

Rocky Flats Plant History & Information Used to Process EEOICPA Claim Requests



*presented by
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Archives and Information Management Team*



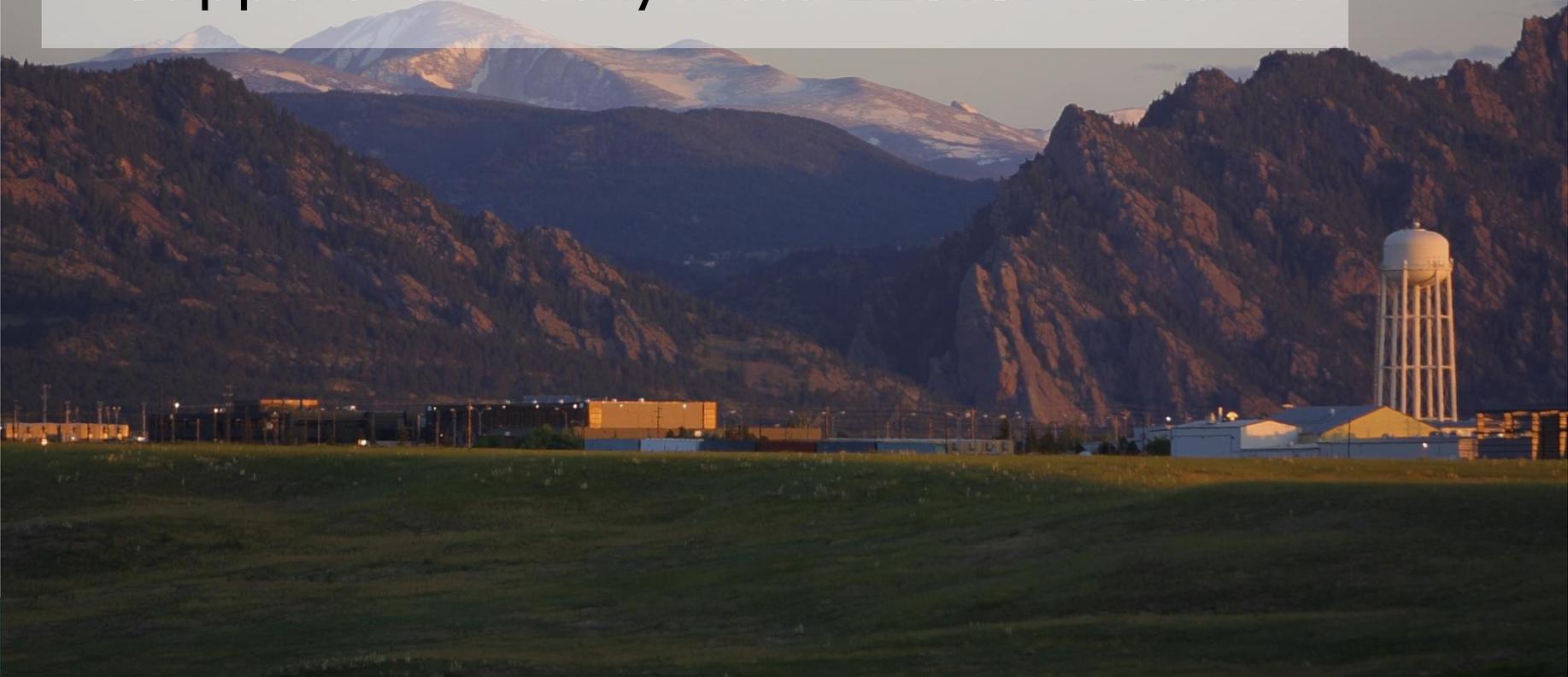
U.S. DEPARTMENT OF
ENERGY

Legacy
Management

April 16, 2014

Overview

- ▶ History of the Rocky Flats Plant
- ▶ Rocky Flats Record Holdings
- ▶ Support for Rocky Flats EEOICPA Claims



Background

- ▶ In 1942, the U.S. began developing technology to produce nuclear weapons under the U.S. Army Corps of Engineers' Manhattan Engineer District
 - Known as the Manhattan Project
 - Facilities established to develop nuclear weapons
 - In 1945, the first atomic bombs were used to end World War II
 - “Little Boy” dropped on Hiroshima, Japan
 - “Fat Man” dropped on Nagasaki, Japan



Background (cont'd)

- ▶ After World War II ended, there was still a threat of nuclear weapons in enemy hands
 - The Soviet Union had begun developing its own atomic bomb
 - As tensions grew between the U.S. and the Soviet Union a new “war” began known as the Cold War
- ▶ In 1946, nuclear weapons development and production was transferred to a newly created civilian organization called the Atomic Energy Commission (AEC)
- ▶ AEC developed and managed a network of research, manufacturing, and testing sites
 - Focus was on stockpiling an arsenal of nuclear weapons



Nuclear Weapons Complex

Nuclear Weapons Production Processes

Step	Process	Major Sites
1	Uranium Mining, Milling, and Refining	Uranium Mill Tailing Remedial Action Project sites, commercially-owned mines and mills, government-owned mills, foreign suppliers, Fernald, Middlesex, Weldon Spring, Oak Ridge, Paducah, Portsmouth
2	Isotope Separation	Oak Ridge, Paducah, Portsmouth, Savannah River
3	Fuel and Target Fabrication	Savannah River, Fernald, Ashtabula, Hanford, Oak Ridge
4	Reactor Operations	Hanford, Savannah River

Nuclear Weapons Complex

Nuclear Weapons Production Processes (cont'd)

Step	Process	Major Sites
5	Chemical Separations	Hanford, Savannah River, Idaho
6	Weapons Component Fabrication	Rocky Flats , Hanford, Los Alamos, Oak Ridge, Mound, Savannah River
7	Weapons Operations	Pantex, Oak Ridge, Mound, Kansas City, Pinellas, Sandia
8	Research, Development, and Testing	<u>National Laboratories</u> : Los Alamos, Lawrence Livermore, Sandia (New Mexico and California) <u>Test Sites</u> : Nevada Test Site, Bikini and Enewetak Atolls; Christmas and Johnston Islands, Tonopah Test Range, Salton Sea Test Base

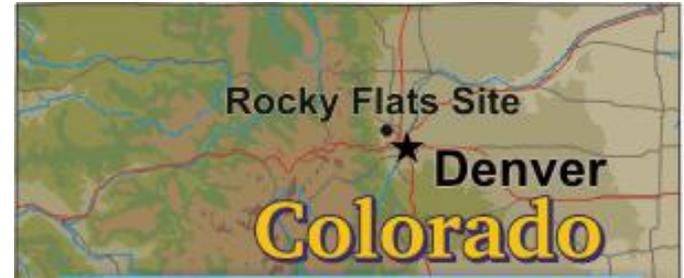
Rocky Flats Plant Beginnings

- ▶ In 1950, AEC initiated a defense project to build a new facility
- ▶ Site selection was codenamed “Project Apple” and had the following criteria:
 - West of the Mississippi River
 - North of Texas
 - South of Colorado’s northern border
 - East of Utah
 - Moderate, dry climate
 - A population of at least 25,000 people
 - Attractive surroundings for future workers
 - Accessibility from Los Alamos, Chicago, and St. Louis



Site Selection

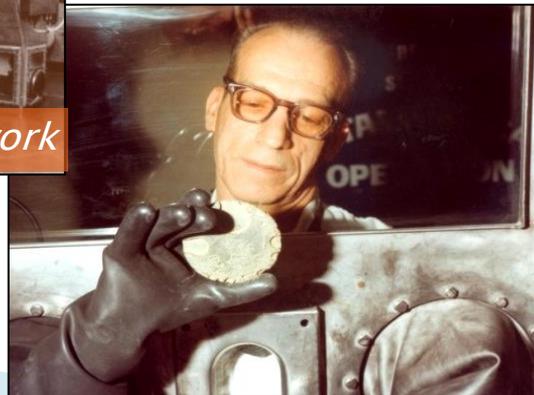
A site near Denver, Colorado was selected in 1951 for a new facility named the *Rocky Flats Plant* satisfying climatic criteria, proximity to a metropolitan area with an ample labor market and appealing scenery to aid in recruitment of scientists.



The 6,500-acre site is located 16 miles northwest of Denver on a mesa between Boulder and Golden, Colorado along the Rocky Mountain Front Range

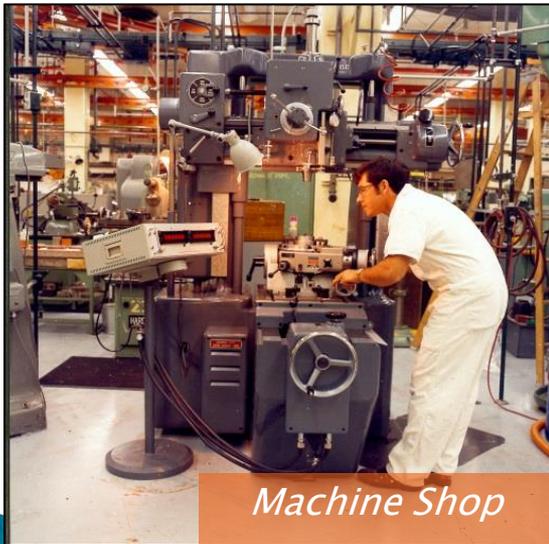
Mission (1952 to 1994)

- ▶ Primary Mission: Production of nuclear and nonnuclear weapons components for the nation's nuclear arsenal
 - The key component produced was the plutonium pit, commonly referred to as the “trigger” for nuclear weapons



Mission (1952 to 1994) (cont'd)

- ▶ Additional plant activities
 - Manufactured components from uranium, beryllium, stainless steel, and other materials
 - Processed plutonium for reuse



Rocky Flats Production Activities

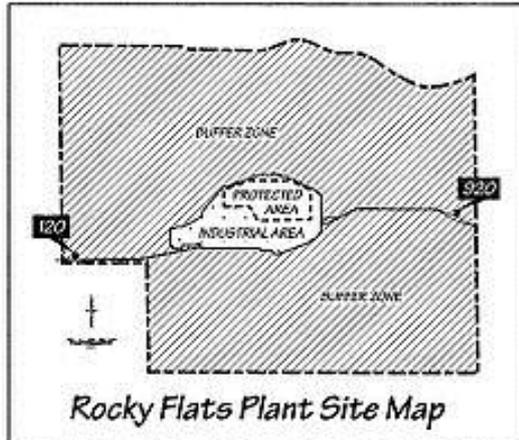


Pu button



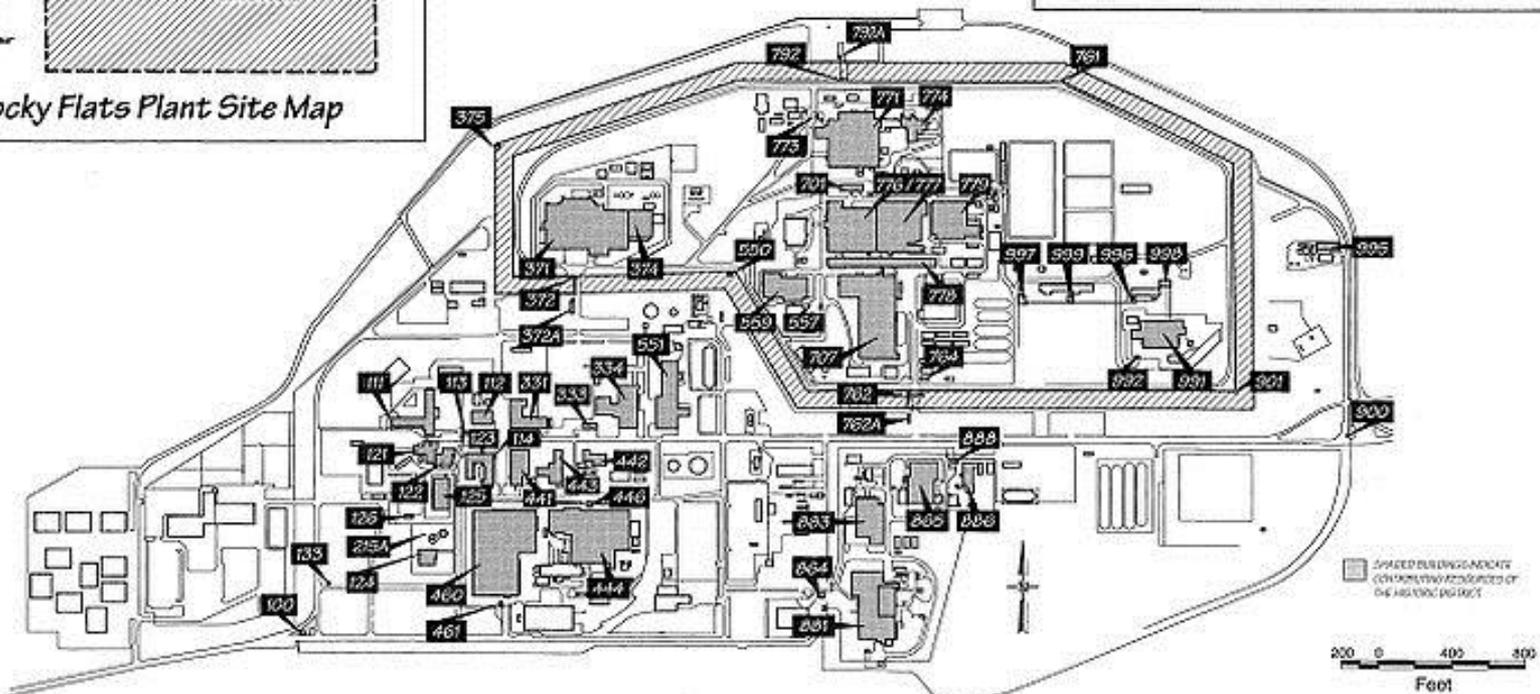
- Plutonium Fabrication and Casting
- Plutonium Recovery
- Depleted Uranium Operations
- Enriched Uranium Operations
- Beryllium Operations

THE ROCKY FLATS PLANT HISTORIC DISTRICT



By 1992, the Plant consisted of approximately 430 structures that included 150 permanent buildings, 50 temporary trailers, and other smaller structures, temporary structures, or parts of larger buildings. Of these permanent buildings, 64 are considered contributing properties to the Rocky Flats Plant historic district as the facilities were directly associated with the mission of the plant. These buildings include the original plant built from 1951 to 1953, all of the major production facilities, the research and development buildings, the health and safety facilities, and the security structures. All of the buildings are located within the industrial area except the guard facilities at each site entrance.

BUILDING LEGEND	
Production Work	371, 444, 460, 701, 707, 771, 776/777, 881, 883, 901, 906, 907, 908, 909
Research and Development	125, 126, 558, 773, 865
Worker Safety/Health	112, 714, 122, 123, 331, 442, 778, 886
Security	100, 111, 113, 120, 121, 183, 372, 372A, 375, 440, 446, 461, 550, 557, 781, 782, 782A, 784, 773, 792, 792A, 864, 888, 900, 901, 902, 902
Administration	411
Infrastructure	184, 215A, 443, 551, 905
Maintenance	333, 334
Production Waste Treatment	374, 774



Prepared by: Margaret M. Lewis, for Rocky Flats Environmental Management, Inc., 1998
 INTERIM PLAN SUPPORT OFFICE / DENVER
 1530 SOUTH WASHINGTON STREET / DENVER, COLORADO 80202

UNIVERSITY OF COLORADO
 HISTORIC ARCHIVES
 DENVER
 SHEET
 4 - 17

COLORADO
 ROCKY FLATS PLANT
 SOURCES: RECORDS AT THE ROCKY FLATS PLANT HISTORIC DISTRICT / DENVER
 JEFFERSON COUNTY

GOLDEN VILLAGE
 1530 SOUTH WASHINGTON STREET, DENVER, COLORADO 80202

Significant Site Buildings (707)

- ▶ The 700 Buildings consolidated plutonium operations and became known as the 'hot side'
- ▶ Building 707 – Plutonium Manufacturing Facility



B707 X-Y Retriever Pu Storage Vault

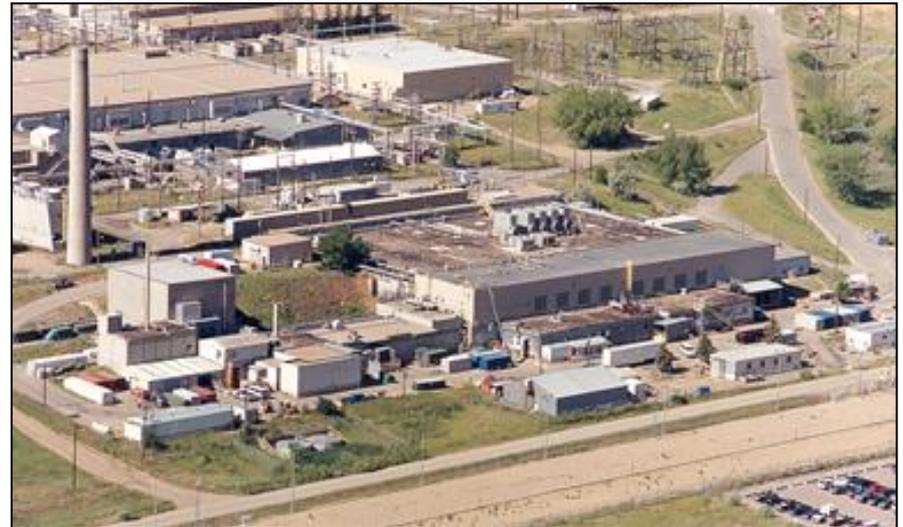
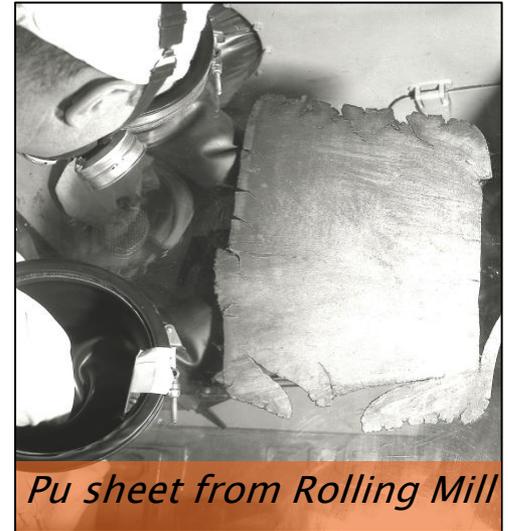


B707 Pu Storage Area



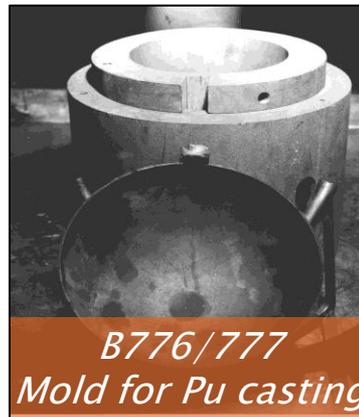
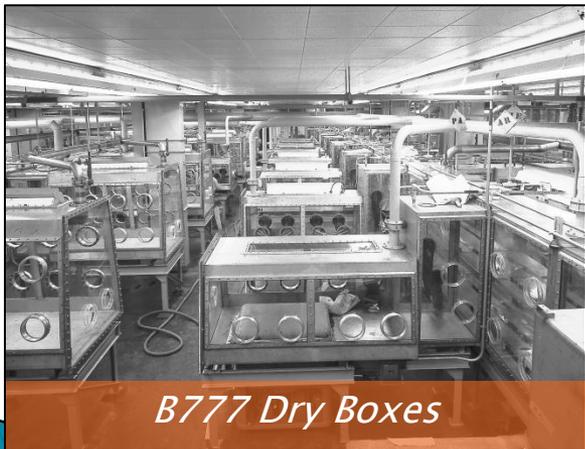
Significant Site Buildings (771 / 774)

- ▶ Building 771 / 774 – Plutonium Recovery and Fabrication Facility
 - 1957 – A fire occurred in Building 771 resulting in building contamination
 - Once labeled as the most dangerous building in America



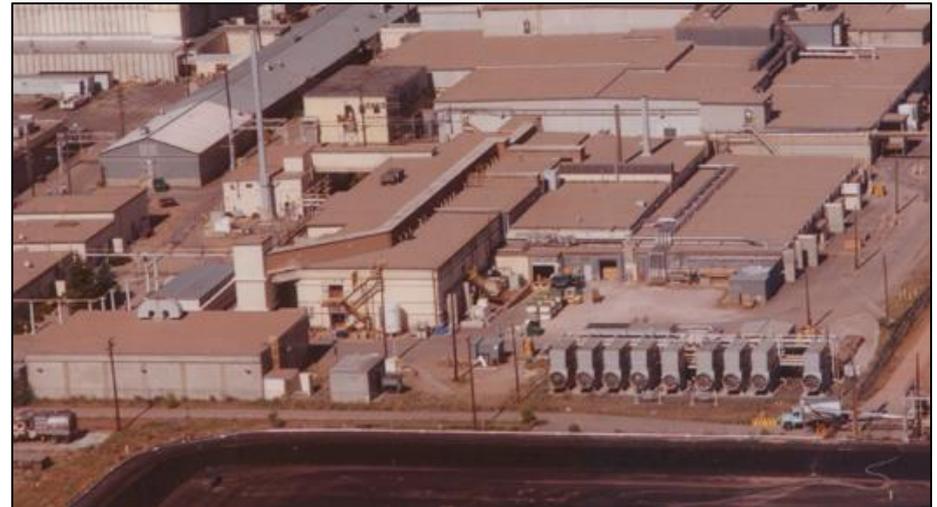
Significant Site Buildings (776/777)

- ▶ Building 776/777 – Plutonium Processing Facility
 - 1965 – A fire occurred in Building 77 attributed to spontaneous ignition of plutonium chips
 - 1969 – A major fire occurred in Building 776/777 gloveboxes



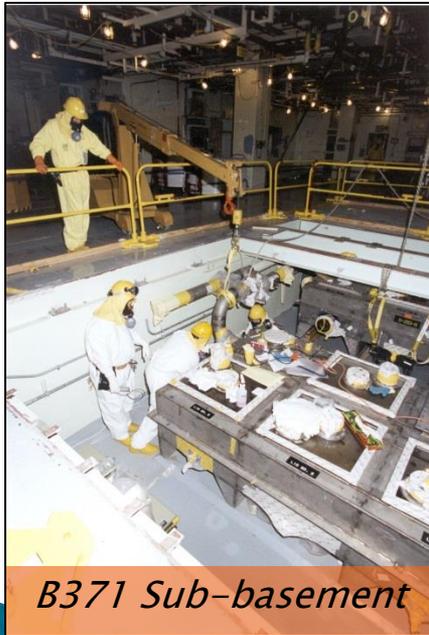
Significant Site Buildings (779)

- ▶ Building 779 – Plutonium Laboratory

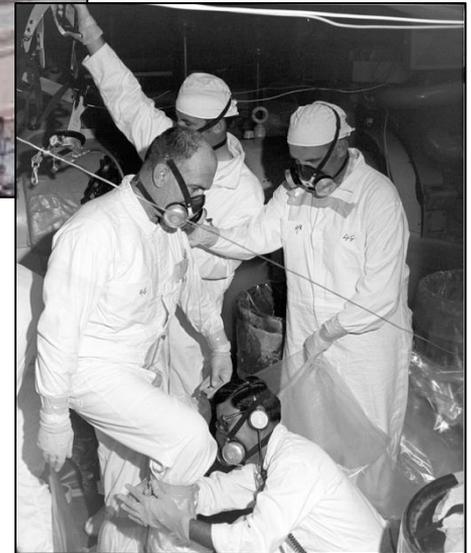


Significant Site Buildings (371 /374)

- ▶ Building 371 /374 – Plutonium Recovery Facility

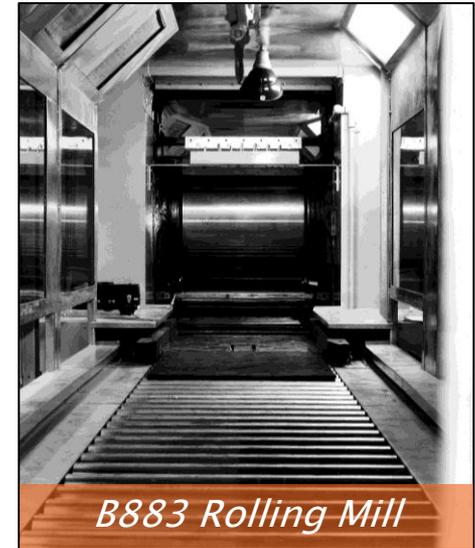
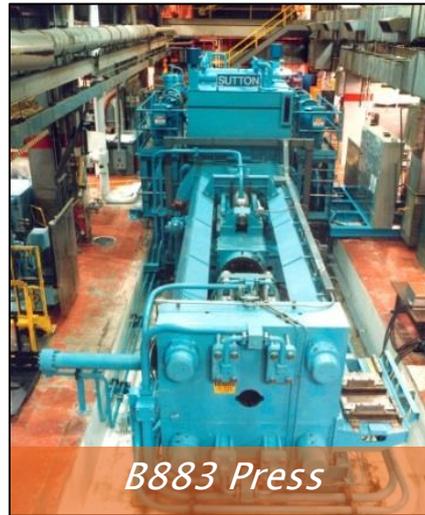
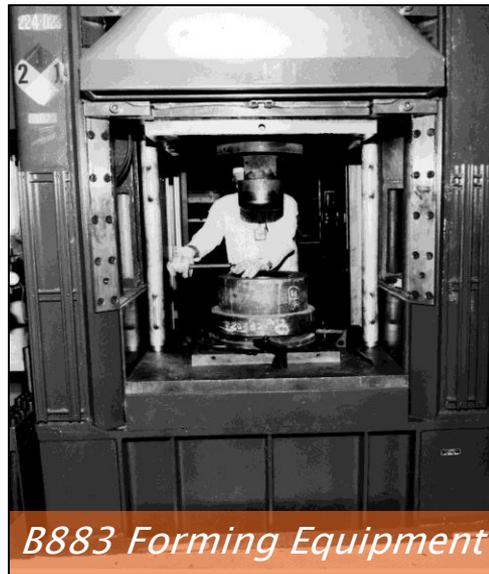


B371 Sub-basement



Significant Site Buildings (881 / 883)

- ▶ Building 881 / 883 – Uranium Rolling and Forming Operations (enriched and depleted uranium operations)



Other Significant Site Buildings

- ▶ Building 444 – Non-Nuclear Production Facility (beryllium operations)
- ▶ Building 559 – Plutonium Analytical Laboratory

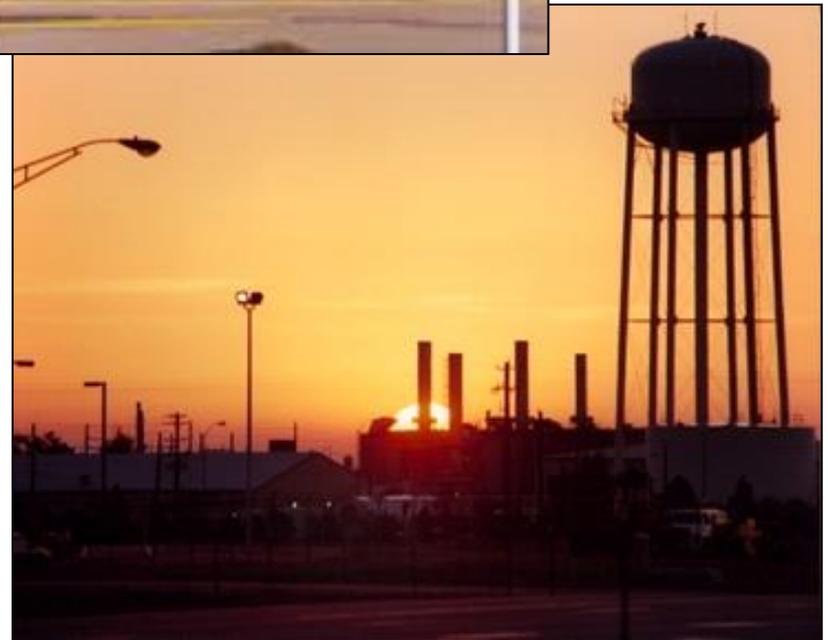


Protests – Part of the History



Support for the Rocky Flats Plant

- ▶ Pro-nuclear rallies were also held
- ▶ Citizens for Energy and Freedom supported nuclear power and U.S. defense policies
- ▶ “Power for the People” rally held in 1979 attracting about 16,000 nuclear supporters



The Raid

- ▶ June 1989 – Rocky Flats was raided by the Federal Bureau of Investigation and the Environmental Protection Agency for alleged environmental violations
- ▶ In December 1989, all nuclear operations were suspended to address environmental and safety concerns
- ▶ Suspension of nuclear operations left large quantities of plutonium and other substances in various stages of processing
- ▶ Some past practices posed potential environmental and health risks



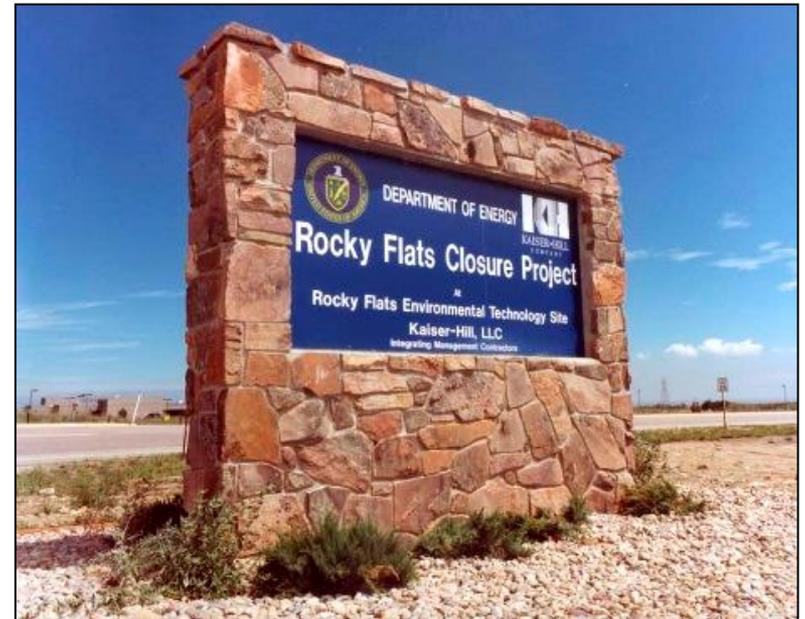
End of Cold War Brings Change

- ▶ After the raid, the Rocky Flats Plant prepared to resume nuclear production activities by bringing the Plant up to current safety and operational standards
- ▶ But by this time, world events such as the fall of the Berlin Wall and the breakup of the Soviet Union led to the end of the Cold War
- ▶ There was no longer a need for a plutonium trigger manufacturing facility and the Rocky Flats production mission was terminated
- ▶ After nearly 50 years of weapons component production, the Rocky Flats mission changed to site cleanup and closure



New Mission: Environmental Restoration

- ▶ Site name change:
 - Rocky Flats Environmental Technology Site (RFETS)
 - Rocky Flats Closure Project
- ▶ Cleanup and closure of the site was the first of its kind
- ▶ Initial estimate for completion was 65 years at a cost of \$37 billion



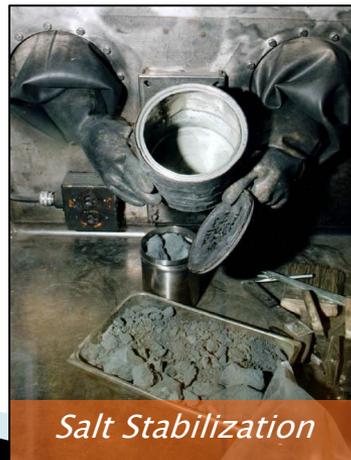
Site Cleanup and Closure Activities



- ▶ Decommissioning, decontamination, demolition, and removal of 800+ structures



- ▶ Removal of 500,000+ cubic meters of low-level radioactive waste

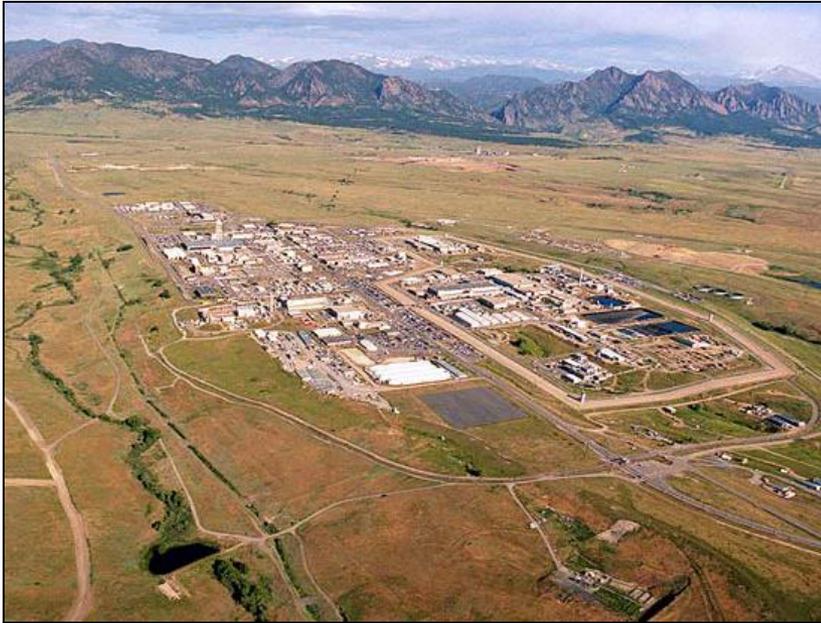


Completion of Environmental Restoration

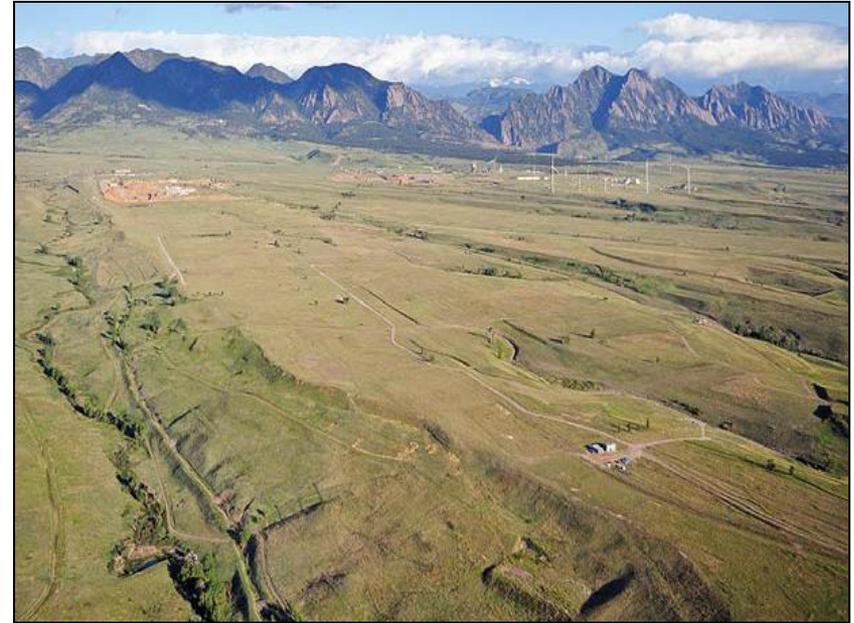
- ▶ Rocky Flats was the first nuclear facility of its size to go through complete closure
- ▶ Accelerated closure activities were completed in October 2005 at a cost of \$7 billion
- ▶ The site was transferred to the responsibility of the U.S. Department of Energy Office of Legacy Management for long-term surveillance and maintenance activities



Rocky Flats: Before & After Cleanup



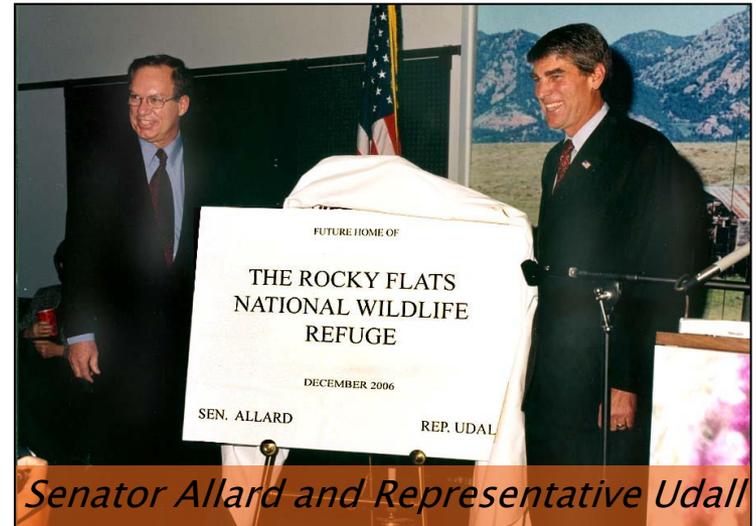
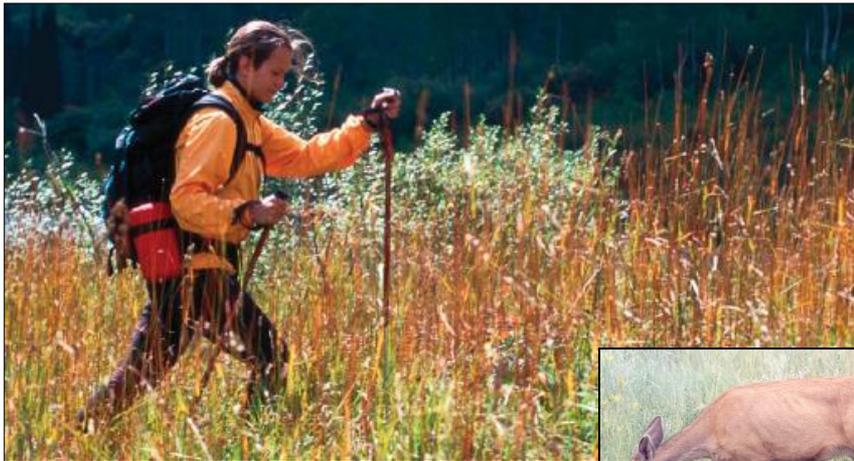
Rocky Flats Site - 1995



Rocky Flats Site - 2011

Wildlife Refuge

- ▶ In 2007, nearly 4,000 acres of the site were transferred to the U.S. Fish and Wildlife Service to form the Rocky Flats National Wildlife Refuge.



Senator Allard and Representative Udall

Rocky Flats Contractor History

Prime contractors:

- ▶ Dow Chemical: 1951–1975
- ▶ Rockwell International: 1975–1989
- ▶ EG&G Rocky Flats, Inc.: 1989–1995
- ▶ Kaiser–Hill LLC: 1995–2006



Subcontractors with significant site presence:

- ▶ Wackenhut
- ▶ Safe Sites of Colorado (SSOC)
- ▶ DynCorp
- ▶ Rocky Mountain Remediation Services (RMRS)

Rocky Flats Plant EEOICPA Coverage



- ▶ Time Period: 1951–2006
- ▶ Kaiser–Hill Company (1995–2006); EG&G Rocky Flats, Inc. (1989–1995); Rockwell International (1975–1989); Dow Chemical (1951–1975)

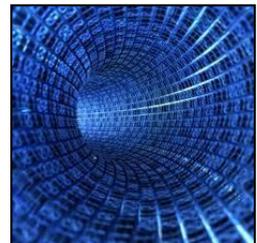
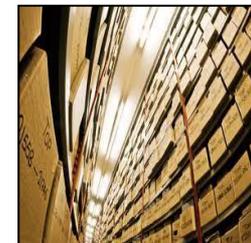
Rocky Flats Special Exposure Cohort (SEC)

- ▶ Coverage period: April 1, 1952 – December 31, 1983
- ▶ A portion of the Rocky Flats former worker population is covered under the SEC allowing compensation without completion of a radiation dose reconstruction or determination of the probability of causation
- ▶ DOE and contractor/subcontractor employees who have worked a combined 250 hours and have one of 22 specified cancers.
- ▶ DOE supports NIOSH and ORAU research efforts
 - More than 100 responses to information requests
 - Review of hundreds of boxes of records during site visits.



Rocky Flats Records Holdings

- ▶ LM maintains:
 - More than 41,000 cubic feet of Rocky Flats records at the Denver Federal Records Center
 - Includes employee and environmental records, architectural and engineering records and historic photographic negatives
 - Records are retained in accordance with NARA-approved records retention schedules
- ▶ A moratorium on the destruction of records has been in place since the mid-1990s

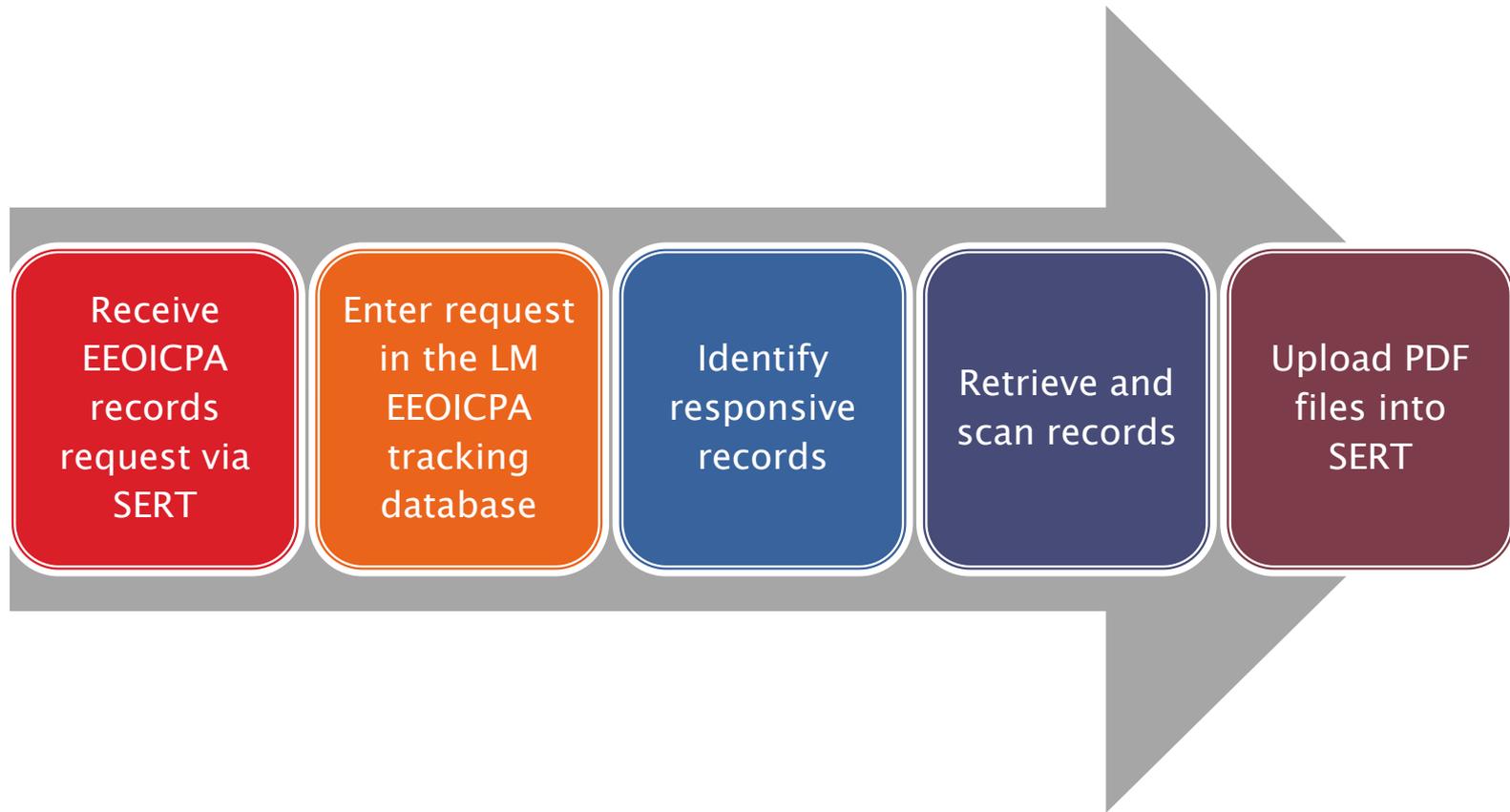


Rocky Flats Records Searches

- ▶ Rocky Flats records are searchable through LM's electronic recordkeeping system
- ▶ LM electronic recordkeeping system has more than 2 million finding aid entries for Rocky Flats records
- ▶ Rocky Flats records include:
 - Personnel Records
 - Medical Records
 - Training Records
 - Radiological Information
 - Payroll and Benefits Records
 - Industrial Hygiene Records
- ▶ Records are in electronic and paper form



EEOICPA Claims Processing



Information Sent on Parts B & E

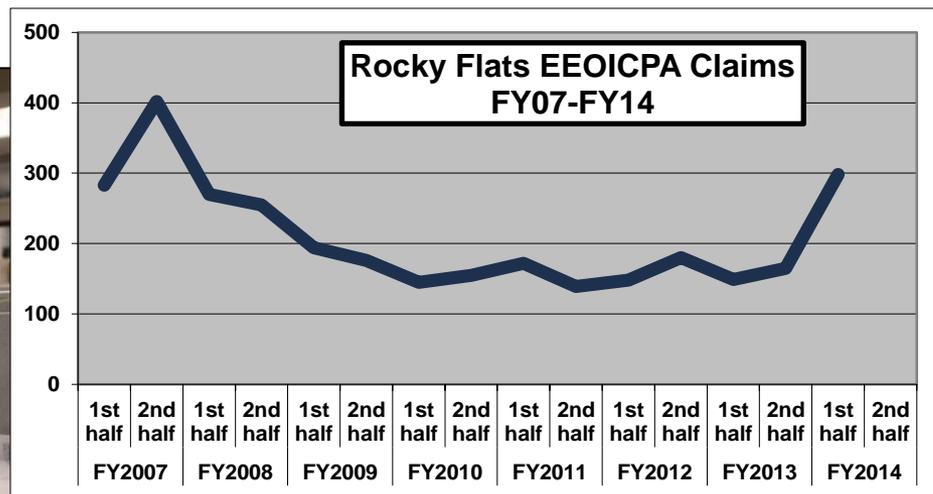
- ▶ Part B (DOL Employment Verification)
 - Employment dates if available
 - Training, medical, radiological, Industrial Hygiene (IH) and employment records as needed

- ▶ Part B (NIOSH)
 - Radiological, monitoring reports, X-ray results, dose reconstruction reports

- ▶ Part E (DARs)
 - Specific records per DOL requests (e.g., personnel, IH, medical, payroll, radiological, dose reconstruction reports)

Rocky Flats Requests

- ▶ LM has recorded more than 4600 requests for Rocky Flats–related information
- ▶ This includes more than 2,800 requests for information in support of EEOICPA claims



Process Improvements

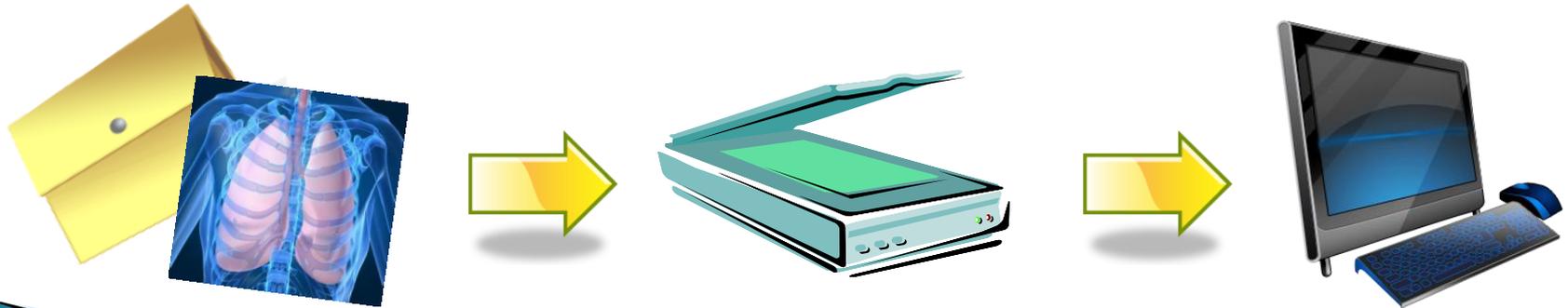


- ▶ Finding aids are housed in the LM electronic recordkeeping system provide a single, consolidated search tool to locate responsive documents
- ▶ Currently digitizing EEOICPA-related documents for quick access and response to related requests
- ▶ Update of legacy finding aid entries
- ▶ Conversion of internal EEOICPA forms to electronic format and form consolidation to expedite processing time
- ▶ Centralized tracking system used to manage the processing of inherited and new EEOICPA claims

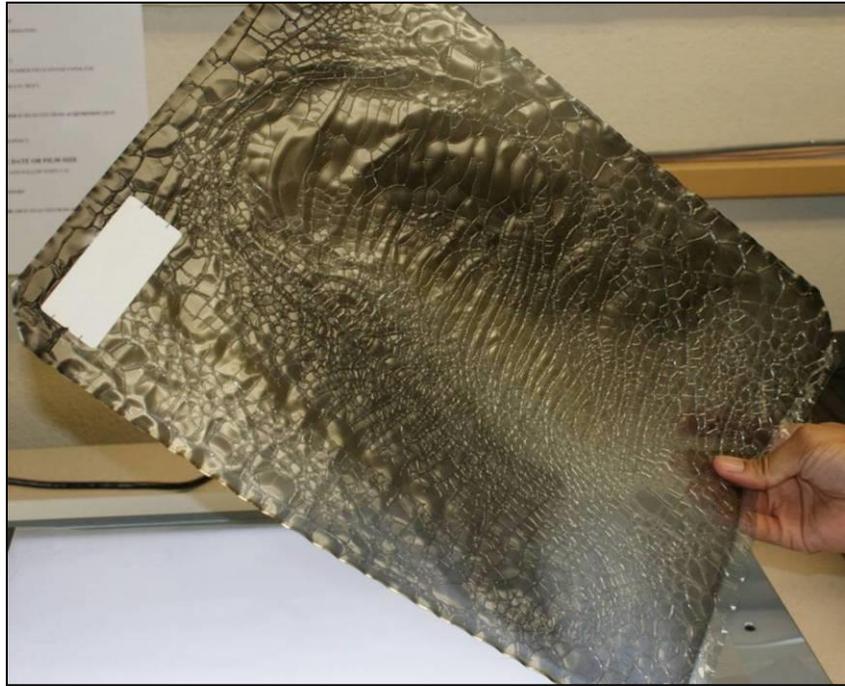


Process Improvements (cont'd)

- LM successfully completed a major project to digitize nearly 400,000 deteriorating medical X-rays, including x-rays for former Rocky Flats workers
- The x-rays were in various stages of “vinegar syndrome” deterioration, a chemical process that destroys media
- Digital images and metadata were uploaded to the electronic recordkeeping system to enhance retrievability



Deteriorated Film



Electronic Image



Image is captured “as is” for long-term preservation

EEOICPA Contacts

Rocky Flats Plant

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www.lm.doe.gov