

Appendix E.

Northeast Church Rock Mining Timeline

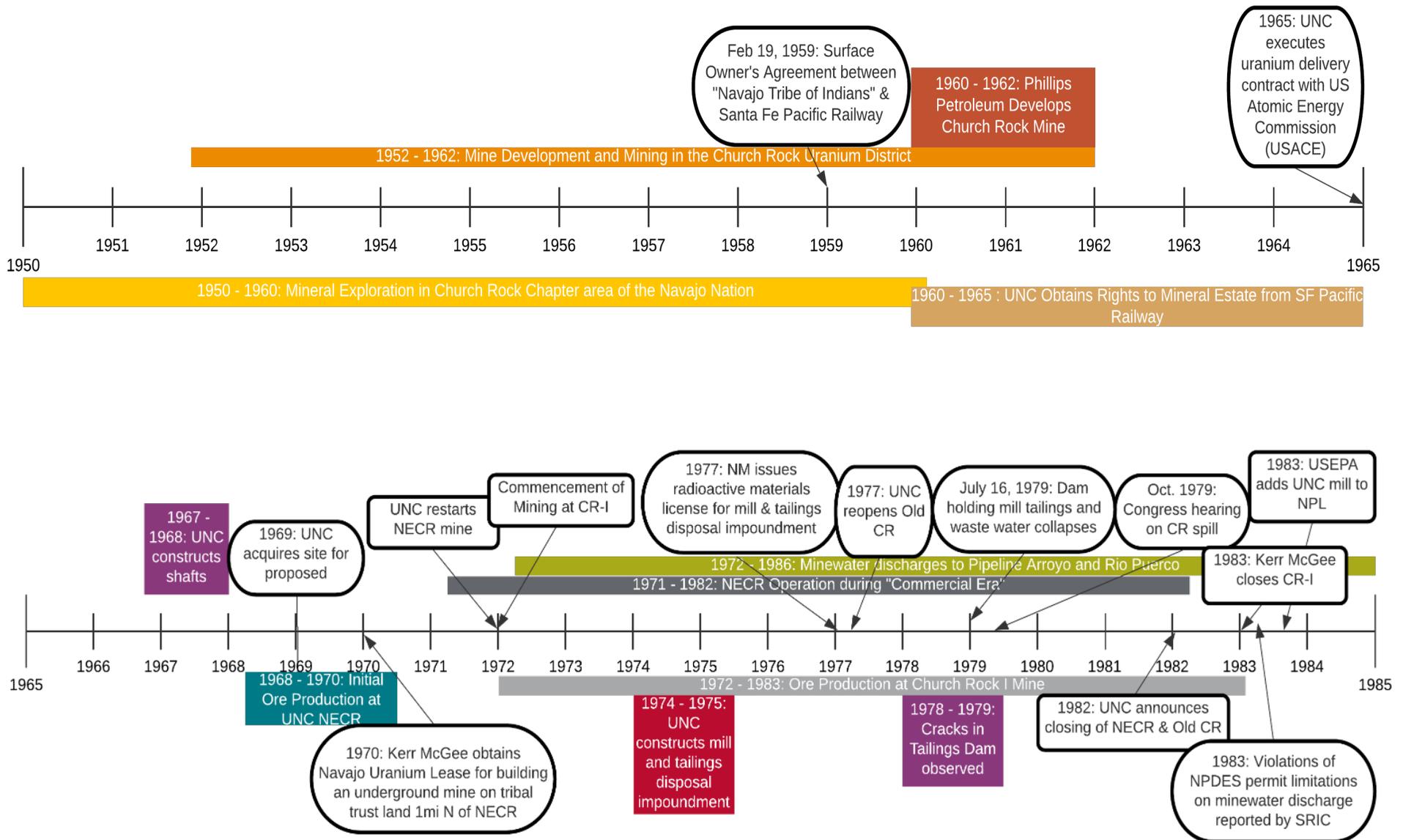
The Northeast Church Rock Mine (NECR) is a former uranium mine located approximately 17 miles northeast of Gallup, NM at the northern end of State Highway 566 in the Pinedale Chapter of the Navajo Nation. EPA is working with the Navajo Nation Environmental Protection Agency (NNEPA) to oversee cleanup work being done by the United Nuclear Corporation (UNC), a company owned by General Electric (GE).

The graphic timeline of key moments in the operation, closure, and cleanup of the mine illustrates the complexity and significant delays plaguing the community. Below the visual timeline is additional information surrounding each point in the timeline.

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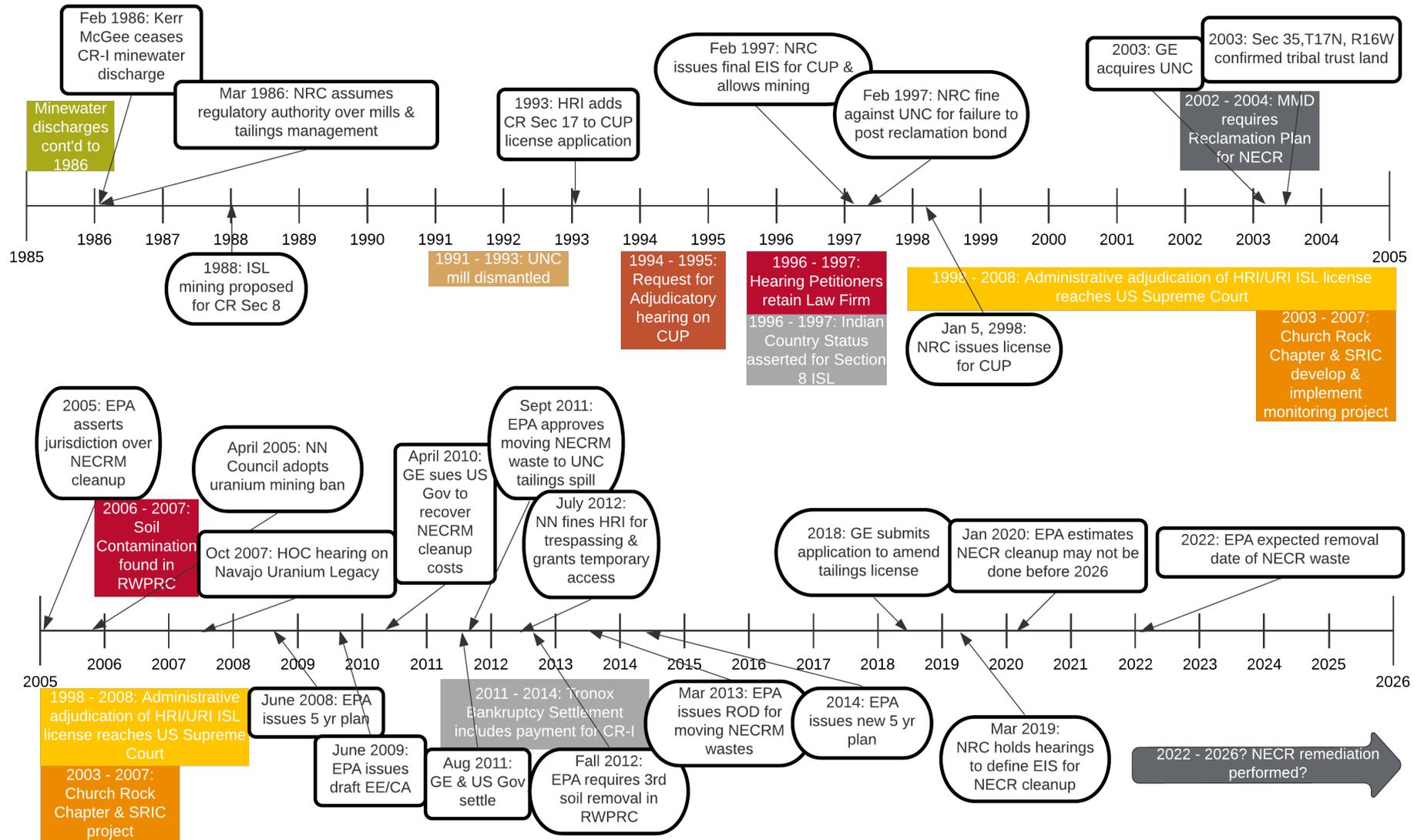
Northeast Church Rock Mining Timeline

1950 - 1985



Northeast Church Rock Mining Timeline

1986-2026



1950 – 1960: Mineral exploration in Church Rock Chapter of the Navajo Nation. Prospecting and exploration occurred on tribal trust and allotments, federal, state, and private lands.

1952 – 1962: Mine development in the Church Rock uranium district. At least 13 small mines were developed. About 150,000 tons of ore were extracted at these sites.

Feb 19, 1959: Surface Owner’s Agreement between “Navajo Tribe of Indians” and Santa Fe Pacific Railway. Authorized SFPR to prospect and mine for uranium on lands specified in the agreement, totaling 19,000 acres spread across ~200 square miles. Included were lands owned by the US Government and held “in trust” for the Navajo Tribe, bordered by the 1880 Navajo Reservation boundary. At least 5 mines were developed – the two largest were the Northeast Church Rock Mine and the Old Church Rock Mine.

1960 – 1965: United Nuclear Corp. (UNC) obtains rights to mineral estate from Santa Fe Pacific Railway. UNC acquires Sec 35 and begins exploratory drilling in 1962.

1960 – 1962: Phillips Petroleum develops Church Rock Mine. Later known as the Old Church Rock Mine produced ore from Sec 17.

1965: UNC executes uranium-delivery contract with US Atomic Energy Commission. USACE contract covers production from not yet built mine in Sec 35 and is for \$3.8 million in U₃O₈.

1967 – 1968: UNC begins shaft construction at Sec 35. Site of mine development called North East Church Rock Mine (NECR). Shaft depths reach 1800 ft below land surface.

1968 – 1970: Initial ore production at UNC NECR. Start of operations believed to be in early 1968. Additional shaft and stope development in 1969. Ore production estimated at 2 million lbs of U₃O₈ during this period.

1969: UNC acquires site for proposed uranium mill from State of NM Land Office. Purchased Sec 2 from

the NM State Land Office to construct a uranium mill and mill tailings pile.

1971 – 1982: “Commercial Era” of operation at NECR. Produced an estimate 20 million pounds of U₃O₈. Sold to utilities for power generation.

1970: Kerr-McGee Corp. obtains Navajo Uranium Lease for underground mine. Site on tribal trust land included Church Rock I (CR-I) and Church Rock IE (CR-IE) mines.

1972: UNC restarts NECR. Completed improvements and resumed ore production which lasted into 1982.

1972: Mining begins at CR-I and CR-IE. And Red Water Pond Road constructed for ore hauling.

1972 – 1983: CR-I ore production. Records estimate between 2 – 20 million lbs of U₃O₈.

1972 – 1986: Mine water discharges to Pipeline Arroyo and Puerco River (North Fork). An estimated 200 gal per min of mine water was discharged from NECR, CR-I, and Old CR mines. Water quality irregularly monitored. Only had to meet Clean Water Act standards after 1980.

1974 – 1975: UNC builds mill and tailings disposal impoundment. Sec 2 cleared for development, forcing relocation of Navajo families who had established camps and grazing areas on the land.

1977: NM issues radioactive materials license for mill and tailings disposal impoundment.

1977: UNC reopens Old CR. Original shaft deepened, mine water discharged into holding ponds.

1978 – 1979: UNC workers find cracks in tailings dam. Cracks photographed and reported to the NMEIA and State Engineer Office.

July 16, 1979: Dam holding back mill tailings and wastewater collapses. 94 million gals and 1100 tons of mill tailings are released into the Pipeline Arroyo and North Fork of the Puerco River – the largest release, by volume, of radioactive waste in US history. Livestock were swept away in the surge, and people and animals in the water suffered acid burns. NMEID suspends mill

license, orders investigation into cause of dam break and UNC to remove contaminated materials from Puerco River.

Oct 1979: Congress holds hearing on Church Rock Spill. House Committee on Interior and Insular Affairs, Subcommittee on Energy and Environment, holds oversight hearing to assess the causes and responses to the dam break.

1982: UNC announces closure of NECR and Old CR mines. Collapse of uranium market forces UNC to close its mines and shutter the CR mill. 700 – 800 workers are laid off.

1983: KMC closes CR-I and CR-IE. 200 – 300 workers laid off.

1983: USEPA adds UNC mill tailings facility to CERCLA National Priorities List.

1983: Violations of NPDES permit limitations on mine water discharge reported by SRIC. Staff of the Southwest Research and Information Center (SRIC) report dozens of violations of limits imposed on the quantity and quality of mine water discharges permitted under the CWA's National Pollutant Discharge Elimination System (NPDES).

Feb 1986: KMC ceases CR-I mine water discharge.

Mar 1986: NRC assumes regulatory authority over uranium mills and tailings management. UNC's radioactive materials license is transferred from NMEID to NRC.

1988: In situ leach (ISL) mining proposed for Church Rock Sec 8. Hydro Resources, Inc. (HRI/URI) files radioactive materials license application with NRC to conduct ISL mining on private land in Sec 8.

1991 – 1993: UNC mill dismantled. Large pieces of equipment buried in pits at the tailings site.

1993: HRI/URI adds CR Sec 17 to its "Crownpoint Uranium Solution Mining Project." (CUP)

1994 – 1995: Navajo citizens' group and allies request adjudicatory hearing on proposed CUP. Eastern Navajo

Dine Against Uranium Mining (ENDAUM), SRIC, allege that a draft EIS is inadequate to judge the impacts of the proposed operation.

1996 – 1997: USEPA, Navajo Nation assert "Indian Country" status or Sec 8 ISL project.

1996 – 1997: Hearing petitioners retain law firm. NM Environmental Law Center (NMELC) and Washington, DC attorney Diane Curran to represent them before NRC.

Feb 1997: NRC issues final EIS for CUP. Final EIS with Safety Evaluation Report documents NRC's decision to allow ISL mining.

Feb 1997: NRC levies fine against UNC for failing to post reclamation bond.

Jan 5, 1998: NRC issues license for CUP.

1998 – 2008: Administrative adjudication of HRI/URI license reaches US Supreme Court. ENDAUM and SRIC lose appeal in 10th Circuit Appeals Court; US Supreme Court denies certiorari, ending litigation.

2002 – 2004: NM Mining and Minerals Division (MMD) asserts authority to require reclamation plan for NECR. UNC submits water monitoring data and close-out plan.

2003: GE acquires UNC. Becomes owner of NECR and licensee for the mill and mill tailings disposal impoundment.

2003: Sec 35 confirmed as tribal trust land, owned by US Government. NN EPA staff receives confirmation that Sec 35, site of NECR, was conveyed into trust status in 1929 and has remained under US Government ownership.

2003 – 2007: CR Chapter and SRIC develop and implement monitoring project. SRIC obtains grant to assess radiological and heavy metals impacts from previous mining (CRUMP).

Apr 2005: Navajo Nation Council adopts ban on uranium mining and processing.

2005: USEPA asserts jurisdiction over reclamation of NECR. At the request of the NN, the USEPA asserts jurisdiction under CERCLA to require GE/UNC to assess and cleanup lands impacted by releases of hazardous substances.

Aug 2006: Red Water Pond Road Community (RWPRC) Association founded. (Citizens advocacy group).

2006 – 2007: Extensive soil contamination found in RWPRC. First interim removal action authorized, 5 families temporarily relocated to Gallup hotels for 3 months.

Oct 2007: House Oversight Committee holds hearing on Navajo Uranium Legacy. Two residents testify before the committee, describing their personal experiences with the impacts of uranium mining in their community. The Committee also hears testimony from Navajo Nation officials and representatives of five federal agencies. The Committee requires the agencies to prepare and execute a Five-Year Plan to address the Navajo Uranium Legacy.

June 2008: EPA and federal agencies issue Five-Year Plan.

2009 – 2010: Second EPA Removal order address additional soil contamination around residence in RWPRC. 12 families temporarily relocated for 8 months.

Jun 2009: EPA issues draft EE/CA for NECR and holds public hearings. EPA chooses \$44 million alternative of moving NECR waste to UNC tailings facility; reject community comments to move waste to licensed disposal facility due to cost.

Jul 2009: Community observes 30th anniversary of tailings spill.

Apr 2010: GE sues US Government to recover remediation costs of NECR mine. GE asserts that the US Government should share cost as it approved mining on Sec 35 and granted the uranium-delivery contract with the AEC.

2011 – 2014: Tronox bankruptcy settlement includes payment for CR-I.

Aug 2011: GE and US Government announce settlement of cost-recovery lawsuit. The Government agrees to reimburse GE about \$2.5 million in response costs incurred to date in the context of the EPA's CERCLA decision, and 33% of the final cost of removal and decontamination.

Sep 2011: EPA approves plan to move NECR waste to UNC tailings site.

Jul 2012: Navajo Nation fines HRI/URI for trespassing on tribal trust land and enters into a "temporary access" agreement. They can access the site only with permission from the NN, submit to NN jurisdiction, and conduct reclamation at Sec 17 before any extraction.

Fall 2012: EPA requires third soil removal action in RWCR. All families were temporarily relocated to hotels in Gallup for five months.

Mar 2013: EPA issues Record of Decision approving moving NECR wastes to tailings pile.

2014: EPA issues second Five-Year Plan.

2018: GE submits application to amend tailings license. The application addresses technical issues related to moving the NECR wastes to the UNC tailings site, including whether the existing dam can contain the mine waste.

Mar 2019: NRC holds "scoping" hearings to define EIS for NECR cleanup. Two hearings to take comments on issues in and Environmental Impact Statement related to moving the NECR wastes.

Jul 2019: RWPRC sponsors commemoration of 40th anniversary of tailings spill. More than 150 people attend.

Jan 2020: EPA estimates the NECR remediation may not be done before 2026. A fact sheet stated that the NRC is expected to approve the moving of NECR wastes sometime in 2022. After, removal will take at least another four years.