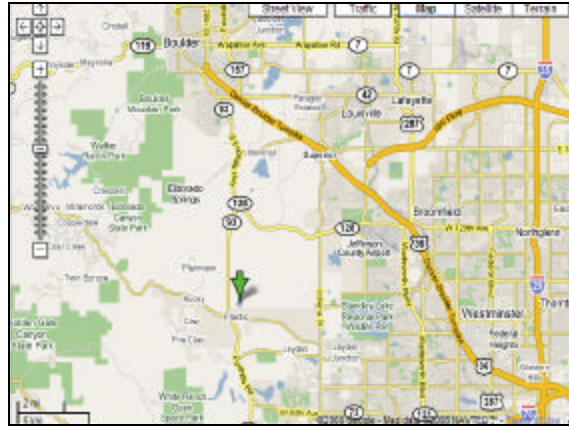


Rocky Flats Colorado

Nuclear Weapons Production
Facility 1952 - 1988



Plant Purpose

- Opened in 1952
- 15 miles northwest of Denver
- Built to produce plutonium triggers or pits for hydrogen bombs
- Pits sent to Pantex Plant in Amarillo, Texas for assembly

Plutonium Background

- Used in nuclear power plants – mixed with uranium
- Used in most nuclear weapons – takes about 17 pounds
- Extremely toxic – inhaling a few micrograms causes lung cancer
- Burns easily

Operation in 1950s

- 1957 glove box caught on fire – over \$800,000 worth of damage
- Incinerator installed for plutonium contaminated waste was installed in 1958
- Leak detected in nearby field in 1959 – was not reported to public until 1970 when airborne particles reached Denver
- Much of the waste was taken to the Idaho National laboratories



Storage Leaks 1967

- Oil and lubricant waste containing plutonium stored in barrels on Pad 903
- 3,500 barrels many found to be leaking
- Contaminated soil was blowing off the site
- Pad was asphalted over to contain the leak
- Many barrels shipped to Idaho

Pad 903 Leaking Barrel



1969 Fire

- Plutonium will spontaneously ignite
- Caught on fire in glove box
- Fire spread do many glove boxes
- Most costly industrial accident in US
- 2 years to clean up



Buffer Zones

- 1972 Congress authorized purchasing 4,600 acres as a buffer zone
- 1973 Tritium discovered at Walnut Creek and Great Western Reservoir
- Elevated plutonium levels at Pad 903
- 4,500 additional acres were purchased

Public Involvement

- 1975 Rockwell replaced Dow as general contractor
- 1978 protestors took to court
- Court case revealed 1967 lead of storage barrels
 - 5000 gallons of oil
 - 30 million disintegrations per minute
 - 15 million times higher than the state standard
 - Contaminated sand blown as far as Denver

Plant Safety

- 1985 celebrated 25,000,000 safe hours
- 1986 received National Safety Council Award of Honor
- 1988 DOE issued a report critical of plant safety
- 1989 EPA and Colorado Department of Health posted full-time plant monitor
- Plutonium production was suspended due to safety violations

Employ Informants

- Employes informed FBI about unsafe conditions
- FBI started clandestine flights noticed incinerator used late into the night
- FBI raided the facility found numerous violations – massive contamination of water and soil

EG&G Replaces Rockwell

- EG&G starts cleanup plan
- Sierra Club wins case forcing Rocky Flats to handle plutonium waste as hazardous waste
- 1992 all nuclear weapon development stopped so there wasn't a need for triggers.
- DOE found 61 pounds of plutonium in exhaust ductwork

Rocky Flats Cleanup

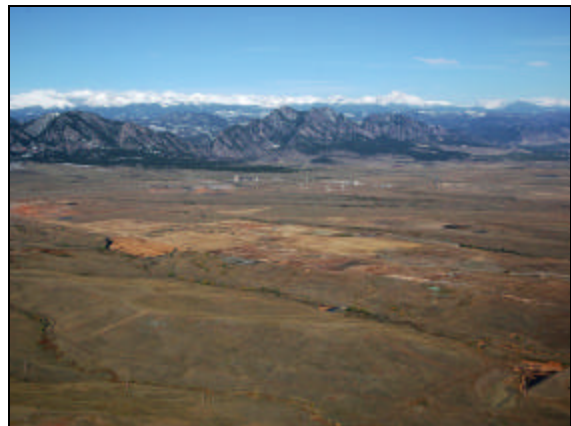
- Name changed to Rocky Flats Environmental Technology Site
- Waste shipped to Nevada Test Site, Envirocare company in Utah, and the WHIP site in New Mexico
- Rockwell and DOW lost class-action suit
 - DOW to pay \$177 million in damages and \$110 million in punitive damages
 - Rockwell to pay \$177 million in damages and \$89 million in punitive damages

More Rocky Flats Cleanup

- Biggest EPA superfund cleanup in history of country
- Started in 1995 finished in 2006
- Cleanup cost approximately \$7 billion
- 2,000 Truckloads of waste shipped to WIPP
- 1,900 containers of plutonium shipped to Savannah River
- 21 tons of weapons-grade nuclear material removed

Rocky Flats National Wildlife Refuge

- Too radioactive for permanent habitation
- Turned into a wildlife refuge
- Partially opened in 2007
- Completely open by 2012
- Abundant wildlife already there



HOMEWORK

Read about Bhopal India and Union Carbide

Read About Rocky Flats