



U.S. DEPARTMENT OF  
**ENERGY**

Legacy  
Management

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# U.S. Department of Energy Uranium Leasing Program: A Seventy-Year Heritage

**William L. Dam**

U.S. Department of Energy (DOE)  
Office of Legacy Management (LM)

# Other Contributors

Ed Cotter

Navarro Research and Engineering, Inc.

# Program Overview

- The Atomic Energy Act of 1946, as amended in 1954, authorized the U.S. Atomic Commission (AEC), the predecessor agency to the U.S. Department of Energy (DOE), to withdraw lands from public use
  - The goal was to ensure an adequate reserve of uranium and associated minerals for the Nation's defense program
- The AEC subsequently withdrew 450,000 acres of land from mineral entry in a five state area
- The AEC, along with the US Geological Survey, completed a massive exploration drilling program to identify the most favorable mineral locations
- 25,000 acres in Arizona, Colorado, New Mexico, and Utah were retained in withdrawn status
  - The remaining lands were returned to the public domain



# Program Overview (continued)

- During the next 70 years, three separate leasing periods ensued:
  - Mineral Leasing (ML) Program—circa 1948 to 1962
  - Uranium Lease Management Program (ULMP)—circa 1974 to 1994
  - Uranium Leasing Program (ULP)—circa 1996 to the present



# Mineral Leasing Program

- Beginning in late 1948, the AEC negotiated 31 leases with selected owners and operators of existing adjacent mines
  - This partnership was established to explore for, develop and extract uranium ore for national defense purposes on these favorable lands
- ML Program Production metrics:
  - 1.25 million tons of ore produced
  - 7.44 million pounds of uranium as  $U_3O_8$
  - 40.44 million pounds of vanadium as  $V_2O_5$
  - Yielded \$5.9 million in royalties



# Mineral Leasing Program (continued)

- By the end of 1962, all leases had expired or were terminated
- Leaseholders were directed by AEC to backfill the mine portals to protect the underground workings from unauthorized entry, and then walk away



# Uranium Lease Management Program

- In 1974, the AEC executed 43 new leases (38 in Colorado, one in New Mexico, and four in Utah) through a competitive bid process
  - A single tract in Utah was not leased out and was retained in inactive status
- Leases were awarded to the qualified bidders offering the highest royalty bid percentage for the specified reserves on each lease tract
- Initial leases were for 10 years with an automatic 10-year extension at the request of the leaseholder

# Uranium Lease Management Program (continued)

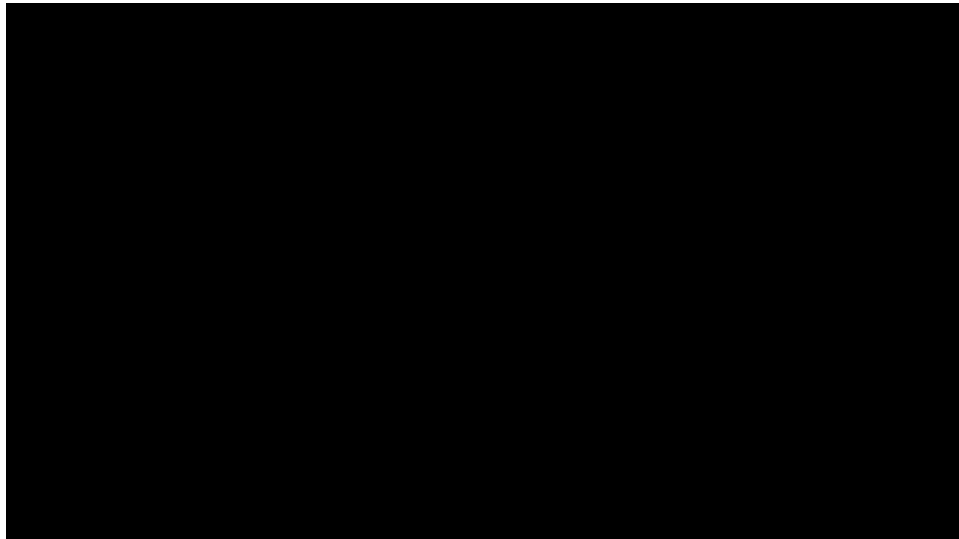
- ULMP Production metrics:
  - 1.75 million tons of ore produced
  - 6.5 million pounds of uranium as  $U_3O_8$
  - 33.4 million pounds of vanadium as  $V_2O_5$
  - Yielded \$52.8 million in royalties





# Uranium Lease Management Program (continued)

- In 1994, the 30 existing leases were allowed to expire to allow DOE the opportunity to assess the need for the program to continue
- In November 1994, the single New Mexico lease tract, located near Haystack Butte in the Grants Mineral District, was relinquished back to the public domain
  - It had been incorporated into, and reclaimed as part of, a response action by the U.S. Environmental Protection Agency



# Uranium Lease Management Program (continued)

- As their leases expired, existing leaseholders retained their right to negotiate with DOE in the future and to execute new leases for their respective lease tracts
- Two leaseholders, with a total of 13 leases between them, agreed to remain with the program
- The remaining leaseholders completely reclaimed their respective lease tract operations, were released from their reclamation bonds, and relinquished their rights to their leases

# Uranium Leasing Program

- In 1996, DOE negotiated new 10-year leases with the two leaseholders for their 13 respective lease tracts
- The 31 remaining lease tracts were retained by DOE in inactive status
- In 1999, the five lease tracts in Utah that had been reclaimed were relinquished back to the public domain



# Uranium Leasing Program (continued)

- ULP Production metrics:
  - 64 thousand tons of ore produced
  - 600 thousand pounds of uranium as  $U_3O_8$
  - 1.5 million pounds of vanadium as  $V_2O_5$
  - Yielding \$6.0 million in royalties



# Uranium Leasing Program (continued)

- In 2007, DOE reconfigured all lease tract boundaries to incorporate unpatented lode claims that had been abandoned within the boundaries of the AEC withdrawal
- In 2007, DOE also consolidated several adjacent lease tracts to make them more appealing for the pending bid solicitation
- In April 2008, new 10-year leases were executed with the two existing leaseholders, effective April 30, 2008

# Uranium Leasing Program (continued)

- In early 2008, DOE announced the web-based competitive bid solicitation for the 19 inactive lease tracts
- In June 2008, new 10 year leases were executed for 18 of the lease tracts with the successful royalty bids ranging from 7.67 to 28.61 percent



# Environmental Stewardship

- 1972 Environmental Statement
- 1995 Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)
- 2007 Programmatic Environmental Assessment (PEA) and FONSI
- 2014 Programmatic Environmental Impact Statement (PEIS) and Record of Decision (ROD)
- Going forward, DOE will prepare an EA tiered from the PEIS (at a minimum), for all proposed mining plans

# Environmental Stewardship—Calamity Camp

- A historic site consisting of numerous stone, earthen, and wooden structures that date back to the early 1900s
  - AEC used the site as a geologic field camp and it housed many uranium miners and their families in the 1940s and 1950s
- On June 1, 2011, after extensive work by DOE and ULP, Calamity Camp was officially listed on the National Register of Historic Places (NRHP)





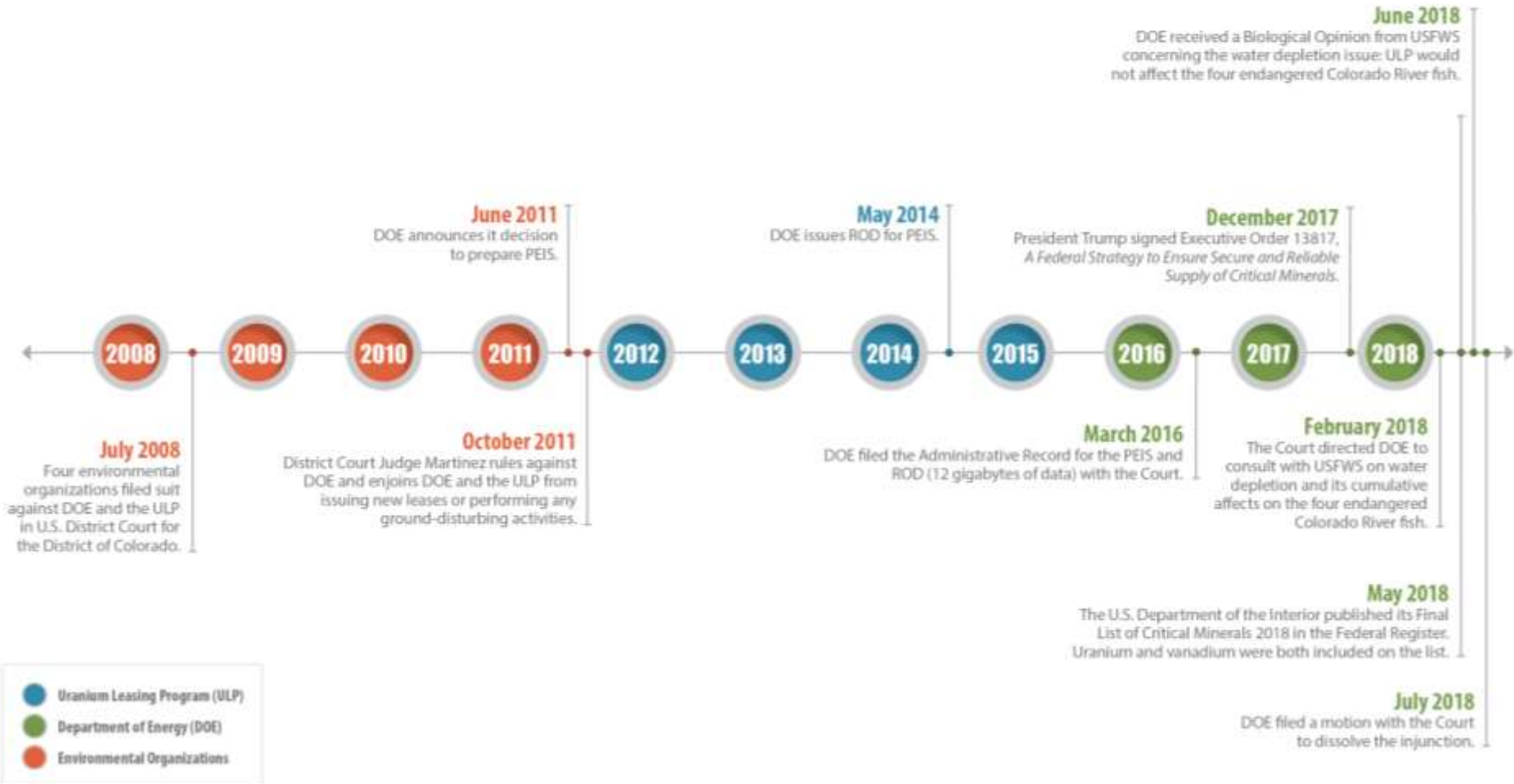
# Environmental Stewardship—Reclamation

- DOE completed final reclamation activities at all (182) legacy mines
  - Permanently closed 199 mine portals and openings
  - Fabricated and installed 74 bat gates including 23 culverts
  - Permanently closed 19 shafts and 137 vent holes
  - Backfilled pits and trenches with 144,800 cubic yards of material
  - Recontoured 176,700 cubic yards of mine-waste-rock materials
  - Permanently closed 259 exploration drill holes
  - Reseeded about 185 acres of disturbed land with native species



# HISTORICAL TIME LINE–Uranium Leasing Program

## Current Status and Projections



# Current Status and Projections

- The current remaining mineral reserves for the lease tracts are estimated to total 13 million pounds of uranium and 67 million pounds of vanadium
- At current market prices (July 30, 2018 — \$25.70 per pound  $U_3O_8$  and \$19.33 per pound  $V_2O_5$ ), those mineral reserves are worth an estimated \$1.63 billion
- We propose the new name for the next leasing period be Uranium and Vanadium Critical Minerals Leasing Program

