson and Kaiser-Hill President Bob Card sign the first ever Authorization Agreement under 'work-smart' standard in a Hazard Category II facility.

1997 –

- Removal of raschig rings in Building 886 is completed when 120,000, or 20 tons, of rings are "hand-scooped" from 110 drums and sent to the Nevada Test Site for disposal.



Raschig rings in columns

- Congressman David Skaggs announces increased funding of $632.1 million to expedite the work of moving plutonium off site and taking the buildings down. With this approach, it is hoped the cleanup can be completed in 2006 rather than 2010.
- Secretary of Energy Federico Pena announces that Rocky Flats will be the first large-scale accelerated closure pilot project for the DOE's Weapons Complex.
- Workers complete the treatment of more than 700 cubic yards of chemically contaminated soils from a former waste drum storage site known as the Mound.

Mound waste drum storage site cleanup

- Automated access to the Protected Area through PACS 1, 2 and 3 is implemented, requiring personnel to enroll in the automated system before entry is permitted into the Protected Area.
- Final shipment of saltcrete, a cemented processed waste salt containing small amounts of radioactive and hazardous contamination, is shipped to Envirocare of Utah.
- A unique 62-ton steel vault of state-of-the-art radiation counting equipment in Building 123 is donated and moved to a biophysics facility in the Russian Ural Mountains. The vault is unique because of its 6-inch steel walls, ceiling and floor that are manufactured from pre-World War II steel, which is free of contamination from fallout and modern steel smelting processes and with liners of lead, tin and zinc that filter out natural radioactive sources and cosmic radiation.

Radiation counting equipment was donated to a biophysics facility in Russia

1998 –

- As part of a "Return to the Nuclear Crossroads" conference weekend, approximately 200 protesters gather at the traffic island at the west gate to commemorate the anti-nuclear protests of 1978.
- In January, the site is formally added to the National Register of Historic Places.
- At a meeting between Energy Secretary Federico Pena, Acting Assistant Secretary for Environmental Management Jim Owendoff, and Acting Deputy Assistant Secretary for Site Operations Gene Schmitt, the new name "Accelerating Cleanup: Paths to Closure" is announced. Names previously used were 2006 Plan and the Ten-Year Plan.
- A wrecking crew begins bulldozing the 19,000-square-foot Building 123. The building was one of the original buildings constructed at Rocky Flats and was a former medical research facility.

Building 123 demolition

- The site receives its much-awaited certification from the U.S. Department of Energy's Carlsbad Area Office, granting Rocky Flats authority to prepare radioactive transuranic waste for disposal at the Waste Isolation

Example of how contaminated waste is packaged for disposal

Drums in a TRUPAC II container

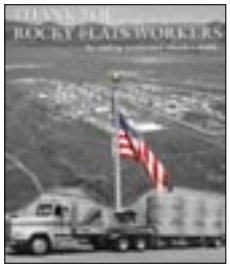
Pilot Plant (WIPP) and to use the TRUPACT-II container for shipments. Rocky Flats had been preparing for the WIPP certification process since October 1995.

- Workers safely process the last high-level plutonium solutions, assaying the resulting oxide and placing it in storage. A total of 4,200 liters of plutonium solutions, including 780 liters of high-level solutions, are processed using a caustic waste treatment system which precipitates the plutonium from the liquid using potassium hydroxide.
- An estimated 2,800 site employees and their guests attend Family Day activities. It is the first time a Family Day has been held since 1978.
- Workers complete excavation of Trench 1, a former depleted uranium waste burial site and the largest and most complex environmental cleanup project to date at Rocky Flats.

Trench 1 was the most complex environmental cleanup project to date

1999 –

- Rocky Flats becomes the first major DOE site to complete Y2K renovation and implementation of mission-essential systems, two months ahead of schedule.
- Workers complete removal of a 90-foot high exhaust stack from the Building 779 cluster, the first plutonium building complex to undergo decontamination and demolition at the site.
- As workers excavate a trench to keep contaminated water from flowing into Rock Creek, a backhoe dredges up fossils identified by the Denver Museum of Natural History to be a 1.2 million-year-old horse.
- Workers meet another major milestone in their plan for accelerated closure of the site by making the last shipment of "pondcrete." In all, 9,225 cubic meters of pondcrete (the equivalent of 43,000 55-gallon drums) are safely shipped to Envirocare, a licensed disposal facility in Utah, for treatment and disposal.
- Seven municipalities that surround Rocky Flats form the Rocky Flats Coalition of Local Governments (RFCLoG) to give local governments greater leverage over the federal cleanup of Rocky Flats.
- Secretary of Energy Bill Richardson visits Rocky Flats to announce creation of the Rock Creek Reserve, an 800-acre parcel of land in the northwest part of the site's Buffer Zone, that will be turned over to the U.S. Fish and Wildlife Service.
- Kaiser-Hill delivers the 2006 Closure Project Baseline to DOE. The Baseline maps out the site's next six years – the scope, cost and schedule of activities that will result in the safe closure of Rocky Flats four years ahead of the 2010 closure date.
- The site Safety Analysis Report (SAR) Authorization Agreement governing the many complex activities that must take place to safely close the site is signed.
- Rocky Flats becomes the third U.S. DOE site to ship transuranic radioactive waste to the Waste Isolation Pilot Plant (WIPP). The first shipment contained 26 drums of non-mixed transuranic waste (clothing, rags, residues and debris) in three TRUPACT-II shipping containers.
- Secretary of Energy Bill Richardson announces that all plutonium pits, the primary component for the nation's nuclear weapons historically provided by Rocky Flats, have been removed from the site and safely shipped.
- Secretary Richardson reaffirms a deadline of 2006 for closing the site and signs an agreement formalizing the date when he meets in Denver with Governor Bill Owens and governors of Washington, South Carolina and Tennessee.



TRU waste is transported from Rocky Flats to the Waste Isolation Pilot Plant

- On Nov. 1, Energy Secretary Richardson is on hand to mark the demolition of Building 779, the first-ever demolition of a major plutonium facility anywhere in the United States.
- Employment for the Kaiser-Hill Team at the end of 1999 is 3,114.

Secretary of Energy Bill Richardson helps celebrates the first demolition of a major plutonium facility in the United States, B779

Building 779 demolition.

the 2000s

. . . Stock values decline, the Federal Reserve Board cuts key interest rates several times, and the U.S. unemployment rate skyrockets to numbers unheard of since the early 80s.

. . . The Chernobyl Nuclear Power Plant in Ukraine, site in 1986 of the world's most serious nuclear accident, is officially decommissioned.

. . . Dale Earnhardt Sr., the most successful and popular driver in stock-car racing, dies in a crash on the final turn of the final lap of the Daytona 500.

. . . A wealthy chief executive of Wilshire Associates, a financial consulting company based in California, becomes the first tourist in space when he offers Russia's Aviation and Space Agency $20 million to take a ride to the International Space Station.

. . . The long-time business relationship between Firestone and Ford ends when Firestone announces that it will no longer sell tires to Ford. At Ford's request, Firestone had recalled 6.5 million tires used on Ford Explorer sport utility vehicles, citing safety concerns.

. . . In 2001, the Colorado Avalanche defeat the New Jersey Devils to will the Stanley Cup.

. . . On Sept. 11, 2001, the U.S. is the victim of a surprise attack when terrorists hijack four airplanes from East Coast airports. Two of the planes crash into the twin towers of the World Trade Center in New York and one into the Pentagon in Washington, D.C. The fourth airplane crashes into a field in Somerset County, Pa., after passengers attack the hijackers. More than 3,000 peopleare believed to be dead in the assaults which U.S. President George W. Bush calls "acts of war." That death toll is twice as many as Pearl Harbor.

2000 –

- Members of United Government Security Officers of America, Local No. 1, changes affiliation to Rocky Flats Security Officers Independent Union, Local No.1.
- Secretary of Energy Bill Richardson announces a DOE agreement with Kaiser-Hill Company on a unique closure contract focused on the safe cleanup of the site by Dec. 15, 2006. The contract is valued at approximately $4 billion.
- An improved safety program, called Integrated Safety Management (ISM), is implemented to drive safety into every aspect of work performed on site.
- In March, the Emergency Operations Center at the site is activated in response to 101-mph gale-force winds. Some buildings experience power bumps and false alarms and a tractor-trailer truck is toppled near Building 130.
- The first shipment of classified plutonium metal parts from the site safely arrives at the Savannah River Site in South Carolina. At Savannah River, the metals are immobilized in glass through a process called vitrification and then burned as mixed oxide fuel in commercial reactors.
- Under the new contract, Kaiser-Hill vice presidents assume full responsibility of site projects taking on the role of project managers and program directors for the projects and support organizations.
- The Rocky Flats Cleanup Agreement Stakeholder Focus Group meets for the first time and lays out an agenda for the next several months. The new group is formed to give citizens a chance to influence environmental restoration decisions at the site.
- An 11,000-page Closure Project Baseline document is released on CD-ROM and announces that cleanup will cost only $4.4 billion and take only six more years.
- U.S. Senator Wayne Allard and U.S. Representative Mark Udall announce a joint effort to transform Rocky Flats into a wildlife refuge. The proposed bill in Congress calls for 6,400 acres of land to become a refuge after cleanup and closure.
- A new, re-usable low-level waste shipping package joins the fleet of waste containers leaving the site. Called the "Nine Pack," the container provides the capability to ship low-level waste packaged in plywood boxes.

2001 –

- The Rocky Flats United Steelworkers of America, Local 8031, and

Kaiser-Hill sign an unprecedented agreement making the Steelworkers the "workforce of choice" through site closure in 2006.

A Cerium rinse removes radiological contamination from stainless steel

Workers process the first can through PuSPS

- A new process called cerium rinse is piloted in the 371/374 Project. The process uses Cerium IV, a powerful oxidizer, and nitric acid to remove radioactive contamination from stainless steel surfaces.
- The first can of unclassified plutonium metals is processed successfully, capping several years of design, installation and operational obstacles. The Plutonium Stabilization and Packaging System (PuSPS) will be used to package an estimated 1,500 cans of plutonium metals and oxides for interim storage at the Savannah River Site.
- A state-of-the-art crate counter is delivered to its new home on a pad outside Building 664. The 72-ton, mobile, passive-active crate counter will be used to characterize both low-level and TRU waste and is part of an ongoing effort to increase characterization capability to maximize waste shipments.
- The Rocky Flats Foundation conducts a fund drive to help the victims of the Sept. 11 terrorist attacks. More than $52,000 is raised through employee contributions and corporation donations.
- Demolition of PACS 1 takes place. That demolition, along with the demolition of PACS 3 and the removal of thousands of feet of razor wire-topped fencing, radically changes the way employees and material are moved around the 700 Complex. All plutonium is consolidated into Building 371 to allow for the Protected Area to shrink around the 371 Complex, opening 150 acres for uncleared access.
- Three 45-foot-tall guard towers that once marked the boundary corners of the Perimeter Security Zone are demolished with explosives.

Guard tower comes down

- On Dec. 17, Senator Wayne Allard and Representative Mark Udall hold a press conference announcing the passage of legislation to turn Rocky Flats into a wildlife refuge following the completion of the Rocky Flats Closure Project.
- The site's Central Computer Facility and Network Operations Center is relocated from Rocky Flats to the Denver Federal Center to make way for D&D work at the site.

2002 –

- Vehicle search stations are in operation on the east and west sides of the site. Searching vehicles becomes a common occurrence since the events of Sept. 11, 2001.
- To help streamline building D&D on the south side of the site and reduce landlord costs, Kaiser-Hill moves about 400 employees off site to an office building near Interlocken Business Park, a 95,000-square-foot building in Mountain View Corporate Center.

Mountain View building

- In a unique media opportunity, a worker with a small camera mounted inside his protective clothing makes an entry into a highly contaminated "infinity" room to begin performing decontamination work in Building 771.

Infinity Room in B771

- Building 850 is successfully demolished. The nearly 40,000-square-foot, two-story structure formerly used as a finance and administration building, is leveled in a matter of days.

- The Building 452 seven-trailer complex is demolished and removed, clearing another wide section of Area 1 along Central Avenue.
- The site celebrates 50 years in operation when DOE and Kaiser-Hill hosts Family Day 2002, a special event to recognize the contributions of Rocky Flats workers during the past 50 years. Approximately 3,300 people attend the event.
- Tents are erected on the 903 Pad to prevent outside contamination during removal of radioactive contaminants from under the pad. The tents will be moved more than 20 times to remove the asphalt pad and any contamination underneath.

Workers conduct sampling on the 903 Pad

- The 776/777 Project begins removal of the Supercompactor and Repackaging Facility (SARF). The 15-ft. tall SARF is the first glovebox designed to compact TRU waste drums and weighing 90,000 pounds is the heaviest and one of the largest pieces of equipment in Building 776.
- Workers set a new record for radioactive waste shipments, safely shipping off site more than 158,000 55-gallon drum equivalents during Fiscal Year 2002. For the third year in a row, Rocky Flats is the top shipper of transuranic waste to the Waste Isolation Pilot Plant near Carlsbad, N.M., and for the fourth consecutive year ships more low-level waste to the Nevada Test Site than any other DOE site.
- The last of 240 gloveboxes in Building 771, once called the "most dangerous building in America," are safely removed and packaged by workers for off-site shipment and disposal.

2003 –

- For three days in March, all but essential personnel are told not to report to work, when blizzard-like conditions dump anywhere from 2-to-6 feet of snow along the Front Range. The site is blanketed with nearly 48 inches of snow during the course of the storm – the largest snow storm in Rocky Flats' history.
- Modifications to the Rocky Flats Cleanup Agreement – under which the Department of Energy will clean up the site to significantly higher levels in exchange for leaving most subsurface contamination in place – are agreed to by the EPA and the CDPHE on June 5. The agencies had been working on the changes for more than two years, finally agreeing on a proposal that would lower the residual soil action level for plutonium to 50 picocuries per gram – more than 13 times lower than the current action level of 651 picocuries – down to 3 feet. However, contamination below 3 feet would be left in place unless it posed a reasonable chance of migrating to the surface or into the groundwater.
- The Building 371 "ring crew" finishes removing the last of more than 600,000 pounds of contaminated raschig rings from 75 tanks in 371. The crew completes the two-year, high-hazard assignment with no injuries or personnel contaminations. Raschig rings are small, glass rings that contain borosilicate, a material that absorbs neutrons. Rings are placed in tanks and other vessels to prevent a nuclear criticality from occurring when actinide liquids are introduced. Building 371 contained the largest raschig ring tanks on site, some measuring 7-feet in diameter by 19-feet high.
- On July 1, the 1,000th shipment of transuranic waste safely arrives at the Waste Isolation Pilot Plant in New Mexico. It is the 1,821st shipment to arrive at WIPP. The shipment contained 11.4 cubic meters of waste in three TRUPACT-II shipping containers, bringing the total number of cubic meters disposed of at WIPP to 13,097.
- In July, the last bits of weapons-grade plutonium are packaged in DOE 3013 cans for shipment to the Savannah River Site in South Carolina.
- Building 371's Material Access Area is closed enabling the offical closure of the Protected Area around the 371 complex.
- Ambassador Linton Brooks, DOE undersecretary of the National Nuclear Security Agency, announces to an audience of 200 employess and special guests, that all weapon-usable material is officially off site.
- Rocky Flats transitions to a demolition zone as D&D becomes the site's primary mission.